

Conference Program

49th

**JANUARY 26-31,
2025**

International Conference and Exposition on Advanced Ceramics and Composites

Hilton Daytona Beach Resort and Ocean Center
Daytona Beach, Florida, USA

ceramics.org/icacc2025



Organized by:
The Engineering Ceramics Division
of The American Ceramic Society

Welcome



Amjad Almansour
NASA Glenn Research Center
Program Chair, ICACC 2025

We would like to warmly welcome you to 49th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2025) in Daytona Beach, Florida. Since its inception in 1977, this prestigious conference has been organized by the Engineering Ceramics Division (ECD) of the American Ceramic Society (ACerS). Over the years, the conference has experienced tremendous growth in interest and participation from researchers, educators, technology developers, manufacturers, and end users from all over the world.

The 49th ICACC provides a platform for the state-of-the-art presentations and information exchange on the cutting-edge ceramic and composite technologies. The technical program of ICACC 2025 consists of nineteen Symposia, six Focused Sessions, one Special Focused Session, and the 14th Global Young Investigator Forum.

The well-established nineteen symposia at this conference include Thermoelectric and Thermionic Energy Conversion, Mechanical Behavior of Ceramics and Composites, Advanced Ceramic Coatings, Solid Oxide Cells, Armor Ceramics, Bioceramics, Materials for Rechargeable Energy Storage, Nanomaterials for Energy Harvesting, Advanced Processing and Manufacturing Technologies, Porous Ceramics, Modeling and Design, Production Root Technologies, Nanolaminated Ternary Carbides/Nitrides, Nuclear Materials, Optical Materials, Additive Manufacturing, Geopolymers, Photonics, Ultra-High Temperature Ceramics, and Molecular-level Processing and Chemical Engineering. In addition to the core symposia, the technical program will include six Focused Sessions on emerging technologies: Bioinspiration and Green Processing, Ceramics for Global Decarbonization, Ceramics for

Global Decarbonization, Innovative Material Processing for Diverse Resource Circulation Loops, Protective Ceramics, Innovative Material Processing for Diverse Resource Circulation Loops, Protective Ceramics, Nanostructures and Low-Dimensional Materials for Chemical Sensors, Ceramic/Carbon Reinforced Polymers and High-Voltage Materials for Advanced Electrical Applications.

The 14th Global Young Investigator Forum and a Special Focused Session on Diversity, Entrepreneurship, and Commercialization recognize early career researchers and the ECD Jubilee Global Diversity Awardees along with other invited speakers who will present on recent developments in entrepreneurship and commercialization, respectively.

New this year - Poster presenters have the opportunity to present a two-minute summary of their research. Over 50 presenters have taken advantage of this new opportunity at the end of a daily session.

The ICACC Exposition will be held on Tuesday and Wednesday evenings in the adjacent Ocean Center and it will provide a place for attendees to connect with the business partners and explore new business opportunities, see new materials, processing and characterization tools, and products. The poster session will be held in conjunction with the Exposition.

The ECD Executive Committee, ICACC Programming Committee, and volunteer organizers, together with The American Ceramic Society, would like to thank you for joining us for this stimulating and beneficial experience.

Finally, I would like to express our gratitude to our industrial sponsors as well as many other partners and exhibitors.

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The ACerS community is open to all, and we're happy to have you with us. ACerS values diverse and inclusive participation within the field of ceramic science and engineering.

We strive to promote involvement and access to leadership opportunity regardless of race, ethnicity, gender, religion, age, sexual orientation, nationality, disability, appearance, geographic location, career path or academic level.

If you are a new member or joining us for the first time, please visit the ACerS registration desk to learn more. For all guests, if you need access to a nursing mother's room or have other special needs, please ask us at the ACerS registration desk. For childcare services, please check with the hotel concierge for a listing of licensed and bonded caregivers.

We hope you enjoy the conference and want you to know that all individuals are welcome at ACerS conferences and events.

MEETING REGULATIONS

During oral sessions conducted during Society meetings, unauthorized photography, videotaping, and audio recording is strictly prohibited for two reasons:

- (1) conference presentations are the intellectual property of the presenting authors and as such are protected, and
- (2) engaging in photography, videotaping, or audio recording is disruptive to the presenter and the audience. Failure to comply may result in the removal of the offender from the session or from the remainder of the meeting.

Note: The Society may engage photographers to photograph sessions for marketing and promotional purposes.

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Monday, January 27

Opening Ceremony and Awards Presentation – 8:20 a.m.



8:50 a.m.

James I. Mueller Memorial Award

Subhash H. Risbud

University of California, Davis

The Enduring Legacy of Mullite the Quintessential Engineering Ceramic

Abstract: Ever since its discovery on the Island of Mull in Scotland, Mullite has enjoyed a rich reputation as an engineering ceramic with widespread applications ranging from high temperature refractories to space shuttle tiles. Research on the Silica-Alumina phase equilibrium diagram date back to the classic work of Bowen and Greig in 1924 followed by many re-evaluations over the past 6 to 7 decades by Aramaki and Roy, Davis and Pask, Aksay and Pask and other ceramic researchers worldwide. Standard melt quenching, diffusion couple heating and sol-gel techniques have been used among others for studying stable and metastable phase equilibria, liquidus-solidus curves, and liquid-liquid immiscibility domes. The time temperature processing parameters are at the heart of the formation of mullite both in the metastable condition as well as the lowest energy stable phase. Clearly, time-temperature-pressure all influence the morphology, structure and properties of mullite. Most phase diagrams of the mullite phase shown on the silica-alumina system are at one atmosphere pressure though high-pressure studies have been reported. While mullite is a dominant phase in modern aluminosilicate ceramics like refractories its presence has been observed in pottery dating back millennia. And in recent times mullite is finding applications in space, electronics and photonics. This talk will focus on the many interesting issues of phase stability, metastability, crystallography, and stoichiometry of the mullite phase. I will review the history and prior work and talk of the future possibilities for this “quintessential” ceramic that has enriched our profession.



9:30 a.m.

Mrityunjay Singh Bridge Building Award

Csaba Balázs

Scientific advisor in HUN-REN Centre for Energy Research, Centre of Excellence of Hungarian Academy of Sciences (HAS)

Nanocarbon added ceramics: current status and future trends

Abstract: The plenary lecture will give a comprehensive view on innovative developments made in the field of nanocarbons e.g. carbon black, carbon nanotubes, graphene added ceramics highlighting the key issues related to integration technology and improvements in the mechanical, tribological or functional properties as a result. Among non-oxide ceramics the silicon nitride based ceramics are well-known as low density materials with high strength and toughness. Silicon nitride, known as a typical dielectric material, is an ideal candidate for several structural applications, even at high temperatures. The addition of graphene or carbon nanotubes to silicon nitride to create ceramic nanocomposites gives rise to promising applications in a wide range of fields such as electronics, biomedical aids, membranes, flexible wearable sensors and actuators, energy systems. The presentation will show how the use of different reinforcing phases and sintering methods influence the microstructure and as a result, mechanical properties, electrical, thermal conductivity and tribological properties of the final silicon nitride nanocomposites. The prospective future applications will be also discussed.



10:40 a.m.

Plenary Speaker

Ungyu Paik

Hanyang University, Department of Energy Engineering, Hanyang University

Nanoparticles engineering toward NT and ET applications

Abstract: The importance of nanoparticle engineering in the fields of semiconductor fabrication and Li-ion battery (LiB) applications will be discussed as follows:

(1) Semiconductor: Molybdenum (Mo) is a promising candidate for replacing tungsten in sub-3nm logic and 3D memory devices due to its low resistivity and superior gap-filling ability. However, during the chemical mechanical planarization (CMP) process, the instability of nanoparticles in a suspension and high dissolution rate of Mo films hinder its practical use. This presentation will discuss the importance of nanoparticle engineering in CMP, highlighting its potential to improve CMP performances, increase yield, and enhance compatibility with sub-3nm devices.

(2) LiBs: The roll-to-roll dry coating process is a promising method for fabricating high-energy density, low-cost Li-ion batteries. Compared to conventional wet processing, it reduces manufacturing time and cost and offers environmental benefits by avoiding toxic solvents. However, thick dry electrodes increase charge transfer resistance (R_{ct}) and Li-ion migration resistance (R_{ion}) due to microstructural inhomogeneity. By systematically manipulating the variables of microstructural evolution, a high-thickness dry electrode with a homogeneous structure, featuring 1) uniform component distribution and 2) crack-free particles, could be achieved.



11:20 a.m.

Plenary Speaker

Yury Gogotsi

Distinguished University Professor and Charles T. and Ruth M. Bach Endowed Chair in the Department of Materials Science and Engineering at Drexel University

2D Ceramics – Nanoscale Bricks that Will Shape the Future Technology

Abstract: Materials define the progress of humanity as access to new materials enables new tools and technologies. In the Silicon Age, electronic and computer technologies greatly accelerated the technical progress, changing our life. What is next? The age of nanomaterials. The era of assembly of new materials, structures and devices from nanoscale building blocks providing any imaginable, but impossible in conventional materials, combinations of properties and functions. Assembly from nanoparticles will allow integration of electronics, energy harvesting and storage in the same device, creating self-powered internet of things and wearable internet, at the same time minimizing the waste during manufacturing. Numerous 2D materials, including oxides, graphene, and carbides/nitrides (MXenes) are available nowadays and thousands more coming. They provide very attractive building blocks, because they can be assembled into dense structures, just like bricks in the wall. 2D transition metal carbides and nitrides (MXenes) have been expanding rapidly since their discovery at Drexel University in 2011 but have already become the fastest growing family of materials. MXene synthesis can be performed by using aqueous and non-aqueous HF etching of MAX phases, M2A2X and other layered precursors, electrochemical etching in aqueous fluoride or chloride solutions, halogen etching of MAX phases in solution or using high-temperature gases, molten salt etching of MAX, CVD synthesis from metal chlorides and methane or topochemical transformation of 2D oxides, transition metal chalcogenides, or graphene/graphite. This presentation will describe the state of the art in manufacturing those new 2D materials, their delamination into single-layer flakes and assembly into films. MXene-based composite films offer high strength and unique functional properties. The versatile chemistry of the MXene family renders their properties tunable for a large variety of energy-related, electronic, optical, biomedical, and other applications. In particular, the applications of MXenes in electrochemical energy storage and harvesting, electrocatalytic water splitting and water purification/desalination are promising. However, MXene antennas, sensors, actuators, epidermal and implantable electronics as well as coatings for EMI shielding and thermal regulation are equally attractive.

Monday, January 27



1:30 p.m. • Coquina H

Manisha Vidyavathy

Professor Department of Ceramic Technology Alagappa College of Technology Anna University

Sustainable Bone Replacement Material: Additive Manufacturing of TCP-HAP-Wollastonite Composite for Tissue Engineering Applications

Abstract: Additive manufacturing (AM) has emerged as a transformative technology, enabling the layer-by-layer construction of three-dimensional objects directly from digital models. Among its diverse applications, ceramic additive manufacturing holds considerable promise across various sectors, including medical, aerospace, and academia. This research specifically focuses on the utilization of Direct Ink Writing (DIW) or robocasting techniques for bio ceramic applications, particularly tri-calcium phosphate (TCP), hydroxyapatite (HAP) and wollastonite as a bone replacement material in Tissue Engineering (TE). Despite advancements in AM technologies, challenges persist in optimizing printability, necessitating thorough investigations into factors such as powder-to-binder and binder-water ratios, rheological properties, and alternative binder materials. The invention introduces a novel bone replacement material that is both cost-effective and sustainable, showcasing enhanced mechanical properties. This composite material is primarily composed of TCP, HAP, and wollastonite. A significant aspect of this development is the synthesis of HAP from orange peels, which exemplifies an environmentally friendly approach and aligns with the project's motto, "GREEN PRINT HEALTH." This innovative production method not only minimizes waste but also effectively reduces overall production costs. To comprehensively evaluate the properties of the TCP-HAP-wollastonite composite, a series of characterization tests were conducted. X-Ray Diffraction (XRD) analysis confirmed the crystalline phases present in the composite, while in vitro bioactivity assessments demonstrated the formation of a bone-like apatite layer on the surface upon immersion in simulated body fluid (SBF). The compressive strength of the composite scaffolds was evaluated, revealing enhanced mechanical properties with the addition of wollastonite. Cytocompatibility studies using human osteoblast-like cells (MG-63) indicated that the composite supported cell attachment, viability, and proliferation.

Through systematic exploration and experimentation, this study provides valuable insights into optimizing additive manufacturing processes for bio ceramic applications, thereby laying the groundwork for future advancements in the field of bone tissue engineering. The combination of bioactivity, enhanced mechanical properties, and controlled biodegradation makes this composite a viable candidate for further in vivo evaluation and clinical translation.



2:10 p.m. • Coquina H

Wan Si Tang

Director of Research for Novel Materials & New Energy Forms at the Electrochemical Safety Research Institute (ESRI), Underwriters Laboratories

Investigating composites and ceramic materials for energy storage and conversion through multi-pronged R&D approaches

Abstract: Although battery cells and electrification technologies have become ubiquitous, the complete understanding of their hazards is still lacking. Hence, it is necessary to investigate the potential risks of future pre-commercialized battery chemistries during the whole design process. The materials-level research and development (R&D) at the Electrochemical Safety Research Institute (ESRI) is studying new chemistries and novel systematic engineering methods related to energy storage and conversion with early-technology readiness level (TRL) through a safety lens. This presentation will describe several on-going projects, which are investigating composites and ceramic materials for current and future lithium chemistries, sodium and magnesium battery technologies, and green hydrogen generation, as well as our database to document best practices of in-house processes associated with cell fabrication and destructive physical analysis.

The Director of Research (Novel Materials & New Energy Forms), Dr. Wan Si TANG, will be presenting this talk for ESRI, under UL Research Institutes. At ESRI, we are advancing safer energy storage through science. Our interest lies in the energy storage safety from materials to cells and scaling up into commercially viable applications to advance the area of current lithium-ion batteries, future battery chemistries, and other green energy storage and conversion technologies.

Monday, January 27



2:50 p.m. • Coquina H

Elisa Moretti

Associate Professor of General and Inorganic Chemistry at Ca' Foscari University of Venice

Nanomaterials by Design: Tailored Morphology for Today's Energy and Environmental Challenges

Abstract: Nowadays, one of the main technological challenges that we are facing is the ability to provide a sustainable supply of clean energy and, among all renewable sources, solar energy displays the greatest potential. Recently, the development of novel synthetic strategies has led to the preparation of nanostructured materials displaying unique properties compared to the bulk counterpart systems, with controlled and tunable morphologies able to enhance the activity and selectivity of a catalytic process. In particular, nanostructured materials synthesized via the bottom-up approach present an opportunity for future generation manufacturing of devices.

This talk will focus on the importance of tuning the morphological features of a catalyst as a strategy to the photocatalytic activity, focusing on how rationally designing inorganic materials at the nanoscale can lead to morphologies and structures suitable to enhance the catalytic performance of industrially and environmentally important processes. The talk will discuss some energy and environmental applications that can be addressed by multi-component oxide systems synthesized via the bottom-up approach, highlighting their structure-reactivity relationship. Photocatalytic H₂ production and purification and drugs degradation will be presented as a successful case history.



1:30 p.m. • Coquina G

Daniel Oropeza

Assistant Professor in the Materials Department at University of California, Santa Barbara

Spatial tailoring of ceramics via additive manufacturing for material-efficient processing

Abstract: Over the past 30 years we have seen significant growth, evolution, and implementation of additive manufacturing processes from the laboratory to the factory floor, with demonstrated capability to attain highly complex parts at low production volumes and have demonstrated reduction in component lead times. For ceramics, the formation of high-density, geometrically complex features via additive manufacturing is still a challenge and the fabrication of multi-material spatially-tailored components is of great interest. This talk will discuss ongoing projects at the Materials and Manufacturing for Aerospace and Extremes Laboratory (MMAX Lab) at UCSB related to the use of additive manufacturing for efficient deposition of ceramic materials for spatially-tailored functionality. I will highlight two projects, demonstrating methods for generating spatially-tailored microstructure and composition. First, I'll present work on the control of microstructure and deformation of ceramics via reactive binder jet additive manufacturing. Second, I'll showcase work on the exploration of nanoparticle material jetting fundamentals for multi-material ceramic components. This presentation aims to provide a perspective on the possibilities for spatial tailoring of ceramics and the current state-of-the-art in processing science for compositional control.



SCHEDULE OF EVENTS

SUNDAY, JANUARY 26, 2025

Introduction to Thermal Spray Coatings: Science, Engineering and Application Short Course	8:30 a.m. – 5 p.m.
Registration	2 – 6:30 p.m.
Speaker Ready Room	2 – 6 p.m.
ECD Executive Committee Meeting	3:45 – 5 p.m.
Welcome Reception	5 – 7 p.m.

MONDAY, JANUARY 27, 2025

Registration	7 a.m. – 5:30 p.m.
Speaker Ready Room	8 a.m. – 4 p.m.
ICACC Opening & Plenary Session	8:20 a.m. – Noon
Coffee Break	10:10 – 10:40 a.m.
Lunch On Own	Noon – 1:30 p.m.
Journal Publishing Workshop	12:15 – 1:15 p.m.
Technical Sessions	1:30 – 5:40 p.m.
Coffee Break	3 – 3:20 p.m.
ACerS Chapters Happy Hour (Invite Only)	5:30 – 7:30 p.m.
ACerS Student and Young Professional Networking Mixer	7:30 – 9 p.m.

TUESDAY, JANUARY 28, 2025

Registration	7:30 a.m. – 5 p.m.
Speaker Ready Room	8 a.m. – 4 p.m.
Technical Sessions	8:30 a.m. – Noon
Coffee Break	10 – 10:20 p.m.
Lunch On Own	Noon – 1:30 p.m.
Exhibitor Move-In	Noon – 4 p.m.
Technical Sessions	1:30 – 5:30 p.m.
Coffee Break	3 – 3:20 p.m.
Exhibit & Poster Session Including Reception	5 – 8 p.m.
Shot Glass Competition	6:45 – 8 p.m.

WEDNESDAY, JANUARY 29, 2025

Registration	7:30 a.m. – 5 p.m.
Speaker Ready Room	8 a.m. – 4 p.m.
Technical Sessions	8:30 a.m. – Noon
Coffee Break	10 – 10:20 a.m.
Lunch On Own	Noon – 1:30 p.m.
Technical Sessions	1:30 – 5:10 p.m.
Coffee Break	3 – 3:20 p.m.
Exhibit & Poster Session Including Reception	5 – 7:30 p.m.

THURSDAY, JANUARY 30, 2025

Registration	7:30 a.m. – 5 p.m.
Speaker Ready Room	8 a.m. – 4 p.m.
Mechanical Properties of Ceramics and Glass Short Course	8 a.m. – 5:30 p.m.
Technical Sessions	8:30 a.m. – Noon
Coffee Break	10 – 10:20 a.m.
Lunch On Own	Noon – 1:30 p.m.
Technical Sessions	1:30 – 5:40 p.m.
Coffee Break	3 – 3:20 p.m.
Closing Reception	5:30 – 7 p.m.

FRIDAY, JANUARY 31, 2025

Registration	8 a.m. – Noon
Mechanical Properties of Ceramics and Glass Short Course	8 a.m. – 5:30 p.m.
Technical Sessions	8:30 a.m. – 11:50 a.m.
Coffee Break	10 – 10:20 a.m.

ICACC 2025 will offer a number of special events to not only encourage invaluable networking opportunities with colleagues, but also help to supplement your travel budget! ICACC 2025 registration includes four evening receptions with food and drink provided, as well as two coffee breaks per day, a diversity luncheon on Thursday and an additional evening reception for students and young professionals. The host hotel, the Hilton Daytona Beach, will also offer lunch specials for conference attendees.

Welcome Reception

Network with colleagues at the reception and enjoy food, drink and live entertainment at the kick-off event.



ACerS Student and Young Professional Networking Mixer

Join fellow students and young professionals for food and drink at the Student and Young Professionals Networking Event.

Shot Glass Contest

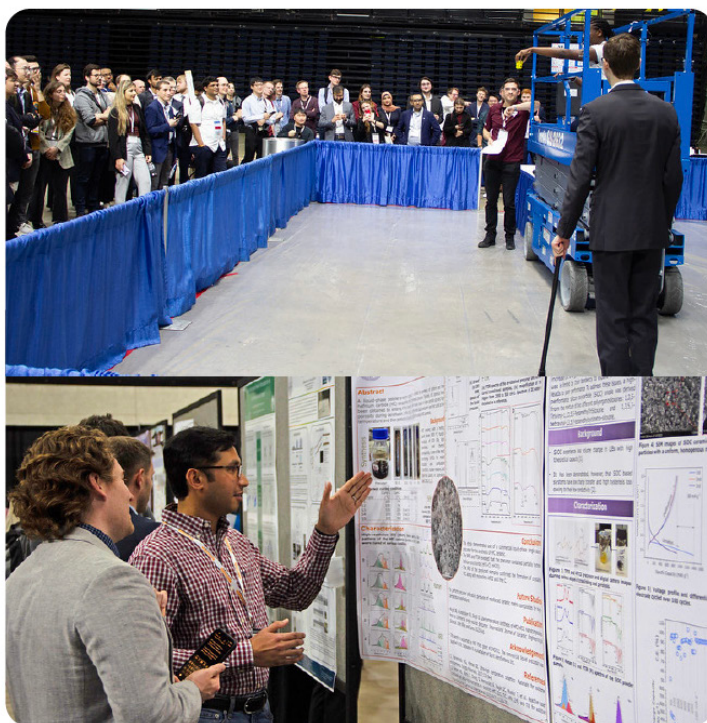
Organized by ACerS President's Council of Student Advisors (PCSA), test your skills with this design contest! Competing teams of four will be given 15 pipe cleaners to build a protective device for their shot glass provided by SCHOTT. Then, the glasses will be dropped from increasing heights until the breaking threshold is reached. The glass with the highest successful drop distance wins!

Expo and Poster Session

Visit with vendors from the ceramic and glass industry and check out scientific posters!

Poster Preview Pitch

At ICACC 2025, poster presenters will have the opportunity to make a two-minute "Poster Preview Pitch" in front of their colleagues at the end of their respective technical session each day, in addition to presenting their poster in the two-day poster session. This is optional and poster authors indicated their interest in participation at time of submission.





The ACerS President's Council of Student Advisors (PCSA) aims to enhance attendee engagement through a variety of interactive and competitive activities:

Shot Glass Competition

Teams of four participants will use a shot glass and 15 pipe cleaners to design protective structures. The goal is to safeguard the glass during drops from increasing heights. The team whose glass withstands the highest drop will be declared the winner. Prize: \$200 Gift Card for a winning team. (\$50 for each team member)

Poster Scavenger Hunt

Participants will receive clues that guide them to interact with poster presenters. The first individual or team to solve the scavenger hunt by uncovering all clues and engaging with the presenters will win. Prizes: \$50 Gift Cards for the first three correct submissions.

PCSA Booth Activities

Attendees are invited to visit the PCSA booth, located next to the ACerS table, to participate in a golf putting challenge. Winners will receive exclusive PCSA merchandise. Prizes: PCSA gift bags and merchandise.

NEW THIS YEAR!

Poster presenters have the opportunity to present a two minute summary of their research. Thank you to the presenters listed below who will make their Poster Preview Pitch with in their specific symposium or focused session. Please refer to the on line itinerary planner or the technical program beginning on page 51 for the dates and times of each Poster Preview Presentation.

M. Laura Sorgi Johann

14th Global Young Investigator Forum on Sustainability
Beyond Earth for Earth: Innovating Sensors with 3D-Printed Lunar Regolith Composites

Jonathan Kenny

Focused Session 2: Protective Ceramics: Fundamental Challenges and New Developments
Carbon Reinforced Boron sub-Oxide Nanocomposite-Abridged visual poster summary

Yu Zusho

Focused Session 4: Ceramics/Carbon Reinforced Polymers
Characterization of mode I fracture behavior in aging-treated A7075/CFRP adhesive-bonded joints using acoustic emission method

Kazuki Kariya

Focused Session 4: Ceramics/Carbon Reinforced Polymers
Development of a densification process for metal BJT compacts with fine grains

Mai Kinoshita

Focused Session 4: Ceramics/Carbon Reinforced Polymers
Effect of Surface Textures on Mechanical and Osteogenic Properties of Alumina Toughened Zirconia Composites

Kanta Tsuda

Focused Session 4: Ceramics/Carbon Reinforced Polymers
Development and Evaluation of Low Environment Impact Fabrication Methods for Zirconia CIM Parts

Niels Grigat

Focused Session 4: Ceramics/Carbon Reinforced Polymers
Ceramic coating of fibre reinforced polymers using separate powder injected laser application

Sindy Fuhrmann

Focused Session 6: Innovative Material Processing for Diverse Resource Circulation Loops
Closing the loop in recycling: Car2Car

Takashi Makino

Focused Session 7: Ceramics for Global Decarbonization
Impact of Accelerated Degradation on CO₂ Separation Performance of Zeolite Adsorbents

Michelle Man

Symposium 1: Mechanical Behaviour and Performance of Advanced Ceramics and Composites
Composites Materials Handbook 17

Dario Alidoost

Symposium 1: Mechanical Behaviour and Performance of Advanced Ceramics and Composites
Silicon Nitride-Invar Joining

Dario Alidoost

Symposium 1: Mechanical Behaviour and Performance of Advanced Ceramics and Composites
Advanced Joining Technologies at J-Tech@PoliTO

Surya Prakasarao Chodiseti

Symposium 1: Mechanical Behaviour and Performance of Advanced Ceramics and Composites
Machinable SiC composites for elevated temperature tribological applications: A promising alternative to traditional SiC ceramics

Aurora Pizzinat

Symposium 1: Mechanical Behaviour and Performance of Advanced Ceramics and Composites
Joining and Coating of Oxide-CMC by Preceramic Polymers

Royi Padan

Symposium 1: Mechanical Behaviour and Performance of Advanced Ceramics and Composites
A Multi-Scale Hierarchical PHFGMC Framework for Predicting Mechanical Properties of C/C-SiC CMCs

Matthew Caulfield

Symposium 2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications
Optimizing Steam Jet Parameters for Enhanced Environmental Barrier Coating (EBC) Performance Testing in High-Temperature, High-Velocity Environments

Yusaku Abo

Symposium 3: 22nd International Symposium on Solid Oxide Cells (SOC): Materials, Science and Technology
High temperature gas sealing properties of sericite-based self-expansion compression seals

Kota Kawaminami

Symposium 3: 22nd International Symposium on Solid Oxide Cells (SOC): Materials, Science and Technology
Effects of CeO₂ nano-dispersion in LSM cathode on SOFC electrode properties

Francesco Gallo

Symposium 3: 22nd International Symposium on Solid Oxide Cells (SOC): Materials, Science and Technology
Electrophoretic deposition of MnCu based coating for reversible SOC

Hakan YÜCE

Symposium 3: 22nd International Symposium on Solid Oxide Cells (SOC): Materials, Science and Technology

$\text{La}_{0.5}\text{Sr}_{0.5}\text{Co}_{0.2}\text{Fe}_{0.2}\text{Ni}_{0.2}\text{Cu}_{0.2}\text{A}_{0.2}\text{O}_3$ (A=V,Al,Mg) Perovskites For Medium Temperature Solid Oxide Fuel Cells

Leticia Trezecik Silvano

Symposium 6: Advanced Materials and Technologies for Rechargeable Energy Storage

Building a Composite Cathode for Sulfidic Solid State Na-Ion Batteries via Infiltration Method

Ha Eun Kang

Symposium 6: Advanced Materials and Technologies for Rechargeable Energy Storage

Improving Lithium-Ion Conductivity in $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ via Molten Salt Synthesis for All Solid State Battery

João Felipe Pierdoná

Symposium 6: Advanced Materials and Technologies for Rechargeable Energy Storage

Development of superionic conductor glass ceramic with optimized crystallization temperature

Minwook Kim

Symposium 6: Advanced Materials and Technologies for Rechargeable Energy Storage

Effect of Zinc Oxide Artificial Layer on Interfacial Resistance of Garnet-Based Solid Electrolyte for Lithium Metal Anode

Hakan YÜCE

Symposium 6: Advanced Materials and Technologies for Rechargeable Energy Storage

MgNiAlVFe and MgNiAlVTi High Entropy Alloys For NiMH Batteries

Irina Gushchina

Symposium 7: 19th International Symposium on Functional Nanomaterials and Thin Films for Sustainable Energy, Environmental and Biomedical Applications

Exploring kinetic dynamics in buffer layer formation for improved solar cell efficiency via chemical bath deposition

Gamze Yüksel

Symposium 7: 19th International Symposium on Functional Nanomaterials and Thin Films for Sustainable Energy, Environmental and Biomedical Applications

Influence of ZnO Nanowall Morphology on the Efficiency of Flexible Piezoelectric Nanogenerators

Francesca Gattucci

Symposium 7: 19th International Symposium on Functional Nanomaterials and Thin Films for Sustainable Energy, Environmental and Biomedical Applications

Surface and mechanical properties of co-sputtered Silica-Silver and Zirconia-Silver antimicrobial composite coatings: a characterization study

B Venkata Manoj Kumar

Symposium 8: 19th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems

Investigating a simplified dip-coating technique for the development of Cf/hBN/SiC composites

Surojit Gupta

Symposium 8: 19th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems

Usage of 3D Optical Microscopy for Understanding Defects in Composites

Gregory Kallien

Symposium 8: 19th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems

Processing of Nb/Ta- Al_2O_3 composites by FAST/SPS and investigation of 3D-microstructure

Rajat Jain

Symposium 8: 19th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems

Fabrication and Laser-Assisted Machining (LAM) of Fused Silica-Based Ceramic Composites Reinforced with Nanoparticles

Mélanie Pitap Mbowou

Symposium 9: Porous Ceramics: Novel Developments and Applications

Activation of volcanic ash as support for FeOx gliding arc plasma deposition and application in the catalytic oxidation

Ryoichi Furushima

Symposium 10: Integrated computational-experimental Modeling and design of ceramics and composites

Classification and Interpretation of Intermediate Feature Representations of Silicon Nitride Microstructures using t-SNE

Ivyleen Arugay

Symposium 11: Advanced Materials and Innovative Processing Ideas for Production Root Technologies

Utilization of Silt from gold mine waste for Silt-Polyester composite (SPc)

Fabian Jung

Symposium 12: On the Design of Nanolaminated Ternary Transition Metal Carbides/Nitrides (MAX Phases) and Borides (MAB Phases), Solid Solutions Thereof, and 2D Counterparts (MXenes, MBenes)

Development of carbon fibre-based continuous MAX-Phase fibres and corresponding coatings

Aimee Coleman

Symposium 12: On the Design of Nanolaminated Ternary Transition Metal Carbides/Nitrides (MAX Phases) and Borides (MAB Phases), Solid Solutions Thereof, and 2D Counterparts (MXenes, MBenes)

Turbostratic-Layering Disorder in MAX-Phases

Tetiana Prikhna

Symposium 13: Development and Applications of Advanced Ceramics and Composites for Nuclear Fission and Fusion Energy Systems

Post-oxygenation under high pressure of superconducting EuBCO and GdBCO coated conductors

Beomsu Park

Symposium 13: Development and Applications of Advanced Ceramics and Composites for Nuclear Fission and Fusion Energy Systems

Effects of Oxide Formation on Corrosion Resistance of Structural Materials in Chlorine-Based Salt Environments

Ji Hyun Lee

Symposium 13: Development and Applications of Advanced Ceramics and Composites for Nuclear Fission and Fusion Energy Systems

Innovative Swaging-Drawing ATF Tube with Zr Nitride Formation for Enhanced Thermal Stability Evaluation under LOCA Conditions in PWR

Swen Subotic

Symposium 14: Crystalline Materials for Electrical, Optical and Medical Applications

New method for the exact determination of the Curie temperature using temperature-dependent X-ray diffraction on the model system barium titanate

Jannatul Robaiat Mou

Symposium 14: Crystalline Materials for Electrical, Optical and Medical Applications

Phase identity and microstructure-property relationships in BiFeO₃-BaTiO₃ ceramics

Sindy Fuhrmann

Symposium 15: 9th International Symposium on Additive Manufacturing and 3D Printing Technologies

Binder Jetting of Glass Grinding Waste

Subhadip Bhandari

Symposium 15: 9th International Symposium on Additive Manufacturing and 3D Printing Technologies

Exploring the limits of rapid sintering: The impact of nozzle diameter and sintering atmosphere on fused filament fabricated Al₂O₃ ceramics

Ayyappan Murugesan

Symposium 15: 9th International Symposium on Additive Manufacturing and 3D Printing Technologies

Microstructural evolution and phase analysis of SS410- Al₂O₃- SiC multilayered functionally graded composite fabricated through laser cladding

Surojit Gupta

Symposium 15: 9th International Symposium on Additive Manufacturing and 3D Printing Technologies

Design and Development of 3D Printed PEEK and Nylon Composites

Sk Hossain

Symposium 16: Geopolymers, Inorganic Polymer-derived Ceramics and Sustainable Construction Materials

Sustainable Construction: An Innovative Geopolymer-Pozzolanic Hybrid Binder

Irina Gushchina

Symposium 17: Advanced Ceramic Materials and Processing for Photonics and Energy

Empowering advanced photovoltaic (PV) pioneers: a bilateral Italy-USA project

Christian Rossi

Symposium 17: Advanced Ceramic Materials and Processing for Photonics and Energy

Chemical bath deposition (CBD) of ZnMgO thin films for Cu(In,Ga)Se₂ photovoltaics (PV)

Swadesh Paul

Symposium 17: Advanced Ceramic Materials and Processing for Photonics and Energy

Distorted Zn and Sn-based perovskite oxide nanomaterials for piezoelectric microenergy harvesting applications

Virushni Sn

Symposium 18: Ultrahigh Temperature Ceramics

Microstructure and properties of ZrB₂-SiC composites

fabricated by pressure-less sintering of gel-cast green bodies

Presenters who missed the initial abstract deadline had the opportunity to submit a poster abstract by December 31, 2024, to be included in the ICACC Poster Session. The following abstracts will comprise the ICACC Breaking News Poster Session.

As a reminder, ALL posters will remain up for both days of the poster session and exhibition. The presenters will stand with their posters for one day. Poster Session A is Tuesday, January 28, 2025. Poster Session B is Wednesday, January 29, 2025.

Poster Session A

(ICACC-PA-081-2025) Surface modifications of bioactive glasses with plasma-treated polymer coatings to impart anti-adhesive properties

E. Vernè¹; K. Pontillo¹; K. Costabello²; M. Lai²; A. Cochis³; Z. Najmi³; M. Miola¹

1. Applied Science and Technology, Politecnico di Torino, Turin, Piedmont, Italy.
2. IRIS s.r.l., Orbassano (TO), Italy.
3. Department of Health Sciences, Center for Translational Research on Autoimmune and Allergic Disease—CAAD, Università del Piemonte Orientale (UPO), Novara, Italy.

(ICACC-PA-082-2025) Exploring Ceramic Solid-State Electrolytes for Next Generation Lithium-Metal Batteries

K. Garvin¹

1. Naval Surface Warfare Center Carderock Division, West Bethesda, MD, United States.

(ICACC-PA-083-2025) $\text{Na}_{1-x}\text{Ni}_{0.33}\text{Fe}_x\text{Mn}_{0.67}\text{-xO}_2$ with Various Fe Amount ($x=0.27, 0.33, 0.40$) As Cathode Materials for Sodium-ion Batteries

H. Ryu¹; J. Kim¹

1. Chemical Engineering, Dong-A University, Busan, The Republic of Korea

(ICACC-PA-084-2025) Development of a Silica and Carbon Nanotube Fiber Matrix Composite for Hypersonic Radomes

N. Lockwood¹; J. Walker²

1. Hypersonic Team, Air Force Reserves, Washington, DC, United States.
2. Aerospace, Transportation, and Advanced Systems Laboratory, Georgia Tech Research Institute, Smyrna, GA, United States.

Poster Session B

(ICACC-PB076-2025) Mechanical Properties of a New Cr-Free Spinel $(\text{Mg,Zn})(\text{Al,Fe})_2\text{O}_4$ Aggregates for Non-Ferrous Metallurgy Thermal Linings

J. Przystas¹; O. Pajak¹; I. Jastrzebska¹

1. AGH, Akademia Gorniczo-Hutnicza im Stanislaw Staszica w Krakowie, Kraków, Lesser Poland Voivodeship, Poland.

Poster Session B

(ICACC-PB077-2025) 3D printing of bone-like bioactive glass and ceramic scaffolds by advanced vat photopolymerization strategies

E. Vernè⁴; R. Gabrieli⁴; M. Pianou⁴; V. Rigano⁴; A. Schiavi¹; M. Schwentenwein²; P. Vena³; F. Baino⁴

1. Applied Metrology and Engineering Division, National Institute of Metrological Research (INRiM), Torino, Torino, Italy.
2. Lithoz GmbH, Vienna, Austria.
3. Department of Chemistry, Materials and Chemical Engineering "Giulio Natta", Laboratory of Biological Structure Mechanics (LaBS), Politecnico di Milano, Milan, Lombardy, Italy.
4. Applied Science and Technology Department, Politecnico di Torino, Turin, Piedmont, Italy.

(ICACC-PB078-2025) Sintering and characterization of SiC-TiB_2 composites for severe environments

L. DeBellis¹; S. Failla¹; S. Taraborelli²; D. Sciti¹; J. Stacy³; J. Watts⁴; W. Fahrenholtz⁴

1. Università degli Studi di Parma, Parma, Emilia-Romagna, Italy.
2. Industrie Bitossi, Sovigliana Vinci, Italy.
3. Missouri University of Science and Technology, Rolla, MO, United States.
4. Materials Science and Engineering, Missouri University of Science & Technology, Rolla, MO, United States

(ICACC-PB079-2025) Zeta Potential and Electrophoretic Mobility of Nickel Mine Waste From Southern Philippines

M. Zozobrado¹; J. Mutia¹; F. Echavez¹; C. Saladaga¹; R. Aquitan¹; V. Resabal¹

5. Department of Materials and Resources Engineering and Technology, MSU-Iligan Institute of Technology, Iligan City, Philippines

Late Abstract Submission

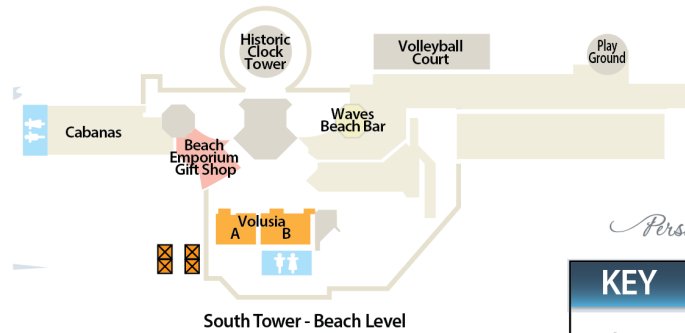
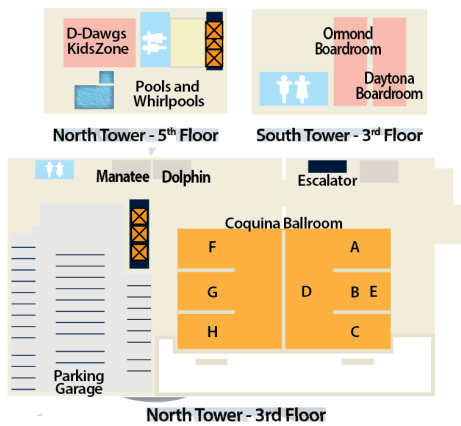
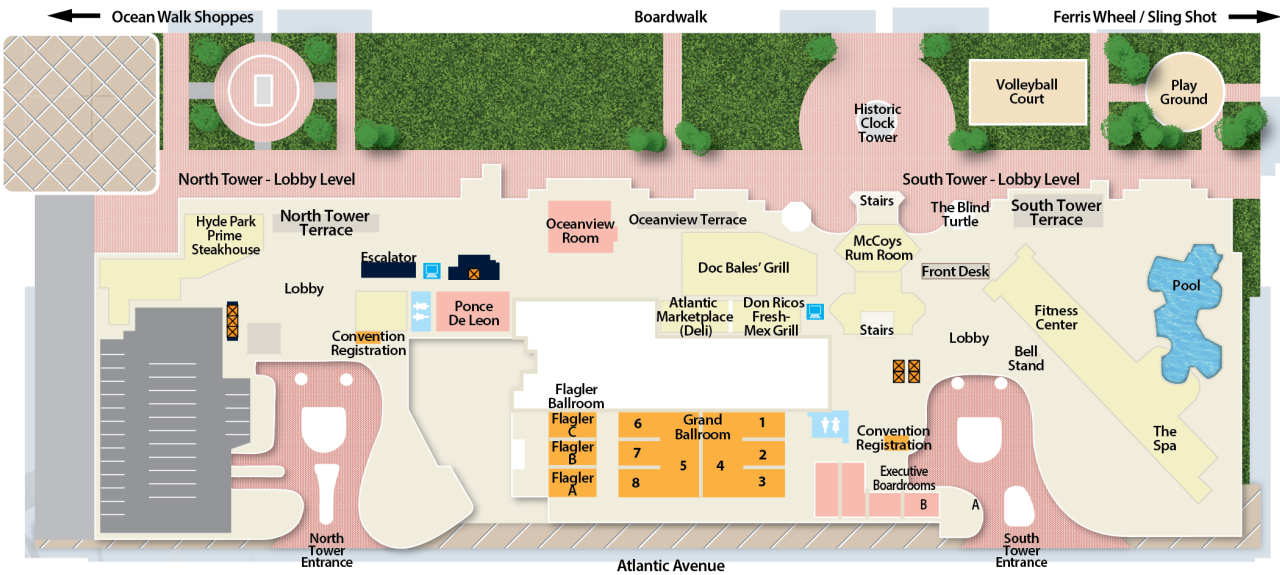
Symposium 12 • Tuesday, January 28, 2025 • 5:34 p.m.

(ICACC-S12-025-2025) Synthesis of Tubular MXenes Using Carbon Fibers as a Template

F. Oliveira¹; B. Wu¹; V. Mazanek¹; V. Kundrát²; K. Bukvišová⁵; L. Houben⁴; Z. Sofer¹; J. Gonzalez³

1. Department of Inorganic Chemistry, University of Chemistry and Technology, Prague, Prague, Czechia.
2. Department of Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovot, Center District, Israel.
3. Chair of Ceramics, Institute of Mineral Engineering (GHI), RWTH Aachen University, Aachen, Germany.
4. Department of Chemical Research Support, Weizmann Institute of Science, Rehovot, Center District, Israel.
5. Thermo Fisher Scientific Inc, Brno, Czechia.

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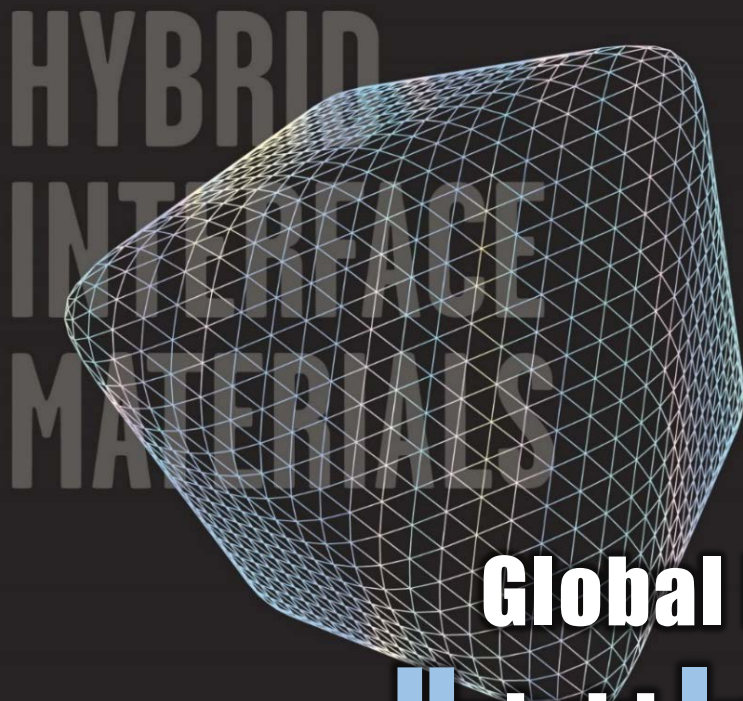


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과학기술정보통신부

Ministry of Science and ICT

Global Frontier Project

Global Frontier Center for Hybrid Interface Materials

About “HIM”

- **Date of establishment** : 2013. 11. 26.
- **Director** : Prof. Kwang-Ho Kim
(Pusan National University)

Research Goal

- Development of world best basic/fundamental technologies for innovative products based on Hybrid Interface Technology (HIT)
- Development of future materials/parts/products for commercialization of the core technologies

Project Scope

- Observation of physical/chemical/electrical properties at the interfaces of hybrid materials with materials computation methodology
- Design and development of innovative interface materials with multi-functionality
- Demonstration and categorization of the hybrid materials for the core technologies

HIM's Platforms



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Geumjeong-gu, Busan, Republic of Korea

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MECHANICAL BEHAVIOUR AND PERFORMANCE OF ADVANCED CERAMICS AND COMPOSITES

Session Information

Mechanical Testing, and Fracture Mechanics of Ceramics and Composites

Monday, January 27, 2025

1:30 – 6:10 p.m.

Coquina E

Ceramics for Concentrated Solar–Thermal Power and Industrial Process Heat I

Tuesday, January 28, 2025

8:30 a.m. – 12:10 p.m.

Coquina E

Ceramics for Concentrated Solar–Thermal Power and Industrial Process Heat II

Tuesday, January 28, 2025

1:30 – 3:40 p.m.

Coquina E

Repair, Joining, Integration and Testing of Ceramics

Tuesday, January 28, 2025

3:40 – 5:22 p.m.

Coquina E

Novel Computational Approaches to Enhance Performance and Characterization

Wednesday, January 29, 2025

8:30 – 11:20 a.m.

Coquina E

Ceramic Matrix Composites (CMCs) Processing–Microstructure–Mechanical Properties Correlation I

Wednesday, January 29, 2025

11:20 a.m. – 12:20 p.m.

Coquina E

Ceramic Matrix Composites (CMCs) Processing–Microstructure–Mechanical Properties Correlation II

Wednesday, January 29, 2025

1:30 – 5 p.m.

Coquina E

Ceramic Matrix Composites (CMCs) Mechanical Behavior and In-situ Characterization

Thursday, January 30, 2025

8:30 a.m. – 12:10 p.m.

Coquina E

Ceramic Matrix Composites (CMCs) Thermomechanical Performance and Environmental Effects

Thursday, January 30, 2025

1:30 – 5:50 p.m.

Coquina E

Ceramics Processing–Microstructure–Mechanical Properties Correlation

Friday, January 31, 2025

8:30 – 10:30 a.m.

Coquina E

Ceramics for Aerospace and Other Transport Applications

Friday, January 31, 2025

10:30 – 11:50 a.m.

Coquina E

Symposium Organizers

Amjad Almansour, *NASA Glenn Research Center, USA*

Dong (Lilly) Liu, *University of Bristol, UK*

Jonathan Salem, *NASA Glenn Research Center, USA*

Monica Ferraris, *Politecnico di Torino, Italy*

Gerard Vignoles, *University of Bordeaux, France*

Dileep Singh, *Argonne National Laboratory, USA*

Craig Przybyla, *Air Force Research Laboratory, USA*

Dietmar Koch, *University of Augsburg, Germany*

Kamala Raghavan, *US Department of Energy, USA*

Stefan Schafföner, *University of Bayreuth, Germany*

Raul Bermejo, *Montanuniversitaet Leoben, Austria*

ADVANCED CERAMIC COATINGS FOR STRUCTURAL, ENVIRONMENTAL, AND FUNCTIONAL APPLICATIONS

Session Information

Environmental Barrier Coatings I

Monday, January 27, 2025
1:30 – 3:20 p.m.
Coquina C

Environmental Barrier Coatings II

Monday, January 27, 2025
3:20 – 5 p.m.
Coquina C

Environmental Barrier Coatings III

Tuesday, January 28, 2025
8:30 – 10:20 a.m.
Coquina C

CMAS-type recession and mitigation strategies I

Tuesday, January 28, 2025
10:20 a.m. – Noon
Coquina C

CMAS-type recession and mitigation strategies II

Tuesday, January 28, 2025
1:30pm – 3:20pm
Coquina C

CMAS-type recession and mitigation strategies III

Tuesday, January 28, 2025
3:20 – 4:40 p.m.
Coquina C

New test, simulation, and material concepts for T/EBC I

Wednesday, January 29, 2025
8:30 – 10:20 a.m.
Coquina C

New testing simulation and material concepts for T/EBC II

Wednesday, January 29, 2025
10:20 – 11:40 a.m.
Coquina C

New testing simulation and material concepts for T/EBC III

Wednesday, January 29, 2025
1:30 – 3:02 p.m.
Coquina C

Advanced ceramic coatings for extreme environments

Wednesday, January 29, 2025
3:02 – 5:12 p.m.
Coquina C

Symposium Organizers

Peter Mechnich, *German Aerospace Center (DLR), Germany*

Douglas E. Wolfe, *The Pennsylvania State University, USA*

Jie Zhang, *Institute of Metal Research, CAS, China*

Bryan Harder, *NASA Glenn Research Center, USA*

Eugene Medvedovski, *Endurance Technologies Inc., Canada*

Elizabeth Opila, *University of Virginia, USA*

Eric H. Jordan, *The University of Connecticut, USA*

Robert Vaßen, *Forschungszentrum Jülich, Germany*

Kang N. Lee, *NASA Glenn Research Center, USA*

Satoshi Kitaoka, *Japan Fine Ceramics Center, Japan*

Byung-Koog Jang, *Kyushu University, Japan*

David Poerschke, *University of Minnesota, USA*

Ping Xiao, *University of Manchester, UK*

Julin Wan, *GE Global Research, USA*

Yutaka Kagawa, *University of Tokyo, Japan*

Rodney W. Trice, *Purdue University, USA*

Ravisankar Naraparaju, *German Aerospace Center, Germany*

Nadia Rohbeck, *Pratt and Whitney, USA*

Kuiying Chen, *NRC Ottawa, Canada*

22ND INTERNATIONAL SYMPOSIUM ON SOLID OXIDE CELLS (SOC): MATERIALS, SCIENCE AND TECHNOLOGY

Session Information

System design and demonstration

Monday, January 27, 2025
1:30 – 3:20 p.m.
Ballroom 4

Electrolysis and applications I

Monday, January 27, 2025
3:20 – 4:50 p.m.
Ballroom 4

Electrolysis and applications II

Tuesday, January 28, 2025
8:30 – 10:10 a.m.
Ballroom 4

SOFC Applications

Tuesday, January 28, 2025
10:10 – 11:40 a.m.
Ballroom 4

Metal supported cells

Tuesday, January 28, 2025
1:30 – 3 p.m.
Ballroom 4

Air Electrode

Tuesday, January 28, 2025
3 – 5:40 p.m.
Ballroom 4

Pressurized Operation

Wednesday, January 29, 2025
8:30 – 10:20 a.m.
Ballroom 4

Simulation & Modeling

Wednesday, January 29, 2025
10:20 a.m. – 12:30 p.m.
Ballroom 4

Fuel electrodes & electrolytes

Wednesday, January 29, 2025
1:30 – 5:30 p.m.
Ballroom 4

Interconnects and coatings

Thursday, January 30, 2025
8:30 – 10 a.m.
Ballroom 4

Novel processing

Thursday, January 30, 2025
10 a.m. – Noon
Ballroom 4

Proton conducting ceramic

Thursday, January 30, 2025
1:30 – 5:08 p.m.
Ballroom 4

Symposium Organizers

Scott A. Barnett, *Northwestern University, USA*

Mihails Kusnezoff, *Fraunhofer IKTS, Germany*

Federico Smeacetto, *Politecnico di Torino, Italy*

John Hardy, *Pacific Northwest National Laboratory, USA*

Olga Marina, *Pacific Northwest National Laboratory, USA*

Narottam P. Bansal, *NASA Glenn Research Center, USA*

Prabhakar Singh, *University of Connecticut, USA*

Henrik Lund Frandsen, *DTU Energy Conversion and Storage, Denmark*

Vincenzo Esposito, *DTU Energy Conversion and Storage, Denmark*

Tae Ho Shin, *Korea Institute of Ceramic Engineering & Technology, South Korea*

Ruey-Yi Lee, *Institute of Nuclear Energy Research, Taiwan*

Tatsumi Ishihara, *Kyushu University, Japan*

Julie Mougins, *CEA, France*

Sebastian Molin, *Gdansk University of Technology, Poland*

Toshiki Matsui, *Kyoto University, Japan*

ADVANCED MATERIALS FOR THERMOELECTRIC AND THERMIONIC ENERGY CONVERSION

Session Information

Advanced Materials for thermoelectric and thermionic energy conversion I

Tuesday, January 28, 2025
8:30 – 10:20 a.m.
Coquina D

Structure/property relationships, thermodynamics, and solid-state defect chemistry of thermoelectric/thermionic materials

Tuesday, January 28, 2025
10:20 a.m. – 12:10 p.m.
Coquina D

Theoretical and experimental approaches to thermal and electrical transport mechanisms in thermoelectric/thermionic materials

Tuesday, January 28, 2025
1:30 – 3:30 p.m.
Coquina D

Advanced Materials for thermoelectric and thermionic energy conversion II

Tuesday, January 28, 2025
3:30 – 5:30 p.m.
Coquina D

Symposium Organizers

Michitaka Ohtaki, *Kyushu University, Japan*

Armin Feldhoff, *Leibniz University Hannover, Germany*

Sunmi Shin, *National University of Singapore, Singapore*

Kyu Hyoung Lee, *Yonsei University, Republic of Korea*

Mona Zebarjadi, *University of Virginia, USA*

Mari-Ann Einarsrud, *Norwegian University of Science and Technology, Norway*

Jon C. Goldsby, *NASA Glenn Research Center, USA*

Peng Jiang, *Dalian Institute of Chemical Physics, China*

Theodora Kyratsi, *University of Cyprus, Cyprus*

Takao Mori, *National Institute for Materials Science, Japan*

Amin Nozariasbmarz, *Pennsylvania State University, USA*

Daryoosh Vashaee, *North Carolina State University, USA*

George Nolas, *University of South Florida, USA*

Winnie Wong-Ng, *NIST, USA*

Takayoshi Katase, *Tokyo Institute of Technology, Japan*

NEXT GENERATION BIOCERAMICS AND BIOCOMPOSITES

Session Information

Bioceramics and composites for tissue engineering I

Wednesday, January 29, 2025
8:30 – 10:20 a.m.
Ponce de Leon

Bioceramics and composites for tissue engineering II

Wednesday, January 29, 2025
10:20 – 11:20 a.m.
Ponce de Leon

Ceramics and composites with antimicrobial/antiviral properties

Wednesday, January 29, 2025
1:30 – 3 p.m.
Ponce de Leon

Biomineralization and tissue-material interactions

Wednesday, January 29, 2025
3:20 – 4:30 p.m.
Ponce de Leon

Porous, nanostructured and hybrid bioceramics and composites I

Thursday, January 30, 2025
8:50 – 10:20 a.m.
Ponce de Leon

Porous, nanostructured and hybrid bioceramics and composites II

Thursday, January 30, 2025
10:20 – 11:10 a.m.
Ponce de Leon

Bioceramics and composites for implants and medical devices

Thursday, January 30, 2025
1:30 – 3:10 p.m.
Ponce de Leon

Symposium Organizers

Katalin Balazsi, *Center for Energy Research, Hungary*

Hui-Suk Yun, *Korea Institute of Materials Science, Korea*

Cristina Balagna, *Politecnico di Torino, Italy*

Roger Narayan, *University of North Carolina, USA*

Eva Hemmer, *University of Ottawa, Canada*

Akiyoshi Osaka, *Okayama University, Japan*

Antonia Ressler, *University of Zagreb, Croatia*

Aldo Boccaccini, *University of Erlangen-Nuremberg, Germany*

Monika Tatarková, *Slovak Academy of Sciences, Slovakia*

ADVANCED MATERIALS AND TECHNOLOGIES FOR RECHARGEABLE ENERGY STORAGE

Session Information

All-solid-state batteries I

Monday, January 27, 2025
1:30 – 3:20 p.m.
Coquina B

All-solid-state batteries II

Monday, January 27, 2025
3:20 – 5:30 p.m.
Coquina B

Battery Materials Design and Characterization I

Tuesday, January 28, 2025
8:30 – 10:15 a.m.
Coquina B

Electrode Materials Design and Characterization II

Tuesday, January 28, 2025
10:15 – 11:55 a.m.
Coquina B

All-solid-state batteries III

Tuesday, January 28, 2025
1:30 – 3:20 p.m.
Coquina B

Solid Electrolytes for Batteries I

Tuesday, January 28, 2025
3:20 – 4:50 p.m.
Coquina B

Electrode and Electrolyte Materials for Lithium-ion Batteries I

Wednesday, January 29, 2025
8:30 – 10:00 a.m.
Coquina B

Electrode and Electrolyte Materials for Lithium-ion Batteries II

Wednesday, January 29, 2025
10 a.m. – 12:15 p.m.
Coquina B

Sodium-ion Batteries I

Wednesday, January 29, 2025
1:30 – 3:20 p.m.
Coquina B

Sodium-ion Batteries II

Wednesday, January 29, 2025
3:20 – 4:50 p.m.
Coquina B

Solid Electrolytes for Batteries II

Thursday, January 30, 2025
8:30 – 10:20 a.m.
Coquina B

Solid Electrolytes for Batteries III

Thursday, January 30, 2025
10:20 a.m. – Noon
Coquina B

Sodium and Potassium Storage Systems

Thursday, January 30, 2025
1:30 – 2:30 p.m.
Coquina B

Multivalent Redox Batteries

Thursday, January 30, 2025
3 – 4:20 p.m.
Coquina B

Electrodes and Electrolytes for Battery Systems

Friday, January 31, 2025
8:35 – 9:55 a.m.
Coquina B

Recycling and Advanced Processes for Electrode Materials

Friday, January 31, 2025
10 – 11:20 a.m.
Coquina B

Symposium Organizers

Palani Balaya, *National University of Singapore, Singapore*

Olivier Guillon, *Forschungszentrum Jülich, Germany*

Naoaki Yabuuchi, *Yokohama National University, Japan*; Valerie Pralong, *CNRS CRISMAT, France*

Mali Balasubramanian, *Oak Ridge National Laboratory, USA*

Prabeer Barpanda, *Indian Institute of Science, India*

Byounwoo Kang, *Pohang University of Science and Technology, Republic of Korea*

Shih-Kang Lin, *National Cheng Kung University, Taiwan*

Donald Dornbush, *NASA Glenn Research Center, USA*

Wan Si Tang, *Underwriters Laboratories Research Institute, USA*

19TH INTERNATIONAL SYMPOSIUM ON FUNCTIONAL NANOMATERIALS AND THIN FILMS FOR SUSTAINABLE ENERGY, ENVIRONMENTAL AND BIOMEDICAL APPLICATIONS

Session Information

Nanomaterials for energy conversion, storage and catalysis I

Monday, January 27, 2025

1:30 – 3 p.m.

Flagler C

Nanomaterials for thermoelectrics, photocatalysis, electrocatalysis, and solar hydrogen

Monday, January 27, 2025

3 – 5:20 p.m.

Flagler C

Nanomaterials for energy conversion, storage and catalysis- II

Tuesday, January 28, 2025

8:30 – 9:56 a.m.

Flagler C

Nanomaterials for energy conversion, storage and catalysis- III

Tuesday, January 28, 2025

10 a.m. – 12:20 p.m.

Flagler C

Nanomaterials for energy conversion, storage and catalysis- IV

Tuesday, January 28, 2025

1:30 – 3 p.m.

Flagler C

Nanotoxicity, bio-imaging, drug-delivery and tissue engineering with tailored nano-bioconjugates

Tuesday, January 28, 2025

3 – 5:10 p.m.

Flagler C

Synthesis, functionalization and assembly of inorganic and hybrid nanostructures

Wednesday, January 29, 2025

8:30 – 10 a.m.

Flagler C

Functional coatings and innovative thin film techniques, e.g., ALD, PECVD- I

Wednesday, January 29, 2025

10 – 11:40 a.m.

Flagler C

Functional coatings and innovative thin film techniques, e.g., ALD, PECVD- II

Wednesday, January 29, 2025

1:30 – 2:30 p.m.

Flagler C

Symposium Organizers

Muhammet S. Toprak, *KTH Royal Institute of Technology, Sweden*

Sanjay Mathur, *University of Cologne, German*

Sedat Ballikaya, *Istanbul University, Turkey*

Andreu Cabot, *Catalonia Institute for Energy Research, Spain*

Milos Dujovic, *Texas A & M University, USA*

Elisa Moretti, *Ca' Foscari University of Venice, Italy*

19TH INTERNATIONAL SYMPOSIUM ON ADVANCED PROCESSING AND MANUFACTURING TECHNOLOGIES FOR STRUCTURAL AND MULTIFUNCTIONAL MATERIALS AND SYSTEMS

Session Information

Microwave processing, SPS, flash sintering, high pressure assisted sintering, I

Monday, January 27, 2025
1:30 – 2:30 p.m.
Flagler A

Microwave processing, SPS, flash sintering, high pressure assisted sintering, II

Monday, January 27, 2025
2:30 – 5 p.m.
Flagler A

Green manufacturing, global environmental issues and standards

Tuesday, January 28, 2025
8:30 – 9:50 a.m.
Flagler A

Design-oriented manufacturing and processing

Tuesday, January 28, 2025
9:50 – 10:40 a.m.
Flagler A

Polymer-based processing

Tuesday, January 28, 2025
10:40 – 11:20 a.m.
Flagler A

Joining, integration, machining, repair, and refurbishment technologies

Tuesday, January 28, 2025
11:20 – 11:50 a.m.
Flagler A

Advanced composite manufacturing technologies, hybrid processes

Tuesday, January 28, 2025
1:30 – 5:20 p.m.
Flagler A

Advanced powder synthesis and processing

Wednesday, January 29, 2025
8:30 – 11:20 a.m.
Flagler A

Rapid prototyping, 3D printing, patterning, templates and self-assembly

Wednesday, January 29, 2025
1:30 – 2:18 p.m.
Flagler A

Novel forming/sintering technologies, near-net shaping

Wednesday, January 29, 2025
2:20 – 4 p.m.
Flagler A

Symposium Organizers

Hisayuki Suematsu, *Nagaoka University of Technology, Japan*

Young-Wook Kim, *WORLDEX Industry & Trading Co., Ltd., Republic of Korea*

Tatsuki Ohji, *National Institute of Advanced Industrial Science and Technology (AIST), Japan*

Weiman Wang, *Wuhan University of Technology, China*

Enrico Bernardo, *University of Padova, Italy*

Surojit Gupta, *University of North Dakota, USA*

Eugene Medvedovski, *Endurance Technologies Inc., Canada*

Tohru S. Suzuki, *National Institute for Materials Science (NIMS), Japan*

Yiquan Wu, *Alfred University, USA*

Chang-Jun Bae, *Korea Institute of Materials Science, Republic of Korea*

Satoshi Tanaka, *Nagaoka University of Technology, Japan*

Manuel Belmonte, *Institute of Ceramics and Glass (ICV-CSIC), Spain*

Kyu Hyoung Lee, *Yonsei University, Republic of Korea*

Csaba Balazsi, *Centre for Energy Research ELKH, Hungary*

Thi Mai Dung Do, *Nagaoka University of Technology, Japan*

POROUS CERAMICS: NOVEL DEVELOPMENTS AND APPLICATIONS

Session Information

Porous Ceramics - Novel Developments and Applications

Monday, January 27, 2025
1:30 – 3:20 p.m.
Ballroom 1-2

Porous Ceramics - Novel Developments and Applications

Monday, January 27, 2025
3:20 – 5:20 p.m.
Ballroom 1-2

Porous Ceramics - Novel Developments and Applications

Tuesday, January 28, 2025
8:30 – 10:20 a.m.
Ballroom 1-2

Porous Ceramics - Novel Developments and Applications

Tuesday, January 28, 2025
10:20 a.m. – Noon
Ballroom 1-2

Porous Ceramics - Novel Developments and Applications

Tuesday, January 28, 2025
1:30 – 3:52 p.m.
Ballroom 1-2

Symposium Organizers

Tobias Fey, *University of Erlangen-Nuremberg, Germany*

Manabu Fukushima, *National Institute of Advanced Industrial Science and Technology (AIST), Japan*

Paolo Colombo, *University of Padova, Italy*

Samuel Bernard, *Institut de Recherche sur les Céramiques de Limoges, France; Dong Wing, Corning Incorporated, USA*

C.D. Madhusoodana, *Ceramic Technological Institute Bharat Heavy Electricals Ltd., India*

Jian-feng Yang, *Xi'an Jiaotong University, China; NV Ravikumar, IIT Madras, India*

INTEGRATED COMPUTATIONAL-EXPERIMENTAL MODELING AND DESIGN OF CERAMICS AND COMPOSITES

Session Information

Molecular modeling of advanced materials structure and properties

Wednesday, January 29, 2025
1:30 – 3 p.m.
Coquina G

Insights into advanced materials structures and transitions

Wednesday, January 29, 2025
3 – 4:32 p.m.
Coquina G

Modeling mechanical performance of advanced ceramics

Thursday, January 30, 2025
8:30 – 10 a.m.
Coquina G

Modeling mechanical and thermal performance of advanced ceramics

Thursday, January 30, 2025
10 a.m. – Noon
Coquina G

Modeling ablation and impact of advanced ceramics

Thursday, January 30, 2025
1:30 – 2:40 p.m.
Coquina G

Modeling tribology and vibration performance of advanced ceramics

Thursday, January 30, 2025
3 – 4:40 p.m.
Coquina G

Modeling advanced ceramics for electrical applications

Thursday, January 30, 2025
4:40 – 5:40 p.m.
Coquina G

Modeling physical properties of advanced ceramics

Friday, January 31, 2025
8:30 – 10:40 p.m.
Coquina G

Symposium Organizers

Gerard L. Vignoles, *University of Bordeaux, France*

Ghatu Subhast, *University of Florida, USA*

Jingyang Wang, *Institute of Metal Research, Chinese Academy of Sciences, China*

Bin Liu, *Shanghai University, China*

Jian Luo, *University of California, San Diego, USA*

Yixiu Luo, *Institute of Metal Research, Chinese Academy of Sciences, China*

Katsuyuki Matsunaga, *Nagoya University, Japan*

Paul Rulis, *University of Missouri-Kansas City, USA*

Sergei Manzhos, *Tokyo Institute of Technology, Japan*

Sathiskumar Anusuya Ponnusami, *University of London, United Kingdom*,
Joaquin Garcia Suarez, *École polytechnique fédérale de Lausanne, Switzerland*

Vignesh Kannan, *École Polytechnique, Palaiseau, France*

Peter Kroll, *University of Texas at Arlington, USA*

ADVANCED MATERIALS AND INNOVATIVE PROCESSING IDEAS FOR PRODUCTION ROOT TECHNOLOGIES

Session Information

Future-oriented techniques for coating, forming, and shaping materials

Thursday, January 30, 2025
8:30 – 10:20 a.m.
Coquina C

Fundamental materials: Mining, particles, bulk, and functional materials and precursors I

Thursday, January 30, 2025
10:20 a.m. – Noon
Coquina C

Fundamental materials: mining, particles, bulk, and functional materials and precursors II

Thursday, January 30, 2025
1:30 – 3:40 p.m.
Coquina C

Innovative manufacturing processes for recycling, sustainable energy, or semiconductor industry

Thursday, January 30, 2025
3:40 – 5:40 p.m.
Coquina C

Symposium Organizers

Chisung Ahn, *Korea Institute of Industrial Technology, Korea*

Sungwook Mhin, *Kyonggi University, Korea*

Ayahisa Okawa, *Tohoku University, Japan*

Son Thanh Nguyen, *National Institute of Technology, Japan*

Kyoung Il Moon, *Korea Institute of Industrial Technology, Korea*

Hyuksu Han, *Sungkyunkwan University, Republic of Korea*

Raymond V. Rivera Virtudazo, *Mindanao State University – Iligan Institute of Technology, Philippines*

Yuya Takimoto, *Nagaoka University of Technology, Japan*

Sehun Kwon, *Pusan National University, Republic of Korea*

ON THE DESIGN OF NANOLAMINATED TERNARY TRANSITION METAL CARBIDES/NITRIDES (MAX PHASES) AND BORIDES (MAB PHASES), SOLID SOLUTIONS THEREOF, AND 2D COUNTERPARTS (MXENES, MBENES)

Session Information

On the Design of Nanolaminated Ternary Transition Metal Carbides/Nitrides (MAX Phases) and Borides (MAB Phases), Solid Solutions Thereof, and 2D Counterparts (MXenes, MBenes)

Monday, January 27, 2025
1:30 – 3 p.m.
Ponce de Leon

Tuesday, January 28, 2025
8:30 – 10:40 a.m.
Ponce de Leon

Tuesday, January 28, 2025
1:30 – 2:50 p.m.
Ponce de Leon

Monday, January 27, 2025
3 – 5:40 p.m.
Ponce de Leon

Tuesday, January 28, 2025
10:40 a.m. – 12:10 p.m.
Ponce de Leon

Tuesday, January 28, 2025
2:50 – 5:34 p.m.
Ponce de Leon

Symposium Organizers

Surojit Gupta, *University of North Dakota, USA*

Miladin Radovic, *Texas A&M University, USA*

Konstantina Lambrinou, *University of Huddersfield, UK*

Jochen M. Schneider, *RWTH Aachen University, Germany*

Thierry Cabioch, *Université de Poitiers, France*

Sylvain Dubois, *Université de Poitiers, France*

Per Eklund, *Uppsala University, Sweden*

Johanna Rosen, *Linköping University, Sweden*

Jesus Gonzalez, *RWTH Aachen University, Germany*

Chenxu Wang, *Peking University, China*

DEVELOPMENT AND APPLICATIONS OF ADVANCED CERAMICS AND COMPOSITES FOR NUCLEAR FISSION AND FUSION ENERGY SYSTEMS

Session Information

SiC material technologies for core structures of light water reactors and advanced reactors I

Wednesday, January 29, 2025
8:30 – 10 a.m.
Coquina D

SiC material technologies for core structures of light water reactors and advanced reactors II

Wednesday, January 29, 2025
10 a.m. – 12:10 p.m.
Coquina D

Fuel, cladding, assembly, and core evolutions and performance modeling

Wednesday, January 29, 2025
1:30 – 3:20 p.m.
Coquina D

Material technologies for advanced reactors

Wednesday, January 29, 2025
3:20 – 5:06 p.m.
Coquina D

SiC material technologies for core structures of light water reactors and advanced reactors III

Thursday, January 30, 2025
8:30 – 10 a.m.
Coquina D

Ceramics and composites in nuclear fusion, blanket structural and functional materials

Thursday, January 30, 2025
10 a.m. – Noon
Coquina D

CMC for fusion and fission energy systems

Thursday, January 30, 2025
1:30 – 3:20 p.m.
Coquina D

High temperature ceramics and environmental resistance I

Thursday, January 30, 2025
3:20 – 5:30 p.m.
Coquina D

High temperature ceramics and environmental resistance II

Friday, January 31, 2025
8:30 – 10:10 a.m.
Coquina D

High temperature ceramics and environmental resistance III

Friday, January 31, 2025
10:10 – 11:10 a.m.
Coquina D

Symposium Organizers

Takaaki Koyanagi, Oak Ridge
National Laboratory, USA

Monica Ferraris, Politecnico di
Torino, Italy

Tatsuya Hinoki, Kyoto University,
Japan

Dong Liu, University of Bristol, UK

Gyanender Singh, Idaho National
Laboratory, USA

Konstantina Lambrinou, University of
Huddersfield, UK

David Sprouster, Stony Brook
University, USA

Samuel Humphry-Baker, Imperial
College London, UK

Fabio Di Fonzo, X-nano, Italy

CRYSTALLINE MATERIALS FOR ELECTRICAL, OPTICAL AND MEDICAL APPLICATIONS

Session Information

Optical Material I

Monday, January 27, 2025

1:30 – 5:20 p.m.

Coquina A

Optical Material II

Tuesday, January 28, 2025

8:30 – 11:20 a.m.

Coquina A

Scintillator I

Tuesday, January 28, 2025

11:20 a.m. – 12:10 p.m.

Coquina A

Scintillator II

Tuesday, January 28, 2025

1:30 – 3:20 p.m.

Coquina A

Piezoelectric/Ferroelectric Material

Tuesday, January 28, 2025

3:20 – 4:34 p.m.

Coquina A

Symposium Organizers

Kiyoshi Shimamura, *National Institute for Materials Science, Japan*

Noboru Ichinose, *Waseda University*

Luisa E. Bausá, *Autonomous University of Madrid*

Victoria Blair, *U.S. Army Research Laboratory*

Nerine J. Cherepy, *Lawrence Livermore National Laboratory*

Kenji Toda, *Niigata University, Japan*

Yiquan Wu, *Alfred University, USA*

Takayuki Yanagida, *Nara Institute of Science and Technology, Japan*

Romaine Gaume, *University of Central Florida, USA*

Mariya Zhuravleva, *University of Tennessee*

Hiroaki Furuse, *National Institute for Materials Science, Japan*

Shibin Jiang, *AdValue Photonics Inc., USA*

9TH INTERNATIONAL SYMPOSIUM ON ADDITIVE MANUFACTURING AND 3D PRINTING TECHNOLOGIES

Session Information

9th International Sym on Additive Manufacturing and 3D Printing Technologies- Laser Lithography

Wednesday, January 29, 2025

8:30 – 10 a.m.

Coquina A

9th International Sym on Additive Manufacturing and 3D Printing Technologies- Vat Photopolymerization I

Wednesday, January 29, 2025

10 a.m. – Noon

Coquina A

9th International Sym on Additive Manufacturing and 3D Printing Technologies- Vat Photopolymerization II

Wednesday, January 29, 2025

1:30 – 3 p.m.

Coquina A

9th International Sym on Additive Manufacturing and 3D Printing Technologies- Vat Photopolymerization III

Wednesday, January 29, 2025

3 – 5:30 p.m.

Coquina A

9th International Sym on Additive Manufacturing and 3D Printing Technologies- Emerging Applications

Thursday, January 30, 2025

8:30 – 9:40 p.m.

Coquina A

9th International Sym on Additive Manufacturing and 3D Printing Technologies- Direct Writing

Thursday, January 30, 2025

10 a.m. – Noon

Coquina A

9th International Sym on Additive Manufacturing and 3D Printing Technologies- Design and Qualification

Thursday, January 30, 2025

1:30 – 2:50 p.m.

Coquina A

9th International Sym on Additive Manufacturing and 3D Printing Technologies- Design and Qualification- Materials Deposition

Thursday, January 30, 2025

2:50 – 5:38 p.m.

Coquina A

Symposium Organizers

Soshu Kirihaara, *Osaka University, Japan*

Michael Halbig, *NASA Glenn Research Center, USA*

Mrityunjay Singh, *Ohio Aerospace Institute, USA*

Zhangwei Chen, *Shenzhen University, China;*

Corson L. Cramer, *Oak Ridge National Laboratory, USA*

Giorgia Franchin, *Università di Padova, Italy*

Yan Li, *Dartmouth College, USA*

Russell Maier, *NIST, USA*

Majid Minary, *University of Texas at Dallas, USA*

Alberto Ortona, *SUPSI, Switzerland*

Martin Schwentenwein, *Lithoz GmbH, Austria*

Hui-Suk Yun, *KIMS, Korea*

Johanna Sängner, *Montanuniversität Leoben, Austria*

SYMPOSIUM 16

GEOPOLYMERS, INORGANIC POLYMER-DERIVED CERAMICS AND SUSTAINABLE CONSTRUCTION MATERIALS

Session Information

Synthesis, processing, microstructure of geopolymers I

Wednesday, January 29, 2025
8:30 – 10:20 a.m.
Ballroom 1-2

Synthesis, processing, microstructure of geopolymers II

Wednesday, January 29, 2025
10:20 a.m. – 12:02 p.m.
Ballroom 1-2

Novel applications of geopolymers I

Wednesday, January 29, 2025
1:30 – 3:20 p.m.
Ballroom 1-2

Novel applications of geopolymers II

Wednesday, January 29, 2025
3:20 – 5:30 p.m.
Ballroom 1-2

Sustainable construction materials and waste materials

Thursday, January 30, 2025
8:30 – 10:40 a.m.
Ballroom 1-2

Use of waste materials to make geopolymers

Thursday, January 30, 2025
10:40 a.m. – Noon
Ballroom 1-2

Symposium Organizers

Waltraud M. Kriven, *University of Illinois at Urbana-Champaign, USA*

Joseph Davidovits, *Geopolymer Institute, St. Quentin, France*

Henry A. Colorado, *Universidad de Antioquia, Medellin, Colombia*

Cristina Leonelli, *University of Modena and Reggio Emilia, Italy*

Sylvie Rossignol, *University of Limoges, France*

Patrick F. Keane, *University of South Australia, Australia*

SYMPOSIUM 17

ADVANCED CERAMIC MATERIALS AND PROCESSING FOR PHOTONICS AND ENERGY

Session Information

Advanced Ceramic Materials and Processing for Photonics and Energy I

Tuesday, January 28, 2025
8:30 a.m. – 12:16 p.m.
Coquina H

Advanced Ceramic Materials and Processing for Photonics and Energy II

Tuesday, January 28, 2025
1:30 – 5:20 p.m.
Coquina H

Advanced Ceramic Materials and Processing for Photonics and Energy III

Wednesday, January 29, 2025
8:30 a.m. – Noon
Coquina H

Advanced Ceramic Materials and Processing for Photonics and Energy IV

Wednesday, January 29, 2025
1:30 – 5:10 p.m.
Coquina H

Symposium Organizers

Alberto Vomiero, *Luleå University of Technology, Sweden*

Federico Rosei, *INRS, Canada*

Yasuhiro Tachibana, *RMIT University, Australia*

Isabella Concina, *Luleå University of Technology, Sweden*

Haiguang Zhao, *Qingdao University, China*

Francesco Enrichi, *National Research Council (CNR), Italy*

Kassa Belay Ibrahim, *Ca' Foscari University of Venice, Italy*

Adam Duong, *University of Picardy, France*

9TH INTERNATIONAL SYMPOSIUM ON ADDITIVE MANUFACTURING AND 3D PRINTING TECHNOLOGIES

Session Information

Compositionally Complex UHTCs I

Monday, January 27, 2025

1:30 – 5:20 p.m.

Coquina F

Novel Processing Methods

Tuesday, January 28, 2025

8:30 – 11:20 a.m.

Coquina F

Processing-Microstructure-Property Relationship

Tuesday, January 28, 2025

1:30 – 5:10 p.m.

Coquina F

Advanced Characterizations and Simulations

Wednesday, January 29, 2025

8:30 – 10 a.m.

Coquina F

Super-hard UHTCs

Wednesday, January 29, 2025

10 – 11:50 a.m.

Coquina F

Response in Extreme Environments

Wednesday, January 29, 2025

1:30 – 4:42 p.m.

Coquina F

Compositionally Complex UHTCs II

Thursday, January 30, 2025

8:30 – 10:40 p.m.

Coquina H

Symposium Organizers

Bai Cui, *University of Nebraska-Lincoln, USA*

William G. Fahrenholtz, *Missouri University of Science and Technology, USA*

Sea-Hoon Lee, *Korea Institute of Materials Science, Korea*

Frederic Monteverde, *National Research Council-Institute of Science and Technology for Ceramics, Italy*

Guo-Jun Zhang, *Donghua University, Shanghai, China*

Ji Zou, *Wuhan University of Technology, China*; Lisa Rueschhoff, *Air Force Research Laboratory, USA*

Lavina Backman, *Naval Research Laboratory, USA*

Simon Middleburgh, *Bangor University, United Kingdom*

Jon Binner, *University of Birmingham, United Kingdom*

Theresa Davey, *Bangor University, United Kingdom*

Scott McCormack, *University of California, Davis, USA*

Chris Weinberger, *Colorado State University, USA*

MOLECULAR-LEVEL PROCESSING AND CHEMICAL ENGINEERING OF FUNCTIONAL MATERIALS

Session Information

Processing and shaping of molecular precursors I

Monday, January 27, 2025
1:30 – 3 p.m.
Ballroom 3

Processing and shaping of molecular precursors II

Monday, January 27, 2025
3 – 5:40 p.m.
Ballroom 3

Precursor-derived high-entropy ceramics and UHTCs

Tuesday, January 28, 2025
8:30 – 10 a.m.
Ballroom 3

Conversion, decomposition, and structural formation of molecular precursors

Tuesday, January 28, 2025
10:00 – 11:50 a.m.
Ballroom 3

Precursor-derived ceramics for high-temperature applications

Tuesday, January 28, 2025
1:30 – 3:10 p.m.
Ballroom 3

Pyrolysis and precursor-derived ceramic fibers

Tuesday, January 28, 2025
3:10 – 5:10 p.m.
Ballroom 3

Precursor-derived ceramics for sustainability I

Wednesday, January 29, 2025
8:30 – 9:50 a.m.
Ballroom 3

Precursor-derived ceramics for sustainability II

Wednesday, January 29, 2025
9:50 a.m. – Noon
Ballroom 3

Symposium Organizers

Peter Kroll, *University of Texas at Arlington, USA*

Sanjay Mathur, *University of Cologne, Germany*

Emanuel Ionescu, *Technische Universität Darmstadt, Germany*

Samuel Bernard, *University of Limoges, France*

Gurpreet Singh, *Kansas University, USA*

Ravi Kumar, *IIT Madras, India*

Yoshiyuki Sugahara, *Waseda University, Japan*

Christina Birkel, *Arizona State University, USA*

Thomas Konegger, *TU Wien, Austria*

Christelle Salameh, *University of Montpellier, France*

BIOINSPIRATION, DESIGN, GREEN PROCESSING, AND RELATED TECHNOLOGIES OF ADVANCED MATERIALS

Session Information

Structure and properties of biological materials and advances in multiscale modeling

Thursday, January 30, 2025
8:30 – 11:50 a.m.
Flagler C

Aqueous synthesis and green processing of advanced materials

Thursday, January 30, 2025
1:30 – 4:40 p.m.
Flagler C

Symposium Organizers

Zhaoyong Zou, *Wuhan University of Technology, China*

Manoj K Mahapatra, *University of Alabama at Birmingham, USA*

Ling Li, *University of Pennsylvania, USA*

Wei Zhai, *National University of Singapore, Singapore*

Julian-Martinez Fernandez, *University of Seville, Spain*

Zhao Qin, *Syracuse University, USA*

PROTECTIVE CERAMICS: FUNDAMENTAL CHALLENGES AND NEW DEVELOPMENTS

Session Information

Protective Ceramics: Fundamental Challenges and New Developments

Monday, January 27, 2025
1:30 – 4:12 p.m.
Coquina D

Symposium Organizers

Anthony DiGiovanni, *DEVCOM, ARL, USA*

Kristopher Behler, *DEVCOM, ARL, USA*

Neil Middleton, *DSTL, United Kingdom*

Ghatu Subhash, *University of Florida, USA*

Jerry LaSalvia, *DEVCOM, ARL, USA*

Michael Bakas, *DEVCOM, ARL, USA*

Jeffrey Swab, *DEVCOM, ARL, USA*

CERAMICS/CARBON REINFORCED POLYMERS

Session Information

Ceramic/Carbon Reinforced Polymers I

Wednesday, January 29, 2025
8:30 – 10:30 a.m.
Coquina G

Ceramic/Carbon Reinforced Polymers II

Wednesday, January 29, 2025
10:30 – 11:30 a.m.
Coquina G

Symposium Organizers

Satoshi Kobayashi, Tokyo
Metropolitan University, Japan

Manabu Fukushima, National
Institute of Advanced Industrial
Science and Technology (AIST),
Japan

Toshio Ogasawara, Tokyo
University of Agriculture and
Technology, Japan

Shinji Ogihara, Tokyo University of
Science, Japan

Tomohiro Yokozeki, The University of
Tokyo, Japan

Takenobu Sakai, Saitama University,
Japan

Masato Sakaguchi, Salesian Polytechnic,
Japan

Mohammad Fikry, Tokyo University of
Science, Japan

Sota Oshima, Tokyo Metropolitan
University, Japan

HIGH VOLTAGE MATERIALS FOR ADVANCED HIGH POWER ELECTRICAL APPLICATIONS

Session Information

High Voltage Materials for Advanced High Power Electrical Applications I

Thursday, January 30, 2025
1:30 – 3 p.m.
Coquina H

High Voltage Materials for Advanced High Power Electrical Applications II

Thursday, January 30, 2025
3 – 5:20 p.m.
Coquina H

Symposium Organizers

Maricela Lizcano, NASA Glenn
Research Center USA

Diana Santiago, NASA Glenn
Research Center, USA

Amjad Almansour, NASA Glenn
Research Center, USA

Michael F. Mulzer, DuPont, USA

Gian Carlo Montanari, University
of Bologna, Italy

Ian Cotton, University of Manchester,
UK

Michael Cullinan, University of Texas,
USA

Mehran Tehrani, University of
California, San Diego, USA

Vesselin Shanov, University of
Cincinnati, USA

Marina Gandini, Prysmian Group, Italy

Chanyeop Park, University of Wisconsin,
USA

Zhiting Tian, Cornell University, USA

INNOVATIVE MATERIAL PROCESSING FOR DIVERSE RESOURCE CIRCULATION LOOPS

Session Information

Novel products and materials oriented toward easy disassembly and circulation design

Monday, January 27, 2025
1:30 – 2 p.m.
Ballroom 5

Recovery of critical/valuable materials from exhausted complex products I

Monday, January 27, 2025
2 – 3 p.m.
Ballroom 5

Recovery of critical/valuable materials from exhausted complex products II

Monday, January 27, 2025
3 – 5:40 p.m.
Ballroom 5

Recovery of critical/valuable materials from exhausted complex products III

Tuesday, January 28, 2025
8:30 – 9:30 a.m.
Ballroom 5

Advanced powder processing both for carbon net zero and circular economy I

Tuesday, January 28, 2025
9:30 – 10:20 a.m.
Ballroom 5

Innovative material processing for diverse resource circulation loops I

Tuesday, January 28, 2025
10:20 – 11:12 a.m.
Ballroom 5

Innovative material processing for diverse resource circulation loops II

Tuesday, January 28, 2025
1:30 – 3:20 p.m.
Ballroom 5

Advanced powder processing both for carbon net zero and circular economy II

Tuesday, January 28, 2025
3:20 – 4:20 p.m.
Ballroom 5

Circular economy perspectives for inorganic waste/wastewater valorisation/stabilization I

Tuesday, January 28, 2025
4:20 – 5:20 p.m.
Ballroom 5

Innovative material processing for diverse resource circulation loops III

Wednesday, January 29, 2025
8:30 – 10:30 a.m.
Ballroom 5

Circular economy perspectives for inorganic waste/wastewater valorisation/stabilization II

Wednesday, January 29, 2025
10:30 a.m. – Noon
Ballroom 5

Symposium Organizers

Chiharu Tokoro, *Waseda University, Japan*

Sonia Lucia Fiorilli, *Politecnico di Torino, Italy*

Manigandan Kannan, *University of Akron, USA*

Henry Colorado, *Universidad de Antioquia, Colombia*

Enrico Bernardo, *University of Padova, Italy*

Hidehiro Kamiya, *Waseda University, Japan*

Motoyuki Isu, *Sinshu University, Japan*

Manabu Fukushima, *AIST, Japan*

Yuichi Sumimoto, *Toshiba Infrastructure Systems & Solutions Corporation, Japan*

INNOVATIVE MATERIAL PROCESSING FOR DIVERSE RESOURCE CIRCULATION LOOPS

Session Information

Carbon Capture, Utilization, and Storage

Wednesday, January 29, 2025
1:30 – 3:30 p.m.
Ballroom 5

Energy Efficiency

Wednesday, January 29, 2025
3:30 – 5:02 p.m.
Ballroom 5

Alternative Fuels Production

Thursday, January 30, 2025
8:30 – 9:50 a.m.
Ballroom 5

Symposium Organizers

Charles Lewisohn, *Colorado State University, USA*

Federico Smeacetto, *Politecnico di Torino, Italy*

Alexander Michaelis, *IKTS, Germany*

Marta Boaro, *Universita di Udine, Italy*

Takashi Makino, *AIST, Japan*



AdValue Technology

Quality Materials to Empower a World of Solutions

Alumina



Quartz



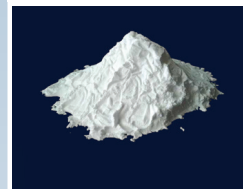
Zirconia



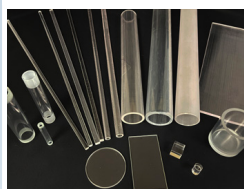
Boron Nitride



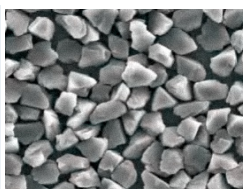
High Purity Powders



Sapphire



Diamond



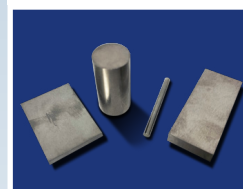
Transparent Ceramics



Thick Film Pastes



Refractory Metals



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Sales@advaluetech.com

3158 S. Chrysler Ave., Tucson, AZ 85713

SPECIAL FOCUSED SESSION ON DIVERSITY, ENTREPRENEURSHIP, AND COMMERCIALIZATION

Session Information

Monday, January 27, 2025
1:30 – 5:55 p.m.
Coquina H

Symposium Organizers

Valerie L Wiesner, *NASA Langley Research Center, USA*

Young-Wook Kim, *University of Seoul, Republic of Korea*

Surojit Gupta, *University of North Dakota, USA*

Kristin Breder, *Saint Gobain Research, USA*

Jie Zhang, *Institute of Metal Research, CAS, China*

Theresa (Tessa) Davey, *Bangor University, United Kingdom*

Marissa Riegel, *Saint-Gobain NorPro, USA*

Jie Zhang, *Institute of Metal Research, China*

14TH GLOBAL YOUNG INVESTIGATOR FORUM ON SUSTAINABILITY

Session Information

Energy Harvesting for Sustainable Systems

Monday, January 27, 2025
1:30 – 3:20 p.m.
Coquina G

Energy Harvesting for Sustainable Systems / Sustainable Careers

Monday, January 27, 2025
3:20 – 4:50 p.m.
Coquina G

Life Cycle Assessment (LCA) of Ceramic and Composite Products

Tuesday, January 28, 2025
8:30 – 10:20 a.m.
Coquina G

Sustainable Materials Development

Tuesday, January 28, 2025
10:20 a.m. – Noon
Coquina G

Sustainable Materials Development / Eco-Design Principles for Ceramics and Composites

Tuesday, January 28, 2025
1:30 – 3:12 p.m.
Coquina G

Energy and Material-Efficient Manufacturing Processes

Tuesday, January 28, 2025
3:20 – 5:20 p.m.
Coquina G

Symposium Organizers

Dong (Lily) Liu, *University of Bristol, UK*

Meeland Ranaiefar, *NASA Glenn Research Center, USA*

Bai Cui, *University of Nebraska-Lincoln, USA*

Daniel Oropeza, *University of California at Santa Barbara, USA*

Mark Du, *Argonne National Laboratory, USA*

Fiona Spirrett, *Osaka University, Japan*

Jakson Majher, *Glass Coatings & Concepts, LLC, USA*

James Wade-Zhu, *UK Atomic Energy Agency, UK*

Nor Ezzaty Ahmad, *Universiti Teknologi Malaysia, Malaysia*

Luchao Sun, *Institute of Metal Research, China*

Yuki Nakashima, *National Institute of Advanced Industrial Science and Technology (AIST), Japan*

Ho Jin Ma, *Korea Institute of Materials Science, Republic of Korea*

Stefano De la Pierre, *Politecnico di Torino, Italy Systems & Solutions Corporation, Japan*

3D Ceram Sinto, Inc.

Booth No. 314

3DCERAM Sinto offers unparalleled expertise in additive manufacturing (3D Printing) of technical ceramics. 3DCERAM Sinto offers a complete systems approach. 3DCERAM Sinto offers not only the sales of a complete line of printers and materials, but we also offer our clients a choice of ceramics, advice on production specifications, research and development, modifications of the 3D Parts for the manufacturing process, and full service support on their journey into additive manufacturing of technical ceramics into production.

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www.3dceram.com

Across International LLC

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Across International is an award-winning ISO 9001:2015 certified manufacturer of heat treatment and material processing equipment. With over 30 years manufacturing experience, we enable scientists to make the world a better place by using our products to further research. Across International offer a complete range of high-end equipment, consumables, and sample testing services.

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American Ceramic Society (The)

Booth No. TBD

More than 10,000 scientists, engineers, researchers, manufacturers, plant personnel, educators, students, marketing and sales professionals from more than 80 countries make up the members of The American Ceramic Society. The Society provides members and subscribers access to an extensive array of periodicals and books, meetings and expositions, and online technical information. In addition, ACerS Journals are three of the most cited ceramic publications in the world. ACerS educates and provides forums to connect individuals working in ceramics-related materials through hosted technical meetings and communities in order to better advance the ceramics community. Since 1898, ACerS has been the hub of the global ceramics community and one of the most trusted sources of ceramic materials & applications knowledge. If ceramic material and technologies are a

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Archer Technicoat Ltd.

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www.cvd.co.uk

AVS, Inc.

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AVS specializes in design, engineering, fabrication and complete integration of custom furnaces. We specialize in applications involving combinations of high temperatures to 2400°C, vacuum to 10⁻⁶ torr, and gas pressures up to 3000 psig (200 bar). We also manufacture furnaces that include hydraulic hot pressing from 5 tons to over 1000 tons of force, complex gas controls such as MIM and CVD, as well as combination debinding/sintering furnaces. Some AVS furnace applications involve induction heating, but most utilize either graphite or metal resistance heating. AVS leads the industry with its ACE Data Acquisition and Control System, a fully integrated control system that provides graphical user interface screens with point-and-click selection and control of furnace components, run-time parameter displays, recipe screens, user-configurable recipes, status screens, statistics screen and trend screens, including a split-screen feature, allowing direct trend screen comparisons.

sales@avsinc.com
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Baikowski

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Since 1904, Baikowski® has been a leading industrial manufacturer of high purity alumina, Spinel, YAG, Zirconia & Ceria. These powders & slurries are

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involved in the composition of technical ceramics and crystals. These diverse applications operate in several markets such as batteries, semiconductors, CMC (OX/OX), armored Windows, and coatings.

ian.metzger@baikowski.com
www.baikowski.com

Centorr Vacuum Industries

Booth No. 216

Centorr Vacuum Industries is a manufacturer of vacuum and controlled atmosphere furnaces for sintering, debinding, and heat treatment of advanced ceramics such as SiC, Si₃N₄, AlN, BN, and B₂C, metals, cermets, and hardmetals. Available in laboratory to production size at temperatures to 3000°C with Graphite or refractory metal hot zones.

srobinson@centorr.com
www.centorr.com

Ceramic Powder Technology AS

Booth No. 218

Cerpotech applies spray pyrolysis, a soft chemistry technique with great potential, to produce high quality, multi-component ceramic oxide powders. With this aqueous-based environmentally friendly technology, Cerpotech is able to offer fine complex ceramic oxide powders of tailored compositions with high phase purity, high chemical purity, very high homogeneity, narrow particle distribution, offering excellent properties for further processing at competitive prices. Given the flexibility of the process and its semi-industrial facilities, Cerpotech has over the years developed protocols for an extensive product portfolio, and is able to supply powder batches from 100 g to 100 kg, with a total annual production capacity of several tons.

anne@cerpotech.com
www.cerpotech.com

CM Furnaces Inc.

Booth No. 214

CM Furnaces offers units of standard design and construction, as well as specialized custom units. We manufacture a complete line of Laboratory Furnaces in all configurations, including box and tube furnaces, ranging from 1000°C to 1800°C. These are available

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in air, inert and reducing atmospheres. CM also offers production furnaces and our 1700°C batch, hydrogen and box furnaces. A line of furnaces for Additive Manufacturing is provided.
info@cmfurnaces.com

Electrochemical Safety Research Institute

Booth No. 316

At the Electrochemical Safety Research Institute (ESRI), part of UL Research Institutes, our mission is to advance safer design and deployment of energy storage and energy generation through science. Based in Houston, we conduct comprehensive research on a range of energy technologies, from lithium-ion batteries to novel battery materials to hydrogen. Through our research, we lay the foundation for energy storage and energy generation that is reliable and safe.

NFP.ElectrochemicalSafety@UL.org
ul.org/ESRI

Eurofins EAG Laboratories

Booth No. 219

EAG Laboratories, part of Eurofins scientific global network, is the largest and most comprehensive commercial organization of its kind and a recognized leader in trace and ultra-trace level analysis, purity analysis, and materials characterization.

deanaingram@eurofinseag.com
www.eag.com

Fraunhofer Institute for Ceramic Technologies and Systems IKTS

Booth No. 313

As a research and technology service provider, the Fraunhofer IKTS develops advanced high-performance ceramic materials, industrial manufacturing processes as well as prototype components and systems in complete production lines up to the pilot-plant scale.

info@ikts.fraunhofer.de
www.ikts.fraunhofer.de/en.html

Gasbarre

Booth No. 203

Gasbarre is a full-service OEM offering equipment and services for powder materials, thermal processing, and automation solutions. Products include mechanical, CNC hydraulic, electric,

Gasbarre (con't)

high-speed, and dry-bag isostatic presses, and vacuum and atmosphere furnaces in continuous and batch designs up to 3000°F. Gasbarre also offers precision tooling for all its products.
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www.gasbarre.com

Gleeble

Booth No. 307

Dynamic Systems Inc. (DSI), the creator of the Gleeble, is the global leader in physical simulation systems, providing unparalleled precision in reproducing the thermal and mechanical processes materials experience during manufacturing and end-use. Our state-of-the-art metallurgical solutions empower researchers and industries worldwide to simulate real-world conditions on a laboratory scale, driving innovation and optimizing materials performance. With the introduction of our ultra-high temperature 4-point bend system, we are expanding into the testing of ceramics and composites. This new capability enhances the scope of materials research and development, offering greater flexibility, accuracy, and efficiency to solve the most complex challenges in modern materials science. At DSI, we deliver value by enabling breakthroughs in materials performance, reducing development time, and accelerating the path to market for cutting-edge applications.

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Haiku Tech, Inc.

Booth No. 210

Haiku Tech offers tape casting (coating) equipment; as well as sheet blankers, stackers, isostatic laminators, furnaces, and materials for the development and manufacturing of Multilayer Ceramic products, including Substrates, SOFC, SOEC, etc. We also offer prototyping and consulting services to develop tape casting formulations for standard or customized ceramic powders.

mdemoya@haikutech.com
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Kennametal

Booth No. 305

To transform how everyday life is built, Kennametal Sintec™ provides high performance technical ceramic solutions. With our experts, we strive to be close

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to you, listen to your needs, and deliver better, efficient and reliable products.
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www.kennametal.com

Linde Advanced Material Technologies

Booth No. 200

For over 30 years, Linde Advanced Material Technologies has been a world-leading supplier of multi-metallic component oxide powder. We offer a wide range of specialty ceramics for a diverse group of applications, markets, and industries. We specialize in materials for Solid Oxide Fuel Cells, Solid Oxide Electrolyzer Cells, and Environmental and Thermal Barrier Coatings.

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Lithoz America, LLC

Booth No. 202

Lithoz is the world market and technology leader in 3D printers and materials for high-performance ceramics. The CeraFab family includes an entry-level model, systems for prototyping and manufacturing, and a new multi-material printer. The open material platform allows customers to use Lithoz many standard materials or develop and print their own slurries.

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MicroMaterials LLC

Booth No. 217

MicroMaterials is at the forefront of innovation, specializing in advanced technologies for the synthesis and processing of micro and nano particles. Our precision-engineered particles are tailored for applications in protective ceramics, high-voltage (HV) electrification systems, ceramic-reinforced polymers, and sensors. Backed by cutting-edge technology and state-of-the-art facilities, we deliver customized solutions to support your research, development, and technology commercialization needs. Let us partner with you to turn innovation into reality.

joseph.s@mmLhouston.com
www.mmlhouston.com

NETZSCH Instruments

Booth No. 300

NETZSCH Instruments provides sensitive, versatile, and reliable thermal analysis and rheology instrumentation for R&D, quality control, process safety, and failure analysis. Our instruments and methods allow for material characterization and the study of properties including Cp, enthalpy, weight change, Young's modulus, conductivity, diffusivity, and evolved gas analysis.

nib_sales@netzsch.com

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Oxy-Gon Industries, Inc.

Booth No. 215

For over 35 years Oxy-Gon has designed and built furnaces for Ceramic Firing, Annealing, Brazing, Hot Pressing, Physical Testing, and more. Oxy-Gon furnaces have temperatures up to 3000°C (5400°F) and controlled atmospheres, rough to ultra-high vacuum, inert gas, nitrogen, hydrogen or reducing gas. Oxy-Gon is "Degrees Ahead in Quality" since 1988.

rfitzgerald@oxy-gon.com

www.oxy-gon.com

Ragan Technologies, Inc.

Booth No. 309

Ragan Technologies (RTI) specializes in processing technology for forming tapes of ceramic or metal powders. Besides tape casting, RTI offers the High Shear Compaction (HSC) process for forming thicker tapes in the range from .010" to 0.5" or 250um to 12mm.

RTI manufactures the equipment and offers turn key systems. Development and toll manufacturing are available.

kenmwallace@gmail.com

www.ragantech.com

SECO/VACUUM

Booth No. 315

SECO/VACUUM engineers and manufactures vacuum and atmosphere furnaces for high temperature processing of technical ceramics. Processes include sintering, debinding, flat firing, metallizing, stress relieving, encapsulation, high vacuum sealing, and ceramic-to-metal brazing. Engineered for better uniformity, H₂, N₂, Ar gases, advanced chemistry routing and removal.

info@secovacusa.com

www.secovacusa.com

Shanghai Chenhua Science Technology Corp., Ltd.

Booth No. 301

Shanghai Chenhua has 21 years of experience, mainly producing and selling the following products: Spark plasma sintering furnaces; hot press sintering furnaces; gas pressing sintering furnaces; vacuum sintering furnaces and vacuum melting furnaces and owning ISO9001:2015 certification, CE certification. Tools of Leica laser tracker, etc. are used to inspect and ensure quality. Annual capacity is 300 sets of vacuum furnaces and other high-temperature equipment.

zf@chenhua.cn

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Technogenia Lasercarb Oklahoma Inc.

Booth No. 119

Technogenia specializes in wear protective carbide coatings using our unique laser cladding technology, Lasercarb®, to protect any weldable steel components from abrasion, erosion and impact on OD and ID surfaces. Our patented torch-applied hardfacing products Technosphere®/Technodur® and cored wire product Technocore® provide extremely high hardness for any applications.

natalia.fulton@technogenia.com

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Tethon 3D

Booth No. 318

Tethon 3D is a leading provider of ceramic materials, hardware, and service for additive manufacturing. Based in Omaha Nebraska, with over 1,700 customers, Tethon 3D helps researchers create custom formulations using their open materials and open hardware systems. Tethon 3D's materials and hardware are trusted by world renowned researchers who have published over 100 academic articles in a very short period of time.

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TevTech LLC

Booth No. 206

TevTech provides custom designed vacuum furnaces and components for CVD, CVI, Sintering, Annealing and Purification systems. From laboratory to

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Thermal Technology LLC

Booth No. 319

Manufacturer of advanced thermal processing systems with an impressive 78-year history building furnace systems; LabScale, Bell Jar, front-load, bottom load, top load, crystal growing, sintering, debinding, graphitization, pyrolysis, brazing, etc. World class manufacturer of Hot Press Systems and SPS / Direct Current Sintering Systems. The only USA OEM for SPS/DCS systems.

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Thermcraft

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Thermcraft is an international leading manufacturer of heaters, furnaces and ovens for temperatures up to 1,700°C (3,092°F). We offer a full range of products from laboratory benchtop sizes up to full size industrial production systems. With over 50 years of thermal processing experience, we can help you to find the heaters, furnace or oven solution that best fits your needs.

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Oral Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
A					Biassetto, L.	30-Jan	11:40AM	Coquina A	61
A, S.	28-Jan	5:00PM	Ballroom 4	28	Birkel, C.	27-Jan	2:00PM	Ponce de Leon	15
Abernathy, H.W.	29-Jan	10:20AM	Ballroom 4	39	Blackburn, B.	27-Jan	2:00PM	Ballroom 4	12
Adams, S.	31-Jan	8:30AM	Coquina G	69	Boaro, M.	29-Jan	4:20PM	Ballroom 5	46
Advincula, A.	28-Jan	2:00PM	Coquina F	33	Bos, J.	28-Jan	8:30AM	Coquina D	20
Aeklah, H.	30-Jan	1:50PM	Coquina A	67	Boujnah, M.	27-Jan	2:40PM	Flagler C	13
Ahammou, B.	29-Jan	2:00PM	Coquina H	52	Bouteiller, H.	28-Jan	5:10PM	Coquina D	29
Aidhy, D.	30-Jan	4:40PM	Coquina G	65	Bouville, F.	30-Jan	9:00AM	Flagler C	56
Airoidi, A.	30-Jan	8:30AM	Coquina G	59	Brady, C.	30-Jan	4:30PM	Coquina H	63
Akdogan, E.	30-Jan	9:40AM	Coquina H	62	Brandvold, A.S.	29-Jan	11:30AM	Ballroom 1-2	44
Akhbarifar, S.	28-Jan	2:30PM	Coquina D	29	Bresser, D.	28-Jan	4:20PM	Coquina B	29
Akhtar, F.	27-Jan	4:10PM	Ballroom 1-2	15	Brockman, C.	27-Jan	2:20PM	Coquina C	12
Akhtar, F.	30-Jan	11:00AM	Coquina A	61	Brockman, C.	30-Jan	2:00PM	Coquina E	63
Akono, A.	29-Jan	9:30AM	Ballroom 1-2	43	Brune, V.	27-Jan	1:30PM	Flagler C	13
Al Hamdan, M.	30-Jan	9:30AM	Ballroom 5	57	Brune, V.	27-Jan	3:20PM	Ballroom 1-2	14
Al Soubaihi, R.M.	28-Jan	10:50AM	Flagler C	21	Budiman, R.A.	28-Jan	2:40PM	Ballroom 4	28
Al-Jalouli, F.	27-Jan	5:10PM	Coquina B	13	C				
Alexander-Roy, L.R.	30-Jan	3:10PM	Coquina A	67	Cabioch, T.	28-Jan	1:30PM	Ponce de Leon	31
Ali, R.	29-Jan	4:12PM	Coquina C	47	Cabot, A.	28-Jan	9:00AM	Flagler C	21
Ali, R.	29-Jan	4:52PM	Coquina C	47	Cairang, W.	30-Jan	4:30PM	Coquina D	67
Alkan, G.	28-Jan	5:00PM	Ballroom 5	26	Cakir, D.	28-Jan	9:00AM	Ponce de Leon	23
Allan, S.M.	29-Jan	11:20AM	Coquina A	43	Cakmak, E.	29-Jan	9:00AM	Coquina D	42
Allen, B.	28-Jan	3:20PM	Coquina F	33	Carter, R.	29-Jan	3:20PM	Coquina B	49
Alptekin, F.	31-Jan	10:40AM	Coquina B	69	Casalegno, V.	28-Jan	4:30PM	Coquina E	27
Alterman, D.	28-Jan	1:30PM	Ballroom 5	26	Castro, R.	28-Jan	11:00AM	Ballroom 3	25
Amaral, M.M.	29-Jan	11:20AM	Ballroom 3	45	Cebrian Avila, C.	28-Jan	1:30PM	Flagler C	30
An, Q.	31-Jan	9:00AM	Coquina G	69	Celik, A.	27-Jan	4:20PM	Coquina F	16
Anasori, B.	28-Jan	8:30AM	Ponce de Leon	23	Chan, C.K.	30-Jan	10:20AM	Coquina B	58
Andrea, C.	29-Jan	2:00PM	Ponce de Leon	48	Chaudhary, R.	27-Jan	2:40PM	Ballroom 3	17
Anelli, S.	30-Jan	4:40PM	Ballroom 4	64	Chen, F.	31-Jan	9:10AM	Coquina E	68
Anusuya Ponnusami, S.	30-Jan	1:30PM	Coquina G	65	Chen, K.	28-Jan	9:10AM	Coquina C	19
Aoki, Y.	27-Jan	4:20PM	Flagler A	14	Chen, S.	28-Jan	11:20AM	Coquina D	20
Arregui-Mena, J.D.	29-Jan	4:00PM	Coquina D	50	Cheng, Z.	27-Jan	4:40PM	Flagler A	14
Arregui-Mena, J.D.	30-Jan	2:40PM	Coquina D	67	Cheng, Z.	30-Jan	8:30AM	Coquina H	61
Arugay, I.B.	30-Jan	2:30PM	Coquina C	66	Chu, S.	28-Jan	10:20AM	Coquina G	18
Ayguzer Yasar, Z.	28-Jan	10:40AM	Coquina F	25	Coleman, A.A.	28-Jan	10:20AM	Ponce de Leon	23
B					Coleman, A.A.	28-Jan	2:30PM	Ponce de Leon	31
Bagci, C.	29-Jan	9:30AM	Ponce de Leon	40	Colombara, D.	28-Jan	3:50PM	Coquina H	33
Bagci, C.	29-Jan	11:00AM	Ballroom 1-2	44	Colombara, D.	29-Jan	1:30PM	Flagler C	49
Bahk, J.	28-Jan	1:30PM	Coquina D	28	Colombo, P.	27-Jan	1:30PM	Ballroom 3	17
Bai, A.	30-Jan	10:40AM	Coquina A	61	Colombo, P.	29-Jan	10:20AM	Coquina A	43
Bajaj, D.	29-Jan	9:50AM	Coquina G	37	Colorado L., H.A.	29-Jan	1:50PM	Flagler A	49
Bajpai, S.	28-Jan	9:50AM	Coquina E	18	Colorado L., H.A.	30-Jan	11:00AM	Ballroom 1-2	61
Balagna, C.	29-Jan	10:20AM	Flagler C	41	Cooper, M.W.	29-Jan	2:30PM	Coquina D	50
Balagna, C.	29-Jan	1:30PM	Ponce de Leon	48	Cordero, Z.C.	29-Jan	8:30AM	Coquina C	39
Balasubramanian, M.	29-Jan	1:30PM	Coquina B	48	Cordero, Z.C.	29-Jan	9:30AM	Coquina E	38
Balaya, P.	27-Jan	4:50PM	Coquina B	13	Costa, G.	28-Jan	2:20PM	Coquina C	27
Balazsi, C.	27-Jan	9:30AM	Coquina D/E	9	Costa, G.	28-Jan	3:20PM	Coquina C	28
Balazsi, K.	28-Jan	1:30PM	Flagler A	30	Costa, R.	27-Jan	4:20PM	Ballroom 4	12
Balice, L.	29-Jan	3:20PM	Ballroom 4	47	Couégnat, G.	30-Jan	9:00AM	Coquina G	59
Ballikaya, S.	27-Jan	4:20PM	Flagler C	13	Cramer, C.L.	29-Jan	10:40AM	Coquina A	43
Balmori, H.	29-Jan	9:00AM	Flagler A	41	Cui, B.	27-Jan	2:50PM	Coquina F	16
Ban, C.	29-Jan	2:00PM	Coquina B	48	Cui, B.	28-Jan	11:40AM	Ponce de Leon	23
Bao, J.	29-Jan	9:00AM	Coquina H	44	Curtarolo, S.	27-Jan	1:30PM	Coquina F	16
Barnett, S.	28-Jan	4:20PM	Coquina H	33	Czechowski, J.P.	30-Jan	10:50AM	Ponce de Leon	58
Barsoum, M.	27-Jan	1:30PM	Ponce de Leon	15	D				
Barua, B.	28-Jan	11:50AM	Coquina E	19	D'Isanto, F.	27-Jan	2:00PM	Coquina G	9
Bausa, L.E.	27-Jan	3:50PM	Coquina A	16	Da Prato, F.	30-Jan	3:40PM	Ballroom 4	64
Bechara, R.	30-Jan	11:10AM	Coquina G	59	Dadashov, S.	28-Jan	2:00PM	Flagler C	30
Behr, P.	29-Jan	4:00PM	Ballroom 5	46	Dailly, J.	30-Jan	1:30PM	Ballroom 4	64
Bekele, Y.	30-Jan	2:40PM	Coquina H	62	Dal Poggetto, G.	30-Jan	9:20AM	Ponce de Leon	58
Belhadj Larbi, M.	29-Jan	2:20PM	Coquina G	50	Dash, A.	28-Jan	4:00PM	Ponce de Leon	32
Berens, S.	28-Jan	11:20AM	Coquina C	19	Daufresne de la Chevalerie, E.	29-Jan	2:10PM	Coquina E	46
Bernard, S.	27-Jan	2:20PM	Ballroom 1-2	14	Davey, T.	30-Jan	10:50AM	Coquina D	60
Bernard, S.	27-Jan	5:20PM	Ballroom 3	17	David, A.	29-Jan	11:40AM	Coquina A	43
Bernardo, E.	28-Jan	4:20PM	Ballroom 5	26	De La Pierre, S.	28-Jan	11:20AM	Coquina G	18
Bernardo, E.	29-Jan	8:30AM	Ballroom 1-2	43	De La Pierre, S.	28-Jan	4:10PM	Coquina E	27
Bernardo, E.	30-Jan	8:50AM	Ponce de Leon	58	De Zanet, A.	27-Jan	4:20PM	Coquina G	9
Bernardo, E.	30-Jan	2:30PM	Flagler C	62	Deb, J.	30-Jan	2:00PM	Coquina G	65
Bessouet, N.	28-Jan	2:50PM	Flagler A	30	Deena, E.	27-Jan	5:10PM	Coquina H	10
Bhandari, S.	29-Jan	3:40PM	Flagler A	49					

Presenting Author List

Oral Presenters

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Detwiler Gray, C.	29-Jan	4:10PM	Ponce de Leon	48	Giannini, V.	29-Jan	4:20PM	Coquina H	52
Develos-Bagarinao, K.	29-Jan	3:40PM	Ballroom 4	47	Gietl, H.	30-Jan	1:30PM	Coquina D	66
Diaz Lacharme, M.C.	29-Jan	5:10PM	Ballroom 4	48	Gild, J.	27-Jan	2:40PM	Coquina A	16
Dickerson, M.B.	28-Jan	1:30PM	Ballroom 3	33	Gogotsi, Y.	27-Jan	11:20AM	Coquina D/E	9
DiGiovanni, A.A.	27-Jan	3:50PM	Coquina D	10	Goller, R.	30-Jan	3:40PM	Coquina C	66
Ding, D.	28-Jan	3:50PM	Coquina G	26	Gonderman, S.	29-Jan	10:50AM	Coquina D	42
Ding, S.	31-Jan	8:30AM	Coquina E	68	Goossens, N.	27-Jan	2:30PM	Ponce de Leon	15
Djurado, E.	28-Jan	3:20PM	Ballroom 4	28	Grader, G.	27-Jan	3:20PM	Flagler A	14
Dmowski, W.	27-Jan	5:50PM	Coquina E	12	Grant, L.O.	30-Jan	2:30PM	Coquina A	67
Do, T.	28-Jan	10:40AM	Flagler A	22	Grant, L.O.	30-Jan	5:10PM	Coquina A	68
Dodson, A.	27-Jan	5:40PM	Coquina H	10	Grimley, C.	29-Jan	2:30PM	Coquina E	46
Donazzi, A.	28-Jan	10:40AM	Ballroom 4	20	Gross, H.	30-Jan	11:50AM	Coquina E	57
Dornbusch, D.	27-Jan	3:20PM	Coquina B	13	Grosse, M.K.	29-Jan	9:40AM	Coquina D	42
Doumaux, L.A.	28-Jan	4:00PM	Coquina C	28	Grosselindemann, C.	29-Jan	9:00AM	Ballroom 4	39
Drouin, T.	30-Jan	9:00AM	Coquina E	57	Guijosa Garcia, C.Y.	28-Jan	8:50AM	Coquina C	19
Du, M.	28-Jan	2:40PM	Coquina E	27	Guillon, O.	27-Jan	4:50PM	Ballroom 5	11
Duan, I.	30-Jan	2:20PM	Coquina E	63	Guillon, O.	29-Jan	1:30PM	Ballroom 4	47
Dubois, S.	27-Jan	3:20PM	Ponce de Leon	15	Guo, Y.	27-Jan	3:20PM	Coquina G	9
Dubrovin, V.D.	29-Jan	11:40AM	Coquina H	44	Gupta, S.	27-Jan	2:00PM	Ballroom 1-2	14
Dujovic, M.	27-Jan	3:50PM	Ponce de Leon	15	Gushchina, I.	28-Jan	11:50AM	Coquina H	24
Dunn, B.	30-Jan	1:30PM	Coquina B	65	Gyekenyesi, A.P.	30-Jan	3:30PM	Coquina A	67
Dyrli, A.D.	30-Jan	3:20PM	Ballroom 4	64					
		E					H		
Ebbesen, S.D.	27-Jan	3:20PM	Ballroom 4	12	Halbig, M.C.	28-Jan	3:40PM	Coquina E	27
Elahi, P.	29-Jan	2:20PM	Ponce de Leon	48	Hara, Y.	30-Jan	3:40PM	Coquina G	65
Eldridge, J.I.	29-Jan	2:00PM	Coquina C	47	Harder, B.J.	27-Jan	3:20PM	Coquina C	12
Endo, A.	27-Jan	3:20PM	Ballroom 5	11	Harrison, S.	30-Jan	9:00AM	Coquina D	60
Erdemir, A.	30-Jan	8:30AM	Coquina C	59	Hawthorne, I.	29-Jan	10:20AM	Coquina C	39
Esposito, V.	30-Jan	10:20AM	Ballroom 4	58	Haynes, T.A.	29-Jan	2:00PM	Coquina D	50
Evarts, J.	31-Jan	10:30AM	Coquina D	70	He, L.	27-Jan	2:00PM	Flagler A	14
		F			He, R.	28-Jan	9:30AM	Flagler C	21
Fahrenholtz, W.	29-Jan	10:20AM	Coquina F	45	Hemmer, E.	29-Jan	8:30AM	Coquina H	44
Faieron, E.	30-Jan	4:10PM	Coquina A	68	Hemmer, E.	30-Jan	10:20AM	Ponce de Leon	58
Fam, D.	27-Jan	2:00PM	Coquina B	13	Hendrix, K.	28-Jan	2:20PM	Ballroom 3	33
Fan, Z.	28-Jan	2:30PM	Coquina B	29	Hernandez, E.	30-Jan	10:20AM	Coquina G	59
Fanchini, G.	29-Jan	9:30AM	Coquina H	44	Hernandez, N.	30-Jan	1:30PM	Coquina H	62
Farfan, M.	30-Jan	11:20AM	Coquina A	61	Hikita, W.	28-Jan	8:30AM	Coquina A	23
Faysal, F.	30-Jan	5:10PM	Coquina E	63	Hinoki, T.	30-Jan	2:20PM	Coquina D	66
Fedeli, P.	27-Jan	3:50PM	Coquina G	9	Hirle, A.	27-Jan	4:50PM	Coquina E	11
Feehan, M.	27-Jan	3:40PM	Coquina H	10	Hoffman, L.C.	29-Jan	2:40PM	Coquina C	47
Feltrin, A.	27-Jan	2:30PM	Coquina F	16	Holgate, C.S.	28-Jan	1:30PM	Coquina C	27
Ferrara, G.	29-Jan	11:00AM	Ballroom 5	38	Holgate, C.S.	28-Jan	2:20PM	Coquina G	25
Ferraris, M.	30-Jan	11:40AM	Coquina D	60	Hopkins, P.E.	29-Jan	2:00PM	Coquina F	52
Fey, T.	27-Jan	4:30PM	Ballroom 1-2	15	Hossain, D.	29-Jan	10:50AM	Coquina F	45
Fey, T.	28-Jan	10:40AM	Ballroom 1-2	23	Hossain, S.S.	28-Jan	4:50PM	Coquina G	26
Fey, T.	28-Jan	11:20AM	Ballroom 1-2	23	Hu, B.	28-Jan	1:30PM	Ballroom 4	28
Fey, T.	29-Jan	10:20AM	Coquina D	42	Hu, J.	29-Jan	3:20PM	Coquina G	50
Fiedler, C.S.	28-Jan	11:50AM	Coquina D	20	Huck, I.	27-Jan	4:30PM	Ponce de Leon	15
Filipovic, S.	30-Jan	10:20AM	Coquina H	62	Humbs, W.	29-Jan	4:10PM	Coquina E	46
Fiorilli, S.	27-Jan	5:20PM	Ballroom 5	11	Hwang, I.	29-Jan	4:32PM	Coquina C	47
Fischer, T.	28-Jan	9:00AM	Ballroom 3	25					
Fischer, T.	28-Jan	10:20AM	Ballroom 3	25			I		
Fischer, T.	29-Jan	10:50AM	Flagler C	41	Ignaczak, J.	30-Jan	9:20AM	Ballroom 4	57
Förster, J.E.	29-Jan	4:00PM	Coquina F	53	Iijima, M.	28-Jan	9:30AM	Ballroom 5	18
Frandsen, H.L.	29-Jan	2:20PM	Ballroom 4	47	Ikarashi, Y.	30-Jan	2:40PM	Coquina E	63
Fuka, M.	28-Jan	4:40PM	Flagler A	30	Islam, A.	28-Jan	5:00PM	Flagler A	31
Funk, S.	28-Jan	11:00AM	Ballroom 1-2	23	Ito, A.	28-Jan	11:50AM	Coquina A	24
Funk, S.	28-Jan	2:20PM	Ballroom 1-2	31	Ito, A.	28-Jan	2:30PM	Flagler A	30
Furuse, H.	27-Jan	1:30PM	Coquina A	15	Ito, M.	29-Jan	9:00AM	Ballroom 5	38
		G			Ito, T.	28-Jan	3:40PM	Ponce de Leon	31
Galeano Camacho, M.	27-Jan	5:30PM	Coquina E	12	Iwai, H.	29-Jan	9:30AM	Ballroom 5	38
Garcia-Suarez, J.	27-Jan	2:30PM	Coquina D	10	Iwasaki, M.	28-Jan	8:30AM	Ballroom 5	18
Garrido Blay, M.	28-Jan	4:20PM	Flagler C	30					
Gattucci, F.	28-Jan	11:40AM	Ballroom 1-2	23	Jacobsen, G.	29-Jan	11:50AM	Coquina D	42
Gattucci, F.	30-Jan	9:40AM	Ponce de Leon	58	Jakhar, N.	28-Jan	3:30PM	Coquina D	29
Gaubicher, J.	29-Jan	10:20AM	Coquina B	41	Janner, D.	29-Jan	3:50PM	Coquina H	52
Gaudin, M.	28-Jan	10:40AM	Coquina C	19	Jenkins, M.G.	27-Jan	4:20PM	Coquina E	11
Germanton, G.	27-Jan	3:50PM	Ballroom 3	17	Jenkins, M.G.	29-Jan	9:20AM	Coquina D	42
					Jenkins, M.G.	29-Jan	4:20PM	Coquina D	50
					Ji-Hwoan, L.	30-Jan	4:40PM	Coquina C	66
							J		

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Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
Ji, W.	27-Jan	2:30PM	Flagler A	14	Laurin, F.	30-Jan	8:30AM	Coquina E	57
Ji, W.	30-Jan	3:50PM	Flagler C	62	Leak, N.	30-Jan	9:00AM	Coquina A	60
Jiang, W.	29-Jan	1:30PM	Coquina D	50	Lee, E.	30-Jan	5:20PM	Coquina C	66
Jordan, E.H.	28-Jan	2:40PM	Coquina C	27	Lee, J.	30-Jan	5:00PM	Coquina C	66
Jouin, J.	28-Jan	11:20AM	Ballroom 3	25	Lee, K.	27-Jan	4:00PM	Coquina C	12
Jung, F.	27-Jan	4:50PM	Ponce de Leon	15	Lee, S.	29-Jan	3:30PM	Coquina F	53
					Lee, W.	29-Jan	4:00PM	Ballroom 1-2	52
					Lee, Y.	29-Jan	11:20AM	Ballroom 4	40
Kaghazchi, P.	29-Jan	4:20PM	Coquina B	49	Legallois, U.	29-Jan	1:50PM	Coquina E	46
Kamiya, H.	28-Jan	10:20AM	Ballroom 5	18	Leon, A.	28-Jan	9:00AM	Ballroom 4	19
Kamseu, E.	28-Jan	3:10PM	Ballroom 1-2	31	Lewinsohn, C.	30-Jan	8:50AM	Ballroom 5	57
Kamseu, E.	29-Jan	5:00PM	Ballroom 1-2	52	Li, J.	30-Jan	9:00AM	Coquina B	58
Kanazawa, S.	30-Jan	4:10PM	Coquina E	63	Li, L.	30-Jan	8:30AM	Flagler C	56
Kaneko, M.	28-Jan	2:30PM	Ballroom 5	26	Li, M.	30-Jan	8:30AM	Coquina B	58
Kaplan, W.D.	29-Jan	9:20AM	Flagler A	42	Li, W.	27-Jan	5:00PM	Coquina F	16
Karki, S.B.	28-Jan	5:20PM	Ballroom 4	28	Li, W.	29-Jan	11:00AM	Ballroom 4	40
Kato, Y.	29-Jan	1:30PM	Ballroom 5	45	Li, W.	29-Jan	2:00PM	Coquina G	50
Katsui, H.	28-Jan	2:00PM	Flagler A	30	Li, X.	27-Jan	2:30PM	Coquina G	9
Katti, D.R.	29-Jan	3:50PM	Ponce de Leon	48	Li, Z.	28-Jan	2:00PM	Coquina C	27
Katti, K.S.	29-Jan	3:20PM	Ponce de Leon	48	Lin, S.	29-Jan	11:35AM	Coquina B	41
Kaur, M.	27-Jan	2:00PM	Flagler C	13	Lin, Y.	27-Jan	4:10PM	Coquina H	10
Kawaguchi, N.	28-Jan	2:00PM	Coquina A	32	Lin, Y.	28-Jan	2:00PM	Coquina B	29
Kawai, K.	30-Jan	10:50AM	Coquina B	59	Ling, H.	29-Jan	4:40PM	Coquina D	51
Kazeem, J.O.	29-Jan	11:00AM	Coquina C	39	Liu, D.	29-Jan	3:40PM	Coquina D	50
Keane, P.F.	29-Jan	9:00AM	Ballroom 1-2	43	Liu, D.	30-Jan	3:20PM	Coquina E	63
Kelly, J.	28-Jan	11:30AM	Coquina E	19	Liu, D.	30-Jan	3:40PM	Coquina H	63
Kenny, J.	27-Jan	3:10PM	Coquina D	10	Liu, F.	30-Jan	2:20PM	Ballroom 4	64
Key, B.	30-Jan	3:50PM	Coquina B	65	Liu, J.	30-Jan	5:10PM	Coquina G	66
Kim, H.	28-Jan	10:10AM	Flagler A	22	Liu, J.M.	29-Jan	2:40PM	Coquina G	50
Kim, J.	29-Jan	11:10AM	Coquina B	41	Liu, X.	29-Jan	8:50AM	Coquina C	39
Kim, J.	29-Jan	11:55AM	Coquina B	41	Liu, X.	30-Jan	2:40PM	Ballroom 4	64
Kim, S.	28-Jan	11:40AM	Coquina C	19	Liu, Y.	28-Jan	10:50AM	Coquina D	20
Kim, S.	29-Jan	2:50PM	Coquina F	53	Lizcano, M.	30-Jan	3:20PM	Coquina H	63
Kim, Y.	29-Jan	2:50PM	Flagler A	49	Lopez de Moragas, A.	29-Jan	2:40PM	Ballroom 4	47
Kirihara, S.	29-Jan	9:40AM	Coquina A	43	Loughney, P.	28-Jan	2:20PM	Coquina F	33
Koch, D.	29-Jan	3:40PM	Coquina E	46	Louradour, E.	29-Jan	4:10PM	Coquina A	51
Kondo, S.	30-Jan	2:00PM	Coquina D	66	Louzon, C.J.	28-Jan	3:40PM	Coquina C	28
Koomson, S.	30-Jan	2:00PM	Ballroom 4	64	Lu, D.	28-Jan	1:30PM	Coquina B	29
Kottathodi, B.	28-Jan	4:20PM	Coquina G	26	Luo, J.	31-Jan	10:10AM	Coquina G	69
Kouame, A.N.	30-Jan	10:20AM	Ballroom 1-2	61					
Kowalski, B.	27-Jan	3:40PM	Coquina C	12					
Koyanagi, T.	30-Jan	3:50PM	Coquina D	67	Ma, B.	28-Jan	2:30PM	Coquina A	32
Kriven, W.M.	29-Jan	1:30PM	Ballroom 1-2	51	Ma, B.	31-Jan	10:20AM	Coquina B	69
Kroll, P.	27-Jan	4:10PM	Ballroom 3	17	MacIsaac, M.P.	29-Jan	3:50PM	Coquina G	50
Kroll, P.	28-Jan	4:40PM	Ballroom 3	34	MacIsaac, M.P.	30-Jan	4:20PM	Coquina G	65
Kroll, P.	29-Jan	1:30PM	Coquina G	50	Maeda, T.	29-Jan	11:00AM	Coquina E	38
Kubitza, N.	29-Jan	10:10AM	Ballroom 3	45	Magdaluyo, E.d.	30-Jan	11:20AM	Coquina C	60
Kulkarni, A.	29-Jan	2:20PM	Coquina A	51	Magdaluyo, E.d.	30-Jan	2:50PM	Ponce de Leon	64
Kumar, A.	27-Jan	4:40PM	Coquina H	10	Mahmoud, M.M.	30-Jan	4:10PM	Flagler C	62
Kumar, A.	29-Jan	2:00PM	Flagler C	49	Maier, R.	29-Jan	9:40AM	Flagler A	42
Kumar, B.	27-Jan	3:50PM	Flagler A	14	Majee, B.P.	28-Jan	11:00AM	Coquina C	19
Kumar, B.	30-Jan	5:30PM	Coquina E	63	Makino, T.	28-Jan	3:20PM	Ballroom 5	26
Kumar, V.	31-Jan	10:10AM	Coquina E	68	Makurunje, P.	29-Jan	1:30PM	Flagler A	49
Kumari, K.	27-Jan	2:20PM	Flagler C	13	Maliat, M.	28-Jan	2:00PM	Coquina D	29
Kupecki, J.	28-Jan	8:30AM	Ballroom 4	19	Malinverni, C.	28-Jan	2:20PM	Coquina E	27
Kurihara, T.	27-Jan	2:40PM	Ballroom 5	11	Malusky, M.	28-Jan	5:10PM	Ponce de Leon	32
Kusnezoff, M.	27-Jan	1:30PM	Ballroom 4	12	Malys, M.	29-Jan	4:50PM	Ballroom 4	48
					Malyszko, G.	31-Jan	11:00AM	Coquina B	69
					Marasi, M.	30-Jan	4:20PM	Ballroom 4	64
Laine, R.M.	28-Jan	8:30AM	Ballroom 3	25	Marchionna, S.	31-Jan	9:05AM	Coquina B	69
Laine, R.M.	28-Jan	9:40AM	Coquina A	23	Marcus, K.	29-Jan	8:30AM	Coquina B	40
Lam, B.	29-Jan	2:40PM	Coquina A	51	Marquez Rios, N.O.	29-Jan	11:30AM	Coquina F	45
Lambrinou, K.	28-Jan	2:00PM	Ponce de Leon	31	Mathur, S.	28-Jan	3:20PM	Flagler C	30
Lambros, J.	30-Jan	1:30PM	Coquina E	63	Matsunaga, T.	29-Jan	1:30PM	Coquina E	46
Lamm, B.W.	30-Jan	4:10PM	Coquina D	67	Matsuo, K.	28-Jan	10:50AM	Ballroom 5	18
Lancellotti, I.	29-Jan	10:30AM	Ballroom 5	38	Mauro, M.	28-Jan	1:30PM	Coquina H	32
Lancellotti, I.	30-Jan	11:30AM	Ballroom 1-2	61	Mauro, M.	28-Jan	4:40PM	Flagler C	30
Langhof, N.	30-Jan	10:50AM	Coquina E	57	Maury Njoya, I.	28-Jan	10:20AM	Ballroom 1-2	22
Langhof, N.	30-Jan	4:30PM	Coquina A	68	Mazzocco, L.	31-Jan	10:50AM	Coquina D	70
Lao, J.	30-Jan	4:50PM	Coquina D	67	Mbafou Fondjo, G.	30-Jan	10:40AM	Ballroom 1-2	61
Lao, J.	31-Jan	8:50AM	Coquina D	69	McAllister, M.	29-Jan	10:40AM	Coquina E	38
Large, M.J.	28-Jan	4:30PM	Coquina F	33	McCue, I.	28-Jan	8:30AM	Coquina F	24

Presenting Author List

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Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
McDowell, M.	27-Jan	4:20PM	Coquina B	13	Olowu, T.O.	27-Jan	3:50PM	Ballroom 4	12
Mcllwaine, N.S.	29-Jan	11:10AM	Coquina F	45	Onoue, K.	30-Jan	11:20AM	Coquina B	59
McLarty, D.	29-Jan	8:30AM	Ballroom 4	39	Orgiu, E.	28-Jan	4:20PM	Coquina D	29
McMillon-Brown, L.	29-Jan	2:00PM	Ballroom 5	45	Orgiu, E.	29-Jan	2:30PM	Coquina H	52
McNamara, R.	29-Jan	9:00AM	Coquina A	43	Oropeza, D.	27-Jan	1:30PM	Coquina G	9
Mechnich, P.	28-Jan	4:20PM	Coquina C	28	Orsini, F.	29-Jan	4:40PM	Ballroom 5	46
Mena, J.A.	30-Jan	11:20AM	Ballroom 4	58	Ortona, A.	29-Jan	8:30AM	Coquina A	43
Menard, T.	28-Jan	9:40AM	Coquina F	25	Ortona, A.	29-Jan	3:10PM	Coquina E	46
Menkara, H.	27-Jan	4:20PM	Coquina A	16	Osaka, A.	29-Jan	10:50AM	Ponce de Leon	40
Merk, V.	30-Jan	2:00PM	Flagler C	62	Osborne, R.	27-Jan	2:00PM	Coquina A	16
Michaelis, A.	29-Jan	2:30PM	Ballroom 5	45	Oshima, S.	29-Jan	9:00AM	Coquina G	37
Miele, P.	27-Jan	4:50PM	Ballroom 3	17	Oswald, S.	30-Jan	9:40AM	Coquina D	60
Mika, V.	31-Jan	11:30AM	Coquina E	69	Otoyama, M.	28-Jan	3:20PM	Coquina B	29
Milojkovic, A.	28-Jan	3:54PM	Coquina A	32	Ouisse, T.	28-Jan	3:10PM	Ponce de Leon	31
Mirza, F.	30-Jan	4:50PM	Coquina E	63	Ouyang, B.	28-Jan	1:30PM	Coquina G	25
Mishra, A.R.	28-Jan	4:10PM	Coquina F	33	Ouyang, J.	28-Jan	4:00PM	Coquina D	29
Mitani, T.	30-Jan	9:00AM	Ballroom 4	57	Owusu, E.B.	27-Jan	2:00PM	Coquina C	12
Mitchell, K.J.	28-Jan	9:20AM	Coquina F	24	Oyeniran, N.D.	28-Jan	4:50PM	Ponce de Leon	32
Miura, Y.	28-Jan	10:10AM	Ballroom 4	20	Ozaki, S.	29-Jan	8:30AM	Coquina E	38
Miyagishi, T.	30-Jan	5:10PM	Coquina D	67	Ozkan, B.	29-Jan	4:30PM	Coquina A	51
Mohammadi, F.	28-Jan	2:00PM	Coquina E	27					
Mohammadi, F.	30-Jan	8:30AM	Coquina D	60			P		
Mokhtari, P.	30-Jan	8:30AM	Ballroom 1-2	61	Packard, C.	30-Jan	3:20PM	Flagler C	62
Molin, S.	28-Jan	4:40PM	Ballroom 4	28	Paddock, R.A.	30-Jan	2:20PM	Coquina H	62
Monaco, F.	27-Jan	2:30PM	Ballroom 4	12	Paik, U.	27-Jan	10:40AM	Coquina D/E	9
Moncy, A.	29-Jan	12:10PM	Ballroom 4	40	Pajo, B.	31-Jan	11:10AM	Coquina E	68
Montalbano, G.	29-Jan	10:20AM	Ponce de Leon	40	Pardessus, O.	29-Jan	10:40AM	Ballroom 1-2	44
Montini, T.	28-Jan	4:50PM	Coquina H	33	Park, M.	28-Jan	4:50PM	Coquina F	33
Moon, K.	30-Jan	9:00AM	Coquina C	59	Patel, A.	28-Jan	2:40PM	Coquina F	33
Moore, T.W.	28-Jan	9:00AM	Coquina F	24	Patel, P.B.	31-Jan	9:10AM	Coquina D	70
Moos, M.	28-Jan	11:40AM	Coquina G	18	Pattillo, R.A.	29-Jan	3:20PM	Ballroom 1-2	52
Moranti, A.	29-Jan	10:40AM	Ballroom 4	40	Pavlin, M.	30-Jan	9:00AM	Ballroom 1-2	61
Moretti, E.	27-Jan	2:50PM	Coquina H	10	Pelanconi, M.	30-Jan	1:30PM	Coquina A	67
Moretti, E.	28-Jan	10:20AM	Flagler C	21	Perepichka, D.	29-Jan	10:50AM	Coquina H	44
Moretti, E.	28-Jan	2:00PM	Coquina H	32	Perween, S.	29-Jan	9:20AM	Ballroom 3	45
Motezaker, M.	31-Jan	9:30AM	Coquina E	68	Petrie, C.	29-Jan	11:10AM	Coquina D	42
Motohashi, K.	30-Jan	9:30AM	Coquina B	58	Pibulchinda, P.	29-Jan	4:10PM	Ballroom 4	47
Motz, G.	28-Jan	3:30PM	Ballroom 3	34	Pinna, N.	28-Jan	8:30AM	Coquina H	24
Mukai, K.	30-Jan	10:20AM	Coquina D	60	Pinna, N.	29-Jan	9:30AM	Flagler C	41
Müller, M.	28-Jan	1:30PM	Coquina A	32	Pizzinat, A.	31-Jan	8:30AM	Coquina D	69
Muly, K.	27-Jan	1:30PM	Coquina D	10	Polo, F.	28-Jan	10:20AM	Coquina H	24
Muly, K.	27-Jan	1:50PM	Coquina D	10	Ponder, J.	29-Jan	10:20AM	Ballroom 1-2	43
		N			Ponder, J.	29-Jan	2:30PM	Coquina F	52
Naccache, R.	28-Jan	9:00AM	Coquina H	24	Porcarello, M.	29-Jan	2:00PM	Coquina A	51
Naguib, M.	28-Jan	10:40AM	Ponce de Leon	23	Poterie, C.	28-Jan	2:50PM	Coquina D	29
Nait-Ali, B.	27-Jan	4:50PM	Ballroom 1-2	15	Pralong, V.	28-Jan	9:30AM	Coquina B	20
Najafzadehkhoe, A.	31-Jan	8:50AM	Coquina E	68	Prikhna, T.	29-Jan	3:22PM	Coquina C	47
Nakashima, Y.	28-Jan	9:40AM	Ballroom 1-2	22	Prikhna, T.	31-Jan	10:30AM	Coquina E	68
Nance, J.	29-Jan	11:00AM	Coquina A	43	Pyeon, J.	29-Jan	9:10AM	Coquina C	39
Naraparaju, R.	29-Jan	1:30PM	Coquina C	46			Q		
Narayanan, B.	30-Jan	3:20PM	Coquina B	65	Qadir, A.	27-Jan	2:10PM	Coquina D	10
Narita, A.	27-Jan	3:50PM	Ballroom 5	11	Qian, X.	28-Jan	9:30AM	Coquina E	18
Nasu, A.	31-Jan	8:35AM	Coquina B	69	Qin, Z.	30-Jan	11:20AM	Flagler C	56
Naughton Duszova, A.	27-Jan	2:00PM	Coquina F	16	Qiu, J.	28-Jan	4:14PM	Coquina A	32
Naumovich, Y.	30-Jan	8:30AM	Ballroom 4	57	Quinn, G.D.	27-Jan	2:00PM	Coquina E	11
Nawata, Y.	29-Jan	11:40AM	Coquina E	38			R		
Ncho, W.	29-Jan	3:40PM	Ballroom 1-2	52	Radovic, M.	28-Jan	9:30AM	Ponce de Leon	23
Nelson, T.	30-Jan	11:20AM	Coquina E	57	Raghavan, K.C.	28-Jan	8:30AM	Coquina E	18
Nemani, S.	28-Jan	9:00AM	Coquina G	17	Rahbar, N.	30-Jan	10:20AM	Flagler C	56
Ng, M.	30-Jan	2:00PM	Coquina B	65	Rajan, G.	30-Jan	2:00PM	Ponce de Leon	64
Ngige, G.	28-Jan	4:30PM	Ponce de Leon	32	Ramirez, M.	27-Jan	3:20PM	Coquina A	16
Ngo, M.	28-Jan	9:30AM	Coquina G	17	Ramler, D.J.	30-Jan	11:40AM	Ballroom 4	58
Nguyen, S.T.	30-Jan	9:20AM	Coquina C	59	Ranaiefar, M.	30-Jan	3:50PM	Coquina A	68
Nielsch, K.	28-Jan	9:30AM	Coquina D	20	Rauchenwald, K.	29-Jan	9:00AM	Ballroom 3	45
Nolas, G.S.	28-Jan	10:20AM	Coquina D	20	Rauchenwald, K.	30-Jan	9:10AM	Ballroom 5	57
		O			Reddy, P.P.	31-Jan	10:50AM	Coquina E	68
Ohji, T.	27-Jan	3:20PM	Coquina E	11	Reed, N.	29-Jan	5:10PM	Coquina A	51
Okawa, A.	30-Jan	2:00PM	Coquina C	66	Reinartz, S.	29-Jan	2:50PM	Ballroom 5	46
Okuma, G.	27-Jan	1:30PM	Flagler A	14	Reinke, J.M.	29-Jan	2:00PM	Ballroom 4	47

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Ren, S.	28-Jan	9:30AM	Ballroom 3	25	So, J.	28-Jan	11:00AM	Coquina F	25
Rendón Giraldo, J.	28-Jan	4:40PM	Ballroom 5	26	Song, T.	28-Jan	11:20AM	Coquina H	24
Restrepo, D.	30-Jan	9:30AM	Flagler C	56	Spanier, J.E.	28-Jan	3:20PM	Coquina A	32
Rettenmaier, O.T.	29-Jan	8:50AM	Coquina E	38	Spicer, J.B.	28-Jan	9:00AM	Ballroom 1-2	22
Richards, R.M.	28-Jan	9:30AM	Coquina H	24	Spirrett, F.	29-Jan	9:20AM	Coquina A	43
Richter, S.	29-Jan	9:00AM	Coquina F	44	Sprouster, D.	29-Jan	3:20PM	Coquina D	50
Ridoy, A.	29-Jan	11:00AM	Coquina G	37	Srivastava, A.	28-Jan	11:10AM	Ponce de Leon	23
Riedl, H.	27-Jan	4:10PM	Ponce de Leon	15	Stein, Z.	28-Jan	10:20AM	Coquina C	19
Riffe, W.	29-Jan	10:40AM	Coquina C	39	Stein, Z.	28-Jan	2:00PM	Coquina G	25
Rikka, V.	28-Jan	9:00AM	Coquina B	20	Stievano, L.	29-Jan	2:30PM	Coquina B	48
Risbud, S.H.	27-Jan	8:50AM	Coquina D/E	9	Stokes, J.L.	29-Jan	9:30AM	Coquina C	39
Rivera, K.	28-Jan	11:00AM	Flagler A	22	Struzik, M.	30-Jan	11:40AM	Coquina B	59
Rossi, C.	29-Jan	11:20AM	Flagler C	41	Stuer, M.	29-Jan	3:20PM	Coquina A	51
Roy, A.	29-Jan	10:40AM	Ballroom 3	45	Subhash, G.	29-Jan	8:30AM	Coquina D	42
Roy, A.	29-Jan	11:40AM	Ballroom 3	45	Suda, S.	27-Jan	4:30PM	Ballroom 3	17
Rueschhoff, L.M.	29-Jan	1:30PM	Coquina F	52	Sudandarados, M.V.	27-Jan	1:30PM	Coquina H	9
Rufner, J.	28-Jan	3:20PM	Coquina G	26	Suematsu, H.	29-Jan	10:20AM	Flagler A	42
Ruggles-Wrenn, M.	29-Jan	4:20PM	Coquina F	53	Suematsu, H.	30-Jan	10:20AM	Coquina C	60
Ryu, S.	30-Jan	9:40AM	Ballroom 4	57	Sugawara, N.	30-Jan	4:30PM	Coquina E	63
S					Sumi, H.	28-Jan	11:10AM	Ballroom 4	20
Sabato, A.	30-Jan	10:50AM	Ballroom 4	58	Sumino, M.	30-Jan	9:20AM	Coquina E	57
Sahore, R.	27-Jan	3:50PM	Coquina B	13	Suyama, S.	29-Jan	11:30AM	Coquina D	42
Saini, R.	31-Jan	10:10AM	Coquina D	70	Suzuki, C.	30-Jan	4:00PM	Coquina G	65
Sakai, T.	29-Jan	8:30AM	Coquina G	37	Suzuki, T.S.	29-Jan	2:20PM	Flagler A	49
Sakamoto, J.	28-Jan	3:50PM	Coquina B	29	T				
Salameh, C.	27-Jan	3:20PM	Ballroom 3	17	Tafu, M.	29-Jan	11:30AM	Ballroom 5	38
Salem, J.	27-Jan	1:30PM	Coquina E	11	Tagawa, R.M.	29-Jan	9:20AM	Ballroom 4	39
Salem, J.	29-Jan	2:20PM	Coquina C	47	Tagliaferro, A.	28-Jan	10:50AM	Coquina H	24
Salvadores Farran, N.	30-Jan	5:00PM	Coquina H	63	Tallia, F.	29-Jan	8:30AM	Ponce de Leon	40
Salvo, M.	28-Jan	4:50PM	Coquina E	27	Tamayo, A.	29-Jan	8:30AM	Ballroom 3	45
Sangu, T.	30-Jan	11:40AM	Coquina C	60	Tamayo, A.	29-Jan	10:00AM	Ballroom 5	38
Sanson, A.	29-Jan	3:30PM	Ballroom 5	46	Tamerler, C.	30-Jan	2:20PM	Ponce de Leon	64
Santarelli, M.	29-Jan	11:40AM	Ballroom 4	40	Tanaka, S.	28-Jan	8:30AM	Flagler A	22
Santiago, D.	30-Jan	2:00PM	Coquina H	62	Tang, W.	27-Jan	2:10PM	Coquina H	9
Saputo, J.	28-Jan	8:30AM	Coquina C	19	Tang, Y.	30-Jan	2:10PM	Coquina A	67
Saputo, J.	29-Jan	11:20AM	Coquina C	39	Tatami, J.	29-Jan	8:30AM	Flagler A	41
Sarakovskis, A.	29-Jan	9:00AM	Flagler C	41	Tatami, J.	30-Jan	1:30PM	Coquina C	66
Sarikhani, A.	27-Jan	4:00PM	Coquina F	16	Tatara, R.	28-Jan	10:15AM	Coquina B	21
Sarkar, T.	29-Jan	8:30AM	Flagler C	41	Teranishi, T.	29-Jan	3:50PM	Coquina B	49
Sarrafi-Nour, R.	28-Jan	9:00AM	Coquina E	18	Teshima, K.	28-Jan	3:50PM	Ballroom 5	26
Sbdul-Aziz, A.	29-Jan	11:20AM	Coquina E	38	Thompson, G.	29-Jan	8:30AM	Coquina F	44
Schafföner, S.	29-Jan	4:30PM	Ballroom 4	48	Thompson, M.	28-Jan	9:20AM	Ballroom 1-2	22
Schafföner, S.	30-Jan	10:20AM	Coquina E	57	Toda, K.	27-Jan	4:50PM	Coquina A	16
Schneller, A.	28-Jan	10:50AM	Coquina G	18	Toda, K.	28-Jan	9:00AM	Coquina A	23
Scholl, M.	30-Jan	10:20AM	Coquina A	61	Toda, K.	28-Jan	10:30AM	Coquina A	24
Schwentenwein, M.	27-Jan	2:30PM	Coquina E	11	Todd, R.I.	27-Jan	3:50PM	Coquina E	11
Schwentenwein, M.	29-Jan	3:50PM	Coquina A	51	Tokoro, C.	27-Jan	2:00PM	Ballroom 5	10
Seidl, A.	28-Jan	9:30AM	Ballroom 4	20	Tolve Granier, B.	28-Jan	4:20PM	Ballroom 3	34
Seo, D.	29-Jan	9:00AM	Coquina B	40	Tome, S.	29-Jan	2:00PM	Ballroom 1-2	51
Serizawa, J.	29-Jan	9:30AM	Coquina G	37	Tome, S.	30-Jan	9:30AM	Ballroom 1-2	61
Serrano Claumarchirant, J.F.	27-Jan	3:50PM	Flagler C	13	Toprak, M.S.	27-Jan	3:20PM	Flagler C	13
Sglavo, V.M.	28-Jan	11:20AM	Flagler A	22	Toprak, M.S.	28-Jan	3:50PM	Flagler C	30
Shan, X.	28-Jan	10:45AM	Coquina B	21	Trezecik Silvano, L.	29-Jan	9:20AM	Coquina B	40
Sharma, A.	30-Jan	4:00PM	Ballroom 4	64	Tsuchiya, S.	30-Jan	8:30AM	Ballroom 5	56
Sharma, L.K.	28-Jan	9:00AM	Flagler A	22	Tsuchiya, T.	27-Jan	1:30PM	Ballroom 5	10
Sharma, S.K.	30-Jan	11:20AM	Coquina D	60	Tsuchiya, T.	27-Jan	2:20PM	Coquina A	16
Shifa, T.A.	28-Jan	2:30PM	Coquina H	32	Tsuchiya, T.	28-Jan	10:40AM	Ballroom 3	25
Shiva Kumar, R.	28-Jan	2:00PM	Ballroom 3	33	U				
Shivakumar, S.	28-Jan	3:20PM	Coquina E	27	Ueda, M.	29-Jan	10:30AM	Coquina G	37
Siaj, M.	29-Jan	3:20PM	Coquina H	52	Uematsu, M.	28-Jan	2:40PM	Ballroom 1-2	31
Silvestroni, L.	27-Jan	3:30PM	Coquina F	16	Ugata, Y.	27-Jan	1:30PM	Coquina B	13
Singh, D.	28-Jan	1:30PM	Coquina E	26	Unsel, S.	30-Jan	3:20PM	Coquina G	65
Singh, G.	29-Jan	11:00AM	Ballroom 3	45	V				
Singh, G.	30-Jan	9:20AM	Coquina D	60	Vailonis, K.	30-Jan	4:00PM	Coquina H	63
Singh, N.B.	28-Jan	3:30PM	Flagler A	30	Vanderslice, J.K.	31-Jan	9:30AM	Coquina G	69
Singh, R.N.	28-Jan	11:00AM	Coquina A	24	Varghese, O.K.	29-Jan	1:30PM	Coquina H	52
Siyal, S.H.	29-Jan	11:00AM	Flagler A	42	Venkatachalam, V.	28-Jan	1:30PM	Coquina F	33
Smeacetto, F.	29-Jan	9:40AM	Ballroom 4	39	Vergnaud, F.	28-Jan	4:00PM	Ballroom 3	34
Smith, S.M.	27-Jan	4:40PM	Coquina F	16					
Snead, L.	30-Jan	3:20PM	Coquina D	67					

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Vetrone, F.	28-Jan	3:20PM	Coquina H	33	Yamaguchi, S.	28-Jan	11:40AM	Flagler C	21
Vignoles, G.L.	28-Jan	4:20PM	Flagler A	30	Yamaguchi, Y.	28-Jan	2:00PM	Ballroom 5	26
Vignoles, G.L.	29-Jan	10:10AM	Coquina E	38	Yamamoto, T.	30-Jan	10:50AM	Coquina C	60
Vignoles, G.L.	30-Jan	11:30AM	Coquina G	59	Yamashita, T.	28-Jan	9:00AM	Ballroom 5	18
Virtudazo, R.V.	30-Jan	4:10PM	Coquina C	66	Yanagida, T.	28-Jan	11:20AM	Coquina A	24
W					Yanamoto, R.	28-Jan	9:20AM	Coquina A	23
Wachsman, E.D.	27-Jan	2:30PM	Coquina B	13	Yang, J.	27-Jan	1:30PM	Ballroom 1-2	14
Wachsman, E.D.	28-Jan	3:50PM	Ballroom 4	28	Yang, L.	28-Jan	2:20PM	Flagler C	30
Wagner, D.	31-Jan	9:30AM	Coquina B	69	Yasui, S.	29-Jan	9:40AM	Coquina B	41
Wahab, M.	29-Jan	8:30AM	Ballroom 5	37	Yavuz, C.T.	28-Jan	8:30AM	Flagler C	21
Wahl, L.	28-Jan	1:30PM	Ballroom 1-2	31	Yokoi, M.	29-Jan	9:10AM	Coquina E	38
Wang, C.	29-Jan	10:45AM	Coquina B	41	Youssef, C.	27-Jan	2:00PM	Ballroom 3	17
Wang, H.	28-Jan	8:30AM	Coquina B	20	Yu, H.	28-Jan	11:15AM	Coquina B	21
Wang, H.	28-Jan	8:30AM	Ballroom 1-2	22	Yu, J.	28-Jan	2:40PM	Flagler C	30
Wang, H.	28-Jan	4:40PM	Coquina D	29	Yucel, O.	27-Jan	3:30PM	Coquina D	10
Wang, J.	29-Jan	12:00PM	Coquina E	39	Yucel, O.	30-Jan	4:50PM	Coquina A	68
Wang, K.	30-Jan	9:00AM	Coquina H	62	Yüksel, G.	28-Jan	12:00PM	Flagler C	21
Wang, Y.	29-Jan	4:40PM	Coquina E	46	Yun, H.	29-Jan	1:30PM	Coquina A	51
Watkins, B.	29-Jan	9:20AM	Coquina F	44	Yusuf, A.	27-Jan	4:50PM	Flagler C	14
Webster, R.I.	27-Jan	4:20PM	Coquina C	12	Z				
Webster, T.	30-Jan	1:30PM	Ponce de Leon	64	Zamudio Garcia, J.	28-Jan	2:00PM	Ballroom 4	28
Wei, J.	28-Jan	10:50AM	Coquina E	19	Zanoletti, A.	27-Jan	4:20PM	Ballroom 5	11
Wei, J.	28-Jan	11:10AM	Coquina E	19	Zhai, W.	30-Jan	10:50AM	Flagler C	56
Weichelt, M.	28-Jan	2:00PM	Ballroom 1-2	31	Zhang, J.	27-Jan	1:30PM	Coquina C	12
Weinberger, C.R.	28-Jan	10:20AM	Coquina F	25	Zhao, H.	30-Jan	9:20AM	Coquina A	61
Weinberger, C.R.	29-Jan	4:10PM	Coquina G	50	Zhao, J.	29-Jan	10:40AM	Flagler A	42
Weldemariam, F.Z.	30-Jan	9:40AM	Coquina E	57	Zheng, N.	29-Jan	4:50PM	Coquina A	51
Welsh, M.R.	30-Jan	10:50AM	Coquina G	59	Zheng, Y.	30-Jan	8:30AM	Coquina A	60
Wendel, J.	27-Jan	2:20PM	Ballroom 3	17	Zhong, Y.	28-Jan	4:20PM	Ballroom 4	28
Westin, G.	28-Jan	2:40PM	Ballroom 3	33	Zhong, Y.	31-Jan	9:50AM	Coquina G	69
Westin, G.	29-Jan	10:20AM	Coquina H	44	Zhou, Y.	28-Jan	3:50PM	Coquina F	33
White, E.	31-Jan	9:30AM	Coquina D	70	Zhou, Y.	30-Jan	9:20AM	Coquina H	62
Wineger, T.J.	29-Jan	3:52PM	Coquina C	47	Zhou, Y.	30-Jan	3:50PM	Coquina E	63
Wissel, K.	27-Jan	2:20PM	Ballroom 5	11	Zhuang, Z.	28-Jan	2:20PM	Ballroom 4	28
X					Zima, A.	29-Jan	9:00AM	Ponce de Leon	40
Xi, J.	28-Jan	8:30AM	Coquina G	17	Zimmermann, J.	27-Jan	5:10PM	Coquina E	11
Xu, B.	28-Jan	9:00AM	Coquina D	20	Zou, Z.	28-Jan	9:30AM	Flagler A	22
Y					Zou, Z.	30-Jan	1:30PM	Flagler C	62
Yager, R.A.	28-Jan	11:20AM	Flagler C	21	Zozobrado, M.G.	30-Jan	3:02PM	Coquina C	66
Yakubu, S.	29-Jan	11:20AM	Coquina H	44	Zschippang, E.	29-Jan	4:50PM	Coquina H	52
					Zubko, Y.	29-Jan	4:30PM	Ballroom 1-2	52
					Zusho, Y.	27-Jan	3:50PM	Ballroom 1-2	15

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Ahn, C.	29-Jan	5:00PM	Ocean Center	55	Çakmak, G.	29-Jan	5:00PM	Ocean Center	56
Albar, N.	28-Jan	5:00PM	Ocean Center	37	Caulfield, M.L.	28-Jan	5:00PM	Ocean Center	34
Alidoost, D.	29-Jan	5:00PM	Ocean Center	54	Charrue, A.	29-Jan	5:00PM	Ocean Center	56
Arugay, I.B.	29-Jan	5:00PM	Ocean Center	55	Chodisetti, S.	29-Jan	5:00PM	Ocean Center	54
B					Cholewa-Kowalska, K.	29-Jan	5:00PM	Ocean Center	54
Balagna, C.	29-Jan	5:00PM	Ocean Center	54	Claes, B.	28-Jan	5:00PM	Ocean Center	36
Bartov, G.	28-Jan	5:00PM	Ocean Center	34	Coleman, A.A.	28-Jan	5:00PM	Ocean Center	36
Basler, G.	29-Jan	5:00PM	Ocean Center	55	Colombara, D.	28-Jan	5:00PM	Ocean Center	36
Bernard, S.	28-Jan	5:00PM	Ocean Center	36	Cox, B.	29-Jan	5:00PM	Ocean Center	55
Bhandari, S.	29-Jan	5:00PM	Ocean Center	55	D				
Boaro, M.	29-Jan	5:00PM	Ocean Center	53	Da Prato, F.	28-Jan	5:00PM	Ocean Center	34
Brandt, D.	29-Jan	5:00PM	Ocean Center	53					
Budiman, R.A.	28-Jan	5:00PM	Ocean Center	34					

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Elhassan, A.	29-Jan	5:00PM	Ocean Center	55	Li, C.	29-Jan	5:00PM	Ocean Center	54
F					Li, J.	28-Jan	5:00PM	Ocean Center	35
Fei, F.	28-Jan	5:00PM	Ocean Center	37	Li, L.	29-Jan	5:00PM	Ocean Center	56
Foschini, C.R.	29-Jan	5:00PM	Ocean Center	54	M				
Furuse, H.	28-Jan	5:00PM	Ocean Center	36	Maeda, T.	29-Jan	5:00PM	Ocean Center	54
Furushima, R.	29-Jan	5:00PM	Ocean Center	54	Magdum, R.P.	29-Jan	5:00PM	Ocean Center	56
G					Makino, T.	29-Jan	5:00PM	Ocean Center	53
Gackowska-Gondek, P.	29-Jan	5:00PM	Ocean Center	54	Man, M.	29-Jan	5:00PM	Ocean Center	54
Gallo, F.	28-Jan	5:00PM	Ocean Center	34	Mineshige, A.	28-Jan	5:00PM	Ocean Center	35
Garrido Blay, M.	28-Jan	5:00PM	Ocean Center	35	Miura, N.	28-Jan	5:00PM	Ocean Center	35
Gattucci, F.	28-Jan	5:00PM	Ocean Center	35	Molin, S.	28-Jan	5:00PM	Ocean Center	35
Gillespie, M.A.	28-Jan	5:00PM	Ocean Center	36	Montalbano, G.	29-Jan	5:00PM	Ocean Center	54
Göl, B.	28-Jan	5:00PM	Ocean Center	34	Mou, J.	28-Jan	5:00PM	Ocean Center	36
Grigat, N.	29-Jan	5:00PM	Ocean Center	53	Murillo Mosquera, E.	29-Jan	5:00PM	Ocean Center	55
Gura, W.	29-Jan	5:00PM	Ocean Center	54	Murugesan, A.	29-Jan	5:00PM	Ocean Center	55
Gushchina, I.	28-Jan	5:00PM	Ocean Center	35	N				
H					Nagashima, Y.	28-Jan	5:00PM	Ocean Center	35
Hansen, L.	29-Jan	5:00PM	Ocean Center	56	Nguyen, B.	28-Jan	5:00PM	Ocean Center	35
Hardiman, M.G.	29-Jan	5:00PM	Ocean Center	55	O				
Hassan, R.	29-Jan	5:00PM	Ocean Center	56	Odofoin, O.	28-Jan	5:00PM	Ocean Center	36
Hernández García, L.C.	28-Jan	5:00PM	Ocean Center	34	Ogihara, S.	29-Jan	5:00PM	Ocean Center	53
Hernández García, L.C.	29-Jan	5:00PM	Ocean Center	55	Oshima, S.	29-Jan	5:00PM	Ocean Center	53
Hernandez, C.	29-Jan	5:00PM	Ocean Center	53	P				
Hoaguland, P.	28-Jan	5:00PM	Ocean Center	36	Padan, R.	29-Jan	5:00PM	Ocean Center	54
Hossain, S.S.	29-Jan	5:00PM	Ocean Center	55	Park, B.	29-Jan	5:00PM	Ocean Center	55
Hosseini, F.	29-Jan	5:00PM	Ocean Center	54	Park, S.	29-Jan	5:00PM	Ocean Center	55
Hulbert, B.S.	28-Jan	5:00PM	Ocean Center	34	Paul, S.	28-Jan	5:00PM	Ocean Center	36
I					Pierdoná, J.	28-Jan	5:00PM	Ocean Center	35
Izci, E.	28-Jan	5:00PM	Ocean Center	36	Pitap Mbowou, M.	28-Jan	5:00PM	Ocean Center	36
J					Pizzinat, A.	29-Jan	5:00PM	Ocean Center	54
Jain, R.	28-Jan	5:00PM	Ocean Center	36	Prikhna, T.	29-Jan	5:00PM	Ocean Center	55
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Kenny, J.	29-Jan	5:00PM	Ocean Center	53	Serrano Claumarchirant, J.F.	28-Jan	5:00PM	Ocean Center	35
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Presenting Author List

Poster Presenters

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Monday, January 27, 2025

Plenary Session

Plenary and Award Talks

Room: Coquina D/E

Session Chairs: Amjad Almansour, NASA Glenn Research Center;
Jie Zhang, Institute of Metal Research, Chinese Academy of Sciences;
Young-Wook Kim, WORLDEX Industry and Trading Co. LTD

8:20 AM

Opening Ceremony and Awards Presentation

8:50 AM

**(ICACC-PLEN-001-2025) James L. Mueller Memorial Award:
The Enduring Legacy of Mullite the Quintessential Engineering Ceramic**

S. H. Risbud*¹

1. University of California, Davis, Materials Science and Engineering, USA

9:30 AM

(ICACC-PLEN-002-2025) 2025 Mrityunjay Singh Bridge Building Award: Nanocarbon added ceramics: Current status and future trends

C. Balazsi*¹

1. ELKH Centre for Energy Research, Hungary

10:10 AM

Break

10:40 AM

(ICACC-PLEN-003-2025) Plenary: Nanoparticles engineering toward NT and ET applications

U. Paik*¹; T. Song¹; J. Park¹; G. Lee¹; J. Kim¹; I. Kim¹; M. Woo¹

1. Hanyang University, Department of Energy Engineering, Republic of Korea

11:20 AM

(ICACC-PLEN-004-2025) Plenary: 2D Ceramics - Nanoscale Bricks that Will Shape the Future Technology

Y. Gogotsi*¹

1. Drexel University, USA

14th Global Young Investigator Forum

GYIF- Energy Harvesting for Sustainable Systems

Room: Coquina G

Session Chairs: Meelad Ranaiefar, NASA Glenn Research Center;
Bin Ouyang, Florida State University

1:30 PM

(ICACC-GYIF-001-2025) Spatial tailoring of ceramics via additive manufacturing for material-efficient processing (Invited)

D. Oropeza*¹

1. University of California at Santa Barbara, USA

2:00 PM

(ICACC-GYIF-003-2025) Design and integration challenges in sustainable sodium-zinc batteries (Invited)

F. D'Isanto*¹; A. Baggio¹; M. Salvo¹; D. Basso²; D. Gaia²; F. Smeacetto¹

1. Politecnico di Torino, Department of Applied Science and Technology, Italy
2. FZSoNick SA, Switzerland

2:30 PM

(ICACC-GYIF-007-2025) Ceramic Microchannel Array to Enhance Heat Transfer and Mechanical Strength in High Temperature Heat Exchanger (Invited)

X. Li*¹; C. Wilson²; O. Brandt³; R. Orta Guerra³; R. Trice³; J. P. Youngblood³

1. The University of Tennessee Knoxville Tickle College of Engineering, Mechanical Aerospace and Biomedical Engineering, USA
2. Massachusetts Institute of Technology, Mechanical Engineering, USA
3. Purdue University, Department of Materials Engineering, USA

3:00 PM

Break

GYIF- Energy Harvesting for Sustainable Systems/ Sustainable Careers

Room: Coquina G

Session Chairs: Dong Liu, University of Oxford; Anna Schneller, University of Augsburg

3:20 PM

(ICACC-GYIF-004-2025) Halide perovskite soft semiconductors for sustainable technologies: from THz anharmonic lattice dynamics to outstanding optoelectronic properties (Invited)

Y. Guo*¹

1. University of Nebraska-Lincoln, USA

3:50 PM

(ICACC-GYIF-005-2025) Application of Oxygen Transport Membranes to improve the sustainability of energy-intensive industrial processes (Invited)

P. Fedeli*¹; S. De La Pierre²; F. Da Prato²; A. Cavaliere¹; A. Cammi¹; V. Marzaroli¹; E. Malgrati¹; A. Benelli¹; F. Smeacetto¹; M. Ferraris¹; F. Drago¹

1. Ricerca sul Sistema Energetico RSE SpA, Italy
2. Politecnico di Torino, DISAT, Italy

4:20 PM

(ICACC-GYIF-006-2025) Developing New Ceramic-Based Solutions through a Company-University Network: Advanced Ceramics and Coating Research Line at Leonardo Innovation Labs (Invited)

A. De Zanet*¹; A. Kumar¹

1. Leonardo SpA, Leonardo Innovation Labs - Materials, Italy

Special Focused Session on Diversity Entrepreneurship and Commercialization

Special Focused Session On Diversity, Entrepreneurship, and Commercialization

Room: Coquina H

Session Chairs: Surojit Gupta, University of North Dakota;
Valerie Wiesner, NASA Langley Research Center

1:30 PM

(ICACC-DIV-001-2025) Sustainable bone replacement material: Additive manufacturing of TCP-HAP-Wollastonite composite for tissue engineering applications

M. V. Sudandaradoss*¹; G. Rajan²

1. Anna University, Ceramic Technology, India
2. Alagappa College of Technology, Anna University., Ceramic Technology, India

2:10 PM

(ICACC-DIV-002-2025) Investigating composites and ceramic materials for energy storage and conversion through multi-pronged R&D approaches

W. Tang*¹

1. Underwriters Laboratories Inc, Electrochemical Safety Research Institute, USA

2:50 PM

(ICACC-DIV-003-2025) Nanomaterials by Design: Tailored Morphology for Today's Energy and Environmental Challenges

E. Moretti*¹

1. Ca' Foscari University of Venice, Department of Molecular Sciences and Nanosystems, Italy

3:30 PM

Break

3:40 PM

(ICACC-DIV-004-2025) The State of Selective Laser Melting for Infrastructure Development Using In-Situ Materials In Terrestrial & Space Systems (Invited)

M. Feehan*¹

1. Space Copy Inc., Canada

4:10 PM

(ICACC-DIV-005-2025) Solid-State Batteries for Air and Space: Pushing Boundaries with Materials Science (Invited)

Y. Lin*¹

1. NASA Langley Research Center, Advanced Materials and Processing Branch, USA

4:40 PM

(ICACC-DIV-006-2025) Interdisciplinary Research and Education for Microelectronics Workforce (Invited)

A. Kumar*¹

1. University of South Florida, Mechanical Engineering, USA

5:10 PM

(ICACC-DIV-007-2025) From College to C-suite: Mentorship in DE&I Initiatives (Invited)

E. Deena*¹

1. Case Western Reserve University, USA

5:40 PM

(ICACC-DIV-008-2025) Turning Challenges into Profits: Navigating Business Success Amidst Adversity

A. Dodson*¹

1. Strayer University, USA

FS2 Protective ceramics- Fundamental challenges and new developments

FS 2: Protective Ceramics- Fundamental challenges and new developments

Room: Coquina D

Session Chair: Kristopher Behler, DEVCOM-Army Research Lab

1:30 PM

(ICACC-FS2-001-2025) Impact performance and cratering behavior of boron carbide ceramics

K. Muly*¹; J. Moreno¹; K. Ramesh¹; J. LaSalvia²; S. Satapathy²

1. Johns Hopkins University, USA
2. DEVCOM Army Research Laboratory, USA

1:50 PM

(ICACC-FS2-002-2025) Behavior of silicon carbide under laser shock loading

K. Muly*¹; A. Mirzaei¹; K. Ramesh¹

1. Johns Hopkins University, USA

2:10 PM

(ICACC-FS2-003-2025) Plastic deformation of cubic-boron nitride under shock wave impacts

A. Qadir*¹; C. Schimpf¹; M. Mykhaylo¹; T. Schlothauer²; K. Keller²; G. Heide²; D. Rafaja¹

1. Technische Universität Bergakademie Freiberg, Institute of Materials Science, Germany
2. Technische Universität Bergakademie Freiberg, Institute of Mineralogy, Germany

2:30 PM

(ICACC-FS2-004-2025) Modeling frictional properties with neural networks

J. Garcia-Suarez*¹

1. Ecole Polytechnique Federale de Lausanne, Civil Engineering, Switzerland

2:50 PM

Break

3:10 PM

(ICACC-FS2-005-2025) Carbon Reinforced Boron sub-Oxide Nanocomposite (CaRBON)

J. Kenny*¹

1. AWE plc, Non Nuclear Components, United Kingdom

3:30 PM

(ICACC-FS2-006-2025) Synthesis of B₄C Powder via Sol-gel Approaches

O. Yucel*¹; M. Simmons⁴; N. Middleton²; C. Roberson²; J. Binner³

1. University of Birmingham, Metallurgy and Materials, United Kingdom
2. DSTL, United Kingdom, United Kingdom
3. University of Birmingham, Ceramic Science & Engineering, United Kingdom
4. University of Birmingham, School of Chemical Engineering, United Kingdom
5. Novamat, United Kingdom

3:50 PM

(ICACC-FS2-007-2025) Synthesis and Simulation of Microstructural Evolution in Reaction-Infiltrated Diamond-SiC Composites

A. A. DiGiovanni*¹; M. Guzewski¹

1. US Army Research Laboratory, Ceramic and Transparent Materials, USA

4:10 PM

Poster Preview Pitch-Carbon Reinforced Boron sub-Oxide Nanocomposite- Abridged visual poster summary

FS6 Innovative material processing for diverse resource circulation loops

FS 6- Novel products and materials oriented toward easy disassembly and circulation design

Room: Ballroom 5

Session Chairs: Sonia Fiorilli, Politecnico di Torino; Olivier Guillon, Forschungszentrum Juelich

1:30 PM

(ICACC-FS6001-2025) Development of Circular Manufacturing Technology Using Photochemical Reaction Processes (Invited)

T. Tsuchiya*¹

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

FS 6- Recovery of critical/valuable materials from exhausted complex products I

Room: Ballroom 5

Session Chairs: Olivier Guillon, Forschungszentrum Juelich; Sonia Fiorilli, Politecnico di Torino

2:00 PM

(ICACC-FS6002-2025) Separation technology for resource circulation of renewable energy devices

C. Tokoro*¹

1. Waseda University, Japan

2:20 PM

(ICACC-FS6003-2025) Towards recycling of thiophosphate-based all-solid-state batteries

K. Wissel^{*1}; O. Clemens¹

1. Universitat Stuttgart, Germany

2:40 PM

(ICACC-FS6004-2025) Separation of lithium iron phosphate-type cathode materials from lithium-ion batteries by electrical pulsed discharge and their direct recycling

T. Kurihara^{*1}; A. Narita²; C. Tokoro²

1. Waseda University, Department of Resources and Environmental Engineering, Graduate School of Creative Science and Engineering, Japan
2. Waseda University, Faculty of Science and Engineering, Japan

FS 6- Recovery of critical/valuable materials from exhausted complex products II

Room: Ballroom 5

Session Chairs: Kerstin Wissel, Universitat Stuttgart; Chiharu Tokoro, Waseda University

3:00 PM

Break

3:20 PM

(ICACC-FS6005-2025) Resource Recycling Technology Initiatives at AIST (Invited)

A. Endo^{*1}

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

3:50 PM

(ICACC-FS6006-2025) The recycling process of lithium-ion secondary batteries for implementation of high-voltage electric pulsed discharge method (Invited)

A. Narita^{*1}; Z. Zhou²; H. Xiong²; T. Kurihara²; C. Tokoro¹

1. Waseda University, Faculty of Science and Engineering, Japan
2. Waseda University, Graduate School of Creative Science and Engineering, Japan

4:20 PM

(ICACC-FS6007-2025) Innovative approaches to pyrometallurgical recycling strategies for lithium-ion batteries waste management (Invited)

A. Zanoletti^{*2}; E. Bontempi¹

1. Università degli Studi di Brescia, DIMI, Italy
2. Università degli Studi di Brescia, Italy

4:50 PM

(ICACC-FS6008-2025) Sustainable Ceramics – Solid Oxide Cells on their Way to Circular Economy (Invited)

O. Guillon^{*1}; S. Sarnier¹; N. H. Menzler¹

1. Forschungszentrum Jülich GmbH, IMD-2, Germany

5:20 PM

(ICACC-FS6009-2025) Recovery of critical and valuable raw materials from End-of-Life Solid Oxide Cell for close and open-loop recycling

S. Fiorilli^{*1}; S. Saffirio¹; S. Anelli¹; S. Fiore²; M. Bruno²; C. Gerbaldi¹; M. Rath³; F. Smeacetto¹

1. Politecnico di Torino, Department of Applied Science and Technology, Italy
2. Politecnico di Torino, Department of Environment, Land and Infrastructure Engineering, Politecnico di Torino, Italy
3. Elcogen, Estonia

S1 Mechanical Behavior and Performance of Ceramics & Composites

S1- Mechanical Testing, and Fracture Mechanics of Ceramics and Composites

Room: Coquina E

Session Chairs: Michael Jenkins, Bothell Engineering and Science Technologies; Jonathan Salem, NASA Glenn Research Center

1:30 PM

(ICACC-S1-001-2025) Failure Location Effects on Slow Crack Growth Parameters (Invited)

J. Salem^{*1}

1. NASA Glenn Research Center, Materials and Structures, USA

2:00 PM

(ICACC-S1-002-2025) On the Brittleness of Ceramics and Glasses (Invited)

G. D. Quinn^{*1}

1. National Institute of Standards and Technology, Materials Measurement Sciences Division, USA

2:30 PM

(ICACC-S1-003-2025) A novel strength testing method for ceramics fabricated by additive manufacturing (Invited)

M. Schwentenwein^{*1}; M. Staudacher²; U. Scheithauer³; T. Lube²

1. Lithoz GmbH, Austria
2. Montanuniversität Leoben Department Werkstoffwissenschaft, Austria
3. Fraunhofer IKTS, Shaping, Germany

3:00 PM

Break

3:20 PM

(ICACC-S1-004-2025) Microscale mechanical properties of silicon nitride ceramics determined by microcantilever bending tests (Invited)

T. Ohji^{*1}; J. Tatami¹

1. Yokohama National University, Japan

3:50 PM

(ICACC-S1-005-2025) Investigation of fracture toughness, slow crack growth and crack healing in sapphire using chevron notched microcantilevers (Invited)

R. I. Todd^{*1}; J. Jiang¹; S. Wang²; F. Giuliani²

1. University of Oxford, Department of Materials, United Kingdom
2. Imperial College London, Department of Materials, United Kingdom

4:20 PM

(ICACC-S1-006-2025) Revision of ASTM C1424 “Monotonic Compressive Strength of Advanced Ceramics at Ambient Temperature” Based on Recent Tests Using High-Speed Imaging (Invited)

M. G. Jenkins^{*1}; J. Swab²; J. E. Gallego¹

1. Bothell Engineering and Science Technologies, USA
2. Army Research Laboratory, USA

4:50 PM

(ICACC-S1-007-2025) High temperature fracture mechanics of Si containing ternary and quaternary transition metal diborides

A. Hirle^{*1}; A. Bahr¹; R. Hahn¹; T. Wojcik¹; S. Kolozsvári²; P. Polcik²; J. Ramm³; C. Jerg³; H. Riedl⁴

1. Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria, Austria
2. Plansee Composite Materials GmbH, Germany
3. Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein
4. TU Wien, Institute of Materials Science and Technology, Austria

5:10 PM

(ICACC-S1-008-2025) Hard and Electrically Conductive Ceramic Engineered For Toughness

J. Zimmermann^{*1}

1. Corning Incorporated, USA

5:30 PM**(ICACC-S1-009-2025) Mechanical properties of Zirconia-Yttria-Tantala (YTZ) Ceramics in trigonal compositions**M. Galeano Camacho^{*1}; J. V. Lopez-Solana¹; H. Ageorges²

1. Cinvestav, Materials, Mexico
2. Université de Limoges, Science et Techniques, France

5:50 PM**(ICACC-S1-010-2025) Local deformation in glassy solids in the elastic regime**W. Dmowski^{*1}; T. Iwashita²; C. J. Benmore³; T. Egami¹

1. The University of Tennessee Knoxville Tickle College of Engineering, Materials Science and Eng., USA
2. Oita Daigaku, Japan
3. Argonne National Lab, X-ray Science Division, USA

S2 Advanced Ceramic Coatings for Structural/Environmental & Functional Applications**S2- Environmental Barrier Coatings I**

Room: Coquina C

Session Chair: Peter Mechnich, DLR - German Aerospace Center

1:30 PM**(ICACC-S2-001-2025) Design of Environmental barrier coatings based on high-throughput method and co-doping synergistic effect (Invited)**Y. h. Wang¹; J. Zhang^{*1}; J. Wang¹

1. Institute of Metal Research Chinese Academy of Sciences, Shenyang National Laboratory for Materials Science, China

2:00 PM**(ICACC-S2-002-2025) Suspension plasma sprayed ytterbium disilicate coatings: Phase stability and microstructural evolution in extreme environments**E. B. Owusu^{*2}; A. R. Romero²; A. Lynam²; B. Zhang²; O. Gavalda-Diaz¹; T. Hussain²

1. Imperial College London, United Kingdom
2. University of Nottingham, United Kingdom

2:20 PM**(ICACC-S2-003-2025) Evaluation of Co-Substitution of Y₂Si₂O₇ for Tailoring Thermal Expansion and Phase Stability for Environmental Barrier Coatings**C. Brockman^{*3}; J. L. Stokes¹; R. I. Webster¹; A. S. Almansour²; P. Sarin³

1. NASA Glenn Research Center, Environmental Effects and Coatings Branch, USA
2. NASA Glenn Research Center, Ceramic and Polymer Composites Branch, USA
3. Oklahoma State University, Materials Science and Engineering, USA

2:40 PM**Break****S2- Environmental Barrier Coatings II**

Room: Coquina C

Session Chair: Douglas Wolfe, Pennsylvania State University

3:20 PM**(ICACC-S2-005-2025) Environmental Barrier Coating Processing with the Plasma Spray- Physical Vapor Deposition (PS-PVD) Facility at NASA Glenn Research Center**B. J. Harder^{*1}; L. C. Hoffman¹; J. R. Colmenares²

1. NASA Glenn Research Center, Environmental Effects and Coatings, USA
2. Berkshire Community College, Engineering, USA

3:40 PM**(ICACC-S2-006-2025) The Effect of Testing Parameters on Degradation Mechanisms for Environmental Barrier Coatings**B. Kowalski^{*1}; J. L. Stokes¹

1. NASA Glenn Research Center, Environmental Effects and Coatings Branch, USA

4:00 PM**(ICACC-S2-007-2025) Synergistic effects of coating variables on the steam oxidation of modified silicon/ytterbium disilicate environmental barrier coatings**K. Lee^{*1}; J. Stuckner¹; A. Garg¹; R. I. Webster¹; L. Wilson¹

1. NASA Glenn Research Center, USA

4:20 PM**(ICACC-S2-008-2025) SiO₂ activity measurements in the Gd₂O₃-SiO₂ system via Knudsen Effusion Mass Spectrometry (KEMS)**R. I. Webster^{*1}; B. Kowalski¹; N. Jacobson²

1. NASA Glenn Research Center, USA
2. HX5 Sierra, LLC, USA

S3 22th Intl Symp on Solid Oxide Cells Materials Science & Technology**S3- System design and demonstration**

Room: Ballroom 4

Session Chair: Scott Barnett, Northwestern University

1:30 PM**(ICACC-S3-001-2025) Status and progress of SOE development in EU (Invited)**M. Kusnezoff^{*1}; S. Megel¹; N. Trofimenko¹; S. Mosch¹; S. Rothe¹; A. Michaelis¹

1. Fraunhofer IKTS, Germany

2:00 PM**(ICACC-S3-002-2025) Zero-Electricity Electrolytic Solid Oxide Cells for Industrial Decarbonization and H₂ Generation (Invited)**B. Blackburn^{*1}

1. Utility Global, USA

2:30 PM**(ICACC-S3-003-2025) Recent Developments on Hydrogen Production Using Solid Oxide Electrolysis at GENVIA (Invited)**F. Monaco^{*1}; R. Tchakaiov¹; M. Delgado¹; J. Poncelet¹; M. Dessinges¹; P. Tochon²

1. Genvia SAS, R&D Technological Group, France
2. Genvia SAS, R&D, France

3:00 PM**Break****S3- Electrolysis and applications I**

Room: Ballroom 4

Session Chair: Mihails Kusnezoff, Fraunhofer IKTS

3:20 PM**(ICACC-S3-004-2025) Commercialising large scale SOEC for Power-to-X applications (Invited)**S. D. Ebbesen^{*1}; P. Blennow²; A. Mai¹; M. Hultqvist¹; P. Moses¹

1. Topsoe, Power to X, Denmark
2. Topsoe A/S, Denmark

3:50 PM**(ICACC-S3-005-2025) Dynamic Response Evaluation of Grid-integrated High Temperature Steam Electrolysis for Grid Support (Invited)**T. O. Olowu^{*1}; J. L. Hartvigsen¹; A. Shigrekar¹; J. W. Lambrechtsen¹; M. J. Casteel¹

1. Idaho National Laboratory Research Library, Hydrogen and Thermal Systems, USA

4:20 PM**(ICACC-S3-007-2025) Hydrogen Production at intermediate Temperatures and Protonic Ceramic Cells (Invited)**R. Costa^{*1}

1. German Aerospace Center, DLR, Institute of Engineering Thermodynamics, Germany

S6 Advanced Materials and Technologies for Rechargeable Energy Storage

S6- All-solid-state batteries I

Room: Coquina B

Session Chairs: Palani Balaya, National University of Singapore;
Valerie Pralong, CNRS ENSICAEN

1:30 PM

(ICACC-S6-003-2025) Toward high-energy lithium/sodium metal batteries with highly concentrated electrolytes (Invited)

Y. Ugata^{*1}; N. Yabuuchi¹

1. Yokohama National University, Japan

2:00 PM

(ICACC-S6-021-2025) Towards the design of Li-metal solid polymer batteries and advances in battery technology in Singapore (Invited)

D. Fam^{*1}; N. Ding¹; S. Goh¹; D. Safanama¹

1. Institute of Materials Research and Engineering, Singapore

2:30 PM

(ICACC-S6-001-2025) Achieving Extreme High Ion-Current Densities in Tailored Materials, Structures, and Interfaces (Invited)

E. D. Wachsman^{*1}

1. University of Maryland, USA

3:00 PM

Break

S6- All-solid-state batteries II

Room: Coquina B

Session Chairs: Valerie Pralong, CNRS ENSICAEN;
Mahalingam Balasubramanian, Oak Ridge National Lab

3:20 PM

(ICACC-S6-004-2025) Next Generation Batteries for Electric Aviation and Space (Invited)

D. Dornbusch^{*1}; Y. Lin²; W. H. Huddleston¹; V. Yamakov²; R. P. Viggiano¹

1. NASA Glenn Research Center, Materials, Chemistry, and Physics Branch, USA
2. NASA Langley Research Center, USA

3:50 PM

(ICACC-S6-005-2025) Three-Dimensionally Interconnected Polymer/Ceramic Composite Polymer Electrolytes for Solid-State Batteries (Invited)

R. Sahore^{*1}; K. Owensby¹; B. L. Armstrong¹; J. Ock¹; A. Ullman¹; S. Kalnaus²; X. C. Chen¹

1. Oak Ridge National Laboratory Physical Sciences Directorate, USA
2. Oak Ridge National Laboratory Computing and Computational Sciences Directorate, USA

4:20 PM

(ICACC-S6-006-2025) Lithium Metal and Alloy Anodes for Solid-State Batteries (Invited)

M. McDowell^{*1}

1. Georgia Institute of Technology, USA

4:50 PM

(ICACC-S6-007-2025) Addressing Interfacial Challenges in Liquid and Solid-State Symmetric Na-ion Cells

P. Balaya^{*1}; S. Dwivedi¹; S. Vasudevan¹

1. National University of Singapore, Department of Mechanical Engineering, Singapore

5:10 PM

(ICACC-S6-008-2025) Microstructure based modelling ceramic composite cathodes for all-solid-state lithium-ion batteries

F. Al-Jalouli^{*1}; O. Guillon¹; R. Muecke¹; P. Kaghazchi¹; C. Roitzheim¹; Y. Sohn¹; M. Finsterbusch¹

1. Forschungszentrum Jülich, IMD-2, Germany

S7 19th Intl Symp on Functional Nanomaterials & Thin Films for Sustainable Energy Harvesting

S7- Nanomaterials for energy conversion, storage and catalysis-I

Room: Flagler C

Session Chair: Muhammet Toprak, KTH Royal Institute of Technology

1:30 PM

(ICACC-S7-001-2025) Functional 2D material thin films for sustainable energy application (Invited)

V. Brune^{*1}; T. Fischer²; S. Mathur²

1. University of Cologne, Chemistry, Germany
2. University of Cologne, Institute of Inorganic Chemistry, Germany

2:00 PM

(ICACC-S7-002-2025) Nano-materials for Green Energy:- A Sustainable Approach

M. Kaur^{*1}

1. Guru Kashi University, Agriculture, India

2:20 PM

(ICACC-S7-003-2025) Photoluminescence and Raman studies of rare earth doped ZnO nanoparticles

S. karidas¹; V. Priya¹; G. Sriramulu¹; K. Kumari^{*1}

1. Osmania University, PHYSICS, India

2:40 PM

(ICACC-S7-004-2025) Designing Efficient Bifunctional Photocatalysts: Insights from Two-Dimensional Noble-Metal Chalcogenides for Water Splitting

M. Boujnah^{*1}; M. Cruz Jáuregui³; J. Muñiz Soria²; J. Muñoz Saldaña¹

1. Centro de Investigación y de Estudios Avanzados Unidad Queretaro, Mexico
2. Universidad Nacional Autónoma de México Instituto de Energías Renovables, Mexico
3. Centro de Nanociencias y Nanotecnología (CNyN), Universidad Nacional Autónoma de México (UNAM), Mexico

S7- Nanomaterials for thermoelectrics, photocatalysis, electrocatalysis, and solar hydrogen

Room: Flagler C

Session Chair: Andreu Cabot, Catalonia Institute for Energy Research

3:00 PM

Break

3:20 PM

(ICACC-S7-005-2025) Green Chemical Syntheses, Processing and Characterization of Nanostructured Thermoelectric Materials (Invited)

M. S. Toprak^{*1}

1. KTH Royal Institute of Technology, Dept. of Applied Physics, Sweden

3:50 PM

(ICACC-S7-006-2025) From Materials Synthesis through Green-Chemistry to Thermoelectric Device Engineering: A Multifaceted Approach for TEGs Development (Invited)

B. Hamawandi¹; J. F. Serrano Claumarchirant^{*1}; A. B. Ergül¹; M. S. Toprak¹

1. Kungliga Tekniska Hogskolan, Applied Physics, Sweden

4:20 PM

(ICACC-S7-007-2025) Thermoelectric Performance Improvement in Hybrid Thermoelectric Materials via Magneto-Ordering Engineering (Invited)

S. Ballikaya^{*1}; E. Yetimoglu¹; N. Özer¹; A. Yusuf¹; M. Boroglu¹; I. Boz²

1. Istanbul Universitesi-Cerrahpasa, Engineering Sciences, Turkey
2. Bandirma Onyedi Eylul Universitesi, Turkey

4:50 PM

(ICACC-S7-008-2025) Enhancing Wearable Device Autonomy Using Hybrid Thermoelectric and Piezoelectric Energy Harvesters (Invited)

A. Yusuf^{*1}; S. Ballikaya¹; A. Yigit¹; M. Yilmaz¹

1. Istanbul Universitesi-Cerrahpasa, Engineering Sciences, Turkey

S8 19th Intl Symp on APMT for Structural & Multifunctional Materials & Systems

S8- Microwave processing, SPS, flash sintering, high pressure assisted sintering, I

Room: Flagler A

Session Chairs: Wei Ji, Wuhan University of Technology; Gideon Grader, Technion - Israel Institute of Technology

1:30 PM

(ICACC-S8-001-2025) Synchrotron X-ray multiscale observation of heterogeneous microstructures and defects in ceramics during sintering (Invited)

G. Okuma^{*1}

1. Busshitsu Zairyo Kenkyu Kiko, Japan

2:00 PM

(ICACC-S8-002-2025) Spark plasma sintering, microstructure and mechanical properties of Y-Ti-O ceramics (Invited)

L. He^{*1}; E. Hershkowitz²; T. Yoo²; H. Kim²; X. Pu³; K. Bawane⁴; F. G. Di Lemma⁴; T. Nakayama⁵; H. Suematsu⁵

1. North Carolina State University, Nuclear Engineering, USA
2. University of Florida, Materials Science and Engineering, USA
3. National Renewable Energy Laboratory, USA
4. Idaho National Lab, Characterization, USA
5. Nagaoka University of Technology, Japan

S8- Microwave processing, SPS, flash sintering, high pressure assisted sintering, II

Room: Flagler A

Session Chairs: Lingfeng He, North Carolina State University; Narsingh Singh, University of Maryland Baltimore County

2:30 PM

(ICACC-S8-003-2025) High pressure sintering of ultra-high temperature ceramics (Invited)

W. Ji^{*1}

1. Wuhan University of Technology, China

3:00 PM

Break

3:20 PM

(ICACC-S8-004-2025) Highly Textured Thermoelectric Materials by SPS Treatment of Electrospun Nanoribbons (Invited)

G. Grader^{*1}; I. Maor¹; A. Karlin¹; K. Kruppa²; M. Mann-Lahav¹; G. E. Shter¹; A. Feldhoff²

1. Technion - Israel Institute of Technology, Chemical Engineering, Israel
2. Leibniz Universität Hannover, Germany
3. Leibniz University Hannover, Institute of Physical Chemistry and Electrochemistry, Germany

3:50 PM

(ICACC-S8-005-2025) Spark plasma sintered B₄C-SiC composites: Effect of sintering additives on mechanical and wear properties (Invited)

S. Jamale¹; B. Kumar^{*1}

1. Indian Institute of Technology Roorkee, Metallurgical and Materials Engineering, India

4:20 PM

(ICACC-S8-006-2025) Enhancement of plastic deformability in ceramics by introducing refined fibrous eutectic microstructure

Y. Aoki^{*1}; H. Masuda¹; E. Tochigi²; H. Yoshida¹

1. Tokyo Daigaku Daigakuin Kogakuei Kenkyuka Kogakubu, Department of Materials Science and Engineering, Japan
2. Tokyo Daigaku Daigakuin Kogakuei Kenkyuka Kogakubu, Institute of Industrial Science, Japan

4:40 PM

(ICACC-S8-008-2025) Finite Element Modelling of zirconium nitride flash sintering

R. Sabroji^{*1}; A. Durygin²; Z. Cheng¹

1. Colorado State University, School of Materials Science and Engineering, USA
2. Florida International University, Mechanical and Materials Engineering, USA

S9 Porous Ceramics Novel Developments and Applications

S9- Porous Ceramics- Novel Developments and Applications

Room: Ballroom 1-2

Session Chairs: Tobias Fey, Friedrich-Alexander University Erlangen-Nürnberg; Benoit Nait-Ali, Université de Limoges

1:30 PM

(ICACC-S9-001-2025) Study of Preparation and Performance of Porous/Dense Silicon Nitride Composite Structure for Hip Joint (Invited)

J. Yang^{*1}; F. Li¹

1. Xi'an Jiaotong University, China

2:00 PM

(ICACC-S9-002-2025) Design and Development of Biomass-based Foams for Multifunctional Applications

J. Zhang¹; S. Gupta^{*1}

1. University of North Dakota, Mechanical Engineering, USA

2:20 PM

(ICACC-S9-003-2025) In-situ formation of the microporosity of polymer-derived ceramics to stimulate superior OER activity of confined non-noble metal nanoparticles

S. Bernard^{*1}

1. CNRS, IRCER, France

2:40 PM

Break

S9- Porous Ceramics- Novel Developments and Applications

Room: Ballroom 1-2

Session Chairs: Swantje Funk, Friedrich-Alexander-Universität Erlangen-Nürnberg; Michelle Weichelt, Friedrich-Alexander-Universität Erlangen-Nürnberg

3:20 PM

(ICACC-S9-004-2025) 2D-material engineered porous architectures for functional applications (Invited)

V. Brune^{*1}; T. Fischer¹; S. Mathur¹

1. University of Cologne, Institute of Inorganic Chemistry, Germany

3:50 PM

(ICACC-S9-005-2025) Fabrication of calcium phosphate-based composite porous scaffolds with unidirectional oriented pores using freeze-drying method

Y. Zusho^{*1}; S. Kobayashi²; T. Yokozeki¹

1. Tokyo Daigaku, Department of Aeronautics and Astronautics, Japan
2. Tokyo Metropolitan University, Mechanical Engineering, Japan

4:10 PM

(ICACC-S9-006-2025) Optimization of Granulation for Improved Ceramic-Microsphere Composites Using Bio-Based Binders for Diverse Applications

A. De¹; M. Jonsson²; F. Akhtar^{*1}

1. Lulea University of Technology, Division of Materials Science, Sweden
2. Nouryon Pulp and Performance AB, Sweden

4:30 PM

(ICACC-S9-007-2025) Automating the Future: High-Throughput Production of Porous Alumina Ceramics

E. Wolf¹; K. G. Webber²; T. Fey^{*1}

1. Friedrich-Alexander University Erlangen-Nürnberg, Department Material Science and Engineering, Germany

4:50 PM

(ICACC-S9-008-2025) Thermal conductivity of porous ceramics: role of microstructure and environmental conditions (Invited)

B. Nait-Ali^{*1}; A. Alzina¹; J. Bourret¹; D. S. Smith¹

1. Université de Limoges, IRCER, France

S12 Design and Applications of Nanolaminated MAX and MAB Phases Solid Solutions and 2D Counterparts

S12- On the Design of nanolaminated ternary transition metal carbides/nitrides (Max Phases) and Borides (MAB Phases), Solid Solutions thereof and 2D Counterparts

Room: Ponce de Leon

Session Chair: Babak Anasori, Purdue University

1:30 PM

(ICACC-S12-001-2025) Beyond MXenes: Quantum Confined 1D Titania-based Nanomaterials, Their Diverse Morphologies and Exceptional (Invited)

M. Barsoum^{*1}

1. Drexel University, Materials Science and Engineering, USA

2:00 PM

(ICACC-S12-002-2025) Complex magnetism of bulk MAX phases (Invited)

C. Birkel^{*1}; N. Kubitz²; S. Kale¹

1. Arizona State University, USA
2. Technical University Darmstadt, Eduard-Zintl-Institute, Germany

2:30 PM

(ICACC-S12-003-2025) Processing of chemically complex MAX phases and their 2D derivatives (MXenes) (Invited)

N. Goossens^{*1}; K. Lambrinou²; J. Vleugels³

1. Empa, High Performance Ceramics, Switzerland
2. University of Huddersfield, School of Computing and Engineering, United Kingdom
3. Katholieke Universiteit Leuven Departement Materiaalkunde, Belgium

S12- On the Design of nanolaminated ternary transition metal carbides/nitrides (Max Phases) and Borides (MAB Phases), Solid Solutions thereof and 2D Counterparts

Room: Ponce de Leon

Session Chairs: Babak Anasori, Purdue University; Thierry Cabioch, University of Poitiers

3:00 PM

Break

3:20 PM

(ICACC-S12-004-2025) Synthesis and characterization of ternary nanolaminated Carbide: $Ti_2NbAlC_{1.82}$ and $TiNbAlC_{0.91}$ (Invited)

S. Dubois^{*1}; T. Cabioch¹; V. Gauthier¹; P. Chartier¹

1. PPRIME Institute, France

3:50 PM

(ICACC-S12-005-2025) Stability and Properties of MAX Phases with Compositionally Complex M-layers

M. Dujovic^{*1}; Z. Tan¹; A. Srivastava²; M. Radovic¹

1. Texas A&M University, Materials Science and Engineering (MSEN), USA
2. Texas A&M University, USA

4:10 PM

(ICACC-S12-006-2025) Synthesis of Ti-Si-C MAX-based materials via advanced reactive PVD techniques

A. Gitschthaler²; P. Doerflinger²; R. Hahn²; T. Wojcik²; J. Ramm³; C. Jerg³; S. Kolozsvári⁴; P. Polcik⁴; E. Ntemou⁵; D. Primetzhofer⁵; H. Riedl^{*1}

1. Technische Universität Wien, Institute of Materials Science and Technology, Austria
2. Technische Universität Wien, Christian Doppler Laboratory for Surface Engineering of high-performance Components, Austria
3. Oerlikon Surface Solutions AG, Switzerland
4. Plansee Composite Materials GmbH, Germany
5. Uppsala Universitet, Department of Physics and Astronomy, Sweden

4:30 PM

(ICACC-S12-007-2025) Super-MAX: On the Journey Towards Triple-site Solid-solutions of MAX Phases

I. Huck^{*1}; C. Birkel²

1. Technische Universität Darmstadt, Chemistry, Germany
2. Arizona State University, USA

4:50 PM

(ICACC-S12-008-2025) Impact of MAX-Phases on fibre materials for electro-chemical cells

F. Jung^{*1}; M. Mazurkiewicz-Pawlicka²; L. Aretz³

1. RWTH Aachen University, Institut für Textiltechnik, Germany
2. Politechnika Warszawska, Faculty of Chemical and Process Engineering, Poland
3. GHI RWTH Aachen University, Germany

S14 Crystalline Materials for Electrical Optical and Medical Applications

S14- Optical Material I

Room: Coquina A

Session Chairs: Luisa Bausa, Universidad Autonoma de Madrid; Kiyoshi Shimamura, National Institute for Materials Science

1:30 PM

(ICACC-S14-001-2025) Lasing behavior of non-cubic fluorapatite (FAP) ceramics with nanocrystalline grains (Invited)

H. Furuse^{*1}; K. Takimoto²; S. Nakamura³; H. Sone²

1. National Institute for Materials Science (NIMS), Japan
2. Kitami Institute of Technology, Japan
3. Ibaraki University, Japan

2:00 PM

(ICACC-S14-002-2025) Self Q-Switched Transparent Ceramic Laser Rods

R. Osborne^{*1}; N. Cherepy²; A. Drobshoff¹; S. A. Payne¹

1. Lawrence Livermore National Laboratory, USA
2. Lawrence Livermore National Lab, Chemistry and Materials Science, USA

2:20 PM

(ICACC-S14-003-2025) Development of Flexible Ceramics Films on Plastics Using Photo-Reaction Processes

T. Tsuchiya^{*1}

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

2:40 PM

(ICACC-S14-004-2025) Prevention of Carbon Contamination in Yttria Sintered via SPS

J. Gild^{*1}; L. Backman²; A. R. Floyd¹; B. Sadowski³; W. Kim¹; S. Bayya¹; J. Sanghera¹

1. US Naval Research Laboratory, Optical Materials, USA
2. US Naval Research Laboratory, Spacecraft Engineering Division, USA
3. Jacobs Engineering, USA

3:00 PM

Break

3:20 PM

(ICACC-S14-005-2025) Nonlinear Optical Properties of 2D-Ferroelectric Heterostructures (Invited)

M. Ramirez^{*1}; D. Hernández-Pinilla¹; G. Lopez-Polin¹; J. Gomez-Herrero¹; L. E. Bausa¹

1. Universidad Autonoma de Madrid, Física de Materiales & IFIMAC, Spain

3:50 PM

(ICACC-S14-006-2025) Integration of Ferroelectrics and 2D Materials for Nanophotonics (Invited)

L. E. Bausa^{*1}; J. Fernandez Martinez²; D. Hernández-Pinilla²; D. Gallego²; P. Molina²; P. Ares²; J. Gomez-Herrero²; M. Ramirez¹

1. Universidad Autonoma de Madrid, Física de Materiales & IFIMAC, Spain
2. Universidad Autonoma de Madrid, Física de la Materia Condensada & IFIMAC, Spain

4:20 PM

(ICACC-S14-007-2025) New Applications of Ceramic Phosphor Materials in LEDs and Lasers (Invited)

H. Menkara^{*1}

1. PhosphorTech, USA

4:50 PM

(ICACC-S14-008-2025) Low temperature synthesis of perovskite-QD materials using Novel Water-Assisted Solid-State Reaction method (Invited)

K. Toda^{*1}; W. Hikita¹

1. Niigata University, Japan

S18 Ultra-High Temperature Ceramics

S18- Compositionally Complex UHTCs I

Room: Coquina F

Session Chairs: Stefano Curtarolo, Duke University; Laura Silvestroni, Consiglio Nazionale delle Ricerche

1:30 PM

(ICACC-S18-001-2025) From BIG-data to HOT-properties of high-entropy carbides and carbo-nitrides (Invited)

S. Curtarolo^{*1}

1. Duke University, Materials Science, Electrical Engineering and Physics, USA

2:00 PM

(ICACC-S18-002-2025) Strength of grain boundaries in (Ti-Zr-Nb-Hf-Ta)C + (Ti-Zr-Nb-Hf-Ta)B₂ high-entropy ceramics (Invited) **WITHDRAWN**

A. Naughton Duszova^{*1}; M. Vojtko¹; D. Medved¹; O. Petruš¹; M. Hrubovčáková¹; P. Švec²; P. Hvizdoš¹; J. Duszka¹

1. Institute of Materials Research, Slovak Academy of Sciences, Slovakia
2. Institute of Physics, Slovak Academy of Sciences, Dúbravská cesta 9, 845 11 Bratislava, Slovakia, Slovakia

2:30 PM

(ICACC-S18-003-2025) Nb-Zr interdiffusion in a (Nb,Hf,Ta,Ti)B₂-(Zr,Hf,Ta,Ti)B₂ high-entropy boride system

A. Feltrin^{*1}; D. Lipke²; G. Hilmas²; W. Fahrenholtz¹

1. Missouri University of Science and Technology, Materials Research Center, USA
2. Missouri University of Science & Technology, Materials Science & Engineering, USA

2:50 PM

(ICACC-S18-004-2025) Selective laser sintering and spark plasma sintering of compositionally complex carbide ceramics

B. Cui^{*1}; L. Trinh¹; X. Chen¹; L. Wadle¹; Y. Lu¹; Z. Hua²; K. Bawane²; L. Malakka²; L. He³

1. University of Nebraska-Lincoln, USA
2. Idaho National Laboratory, USA
3. NC State University, USA

3:10 PM

Break

3:30 PM

(ICACC-S18-005-2025) Aero-thermodynamic behavior of compositionally complex UHTCs in hypersonic/supersonic flows (Invited)

L. Silvestroni^{*1}; D. De Prisco²; R. Costanzo²; A. Cecere²; S. Mungiguerra²; R. Savino²

1. Consiglio Nazionale delle Ricerche, ISSMC, Italy
2. University of Naples Federico II, Department of Industrial Engineering, Italy

4:00 PM

(ICACC-S18-006-2025) Synthesis and Characterization of (CrMoTaVW)C_{1+δ} High-Entropy Carbide Ceramic

A. Sarikhani^{*1}; S. M. Smith²; S. Filipovic¹; W. Fahrenholtz²; G. Hilmas²

1. Missouri University of Science and Technology, Materials Research Center, USA
2. Missouri University of Science & Technology, Materials Science and Engineering, USA

4:20 PM

(ICACC-S18-007-2025) Arc melting of the Ti-Zr-Hf-Ta family of complex UHTC borides and carbides

A. Celik^{*1}; R. Haber¹

1. Rutgers University, Materials Science and Engineering, USA

4:40 PM

(ICACC-S18-008-2025) Low Temperature Synthesis of High-Entropy Carbonitrides

S. M. Smith^{*1}; W. Fahrenholtz²; G. Hilmas¹; S. Curtarolo²

1. Missouri University of Science & Technology, Materials Science and Engineering, USA
2. Duke University, Materials Science, Electrical Engineering and Physics, USA

5:00 PM

(ICACC-S18-009-2025) Phase evolution of SiC-based ceramics derived from medium-entropy MXenes-modified polycarbosilane

W. Li^{*1}; K. Lu¹

1. University of Alabama at Birmingham, USA

S19 Molecular-level Processing and Chemical Engineering of Functional Materials

S19- Processing and shaping of molecular precursors I

Room: Ballroom 3

Session Chair: Peter Kroll, University of Texas, Arlington

1:30 PM

(ICACC-S19-001-2025) Additive manufacturing of ceramics via sol-gel (Invited)

A. Zanini¹; G. Franchin¹; P. Colombo^{*1}

1. University of Padova, Industrial Engineering, Italy

2:00 PM

(ICACC-S19-002-2025) Design of Novel 3D-Printed SiOC Ceramics as Promising Heterogeneous Catalysts

C. Youssef^{*2}; M. Obeid¹; A. Bayout¹; M. Nakh¹; D. VOIRY¹; C. Salameh¹; M. Zakhour²

1. Université Montpellier Faculté des Sciences de Montpellier, France
2. Université Libanaise, Lebanon

2:20 PM

(ICACC-S19-003-2025) Scratch resistant lamellar zinc corrosion protection coating system using polymer derived ceramics (PDC)

J. Wendel^{*1}; S. Schafföner¹; G. Motz¹

1. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany

2:40 PM

(ICACC-S19-004-2025) Processing and characterization of 3D-printed SiOC(N) ceramic via polymer derived ceramics route for biomedical and high temperature application

R. Chaudhary^{*1}; F. Agostinacchio¹; A. Motta¹; G. D. Soraru¹

1. Università degli Studi di Trento, Department of Industrial Engineering, Italy

S19- Processing and shaping of molecular precursors II

Room: Ballroom 3

Session Chairs: Jenny Jouin, Institut de Recherche sur les Ceramiques; Paolo Colombo, University of Padova

3:00 PM

Break

3:20 PM

(ICACC-S19-005-2025) 3D-Printed Catalytic Monoliths via Polymer-Derived Ceramics and Stereolithography for Enhanced Heterogeneous Catalysis (Invited)

C. Salameh^{*1}

1. Institut Européen des Membranes, France

3:50 PM

(ICACC-S19-006-2025) Insights into Preceramic Polymer-Based Additive Manufacturing Inks via Rheological and Scattering Studies of Preceramic Polymer Grafted Nanoparticles

G. Germanton^{*1}; K. L. Martin²; A. Hossain¹; N. D. Posey²; J. Ponder²; C. Ramirez²; P. Gnanasekar¹; L. Wiegart⁴; P. Polisetty¹; D. Hallinan¹; M. B. Dickerson³; S. Ramakrishnan¹

1. Florida State University, FAMU-FSU COLLEGE OF ENGINEERING, USA
2. Air Force Research Lab, USA
3. Air Force Research Laboratory, Materials and Manufacturing Directorate, USA
4. Brookhaven National Laboratory, USA

4:10 PM

(ICACC-S19-007-2025) Chemical and Kinetic Analysis of a Hybrid Siloxane Gel and its Thermal Decomposition Products by Combining Thermogravimetry and Mass Spectrometry

R. Campostrini¹; G. Guella²; P. Kroll^{*4}; M. Grigante³

1. Università degli Studi di Trento, Department of Industrial Engineering, Italy
2. Università degli Studi di Trento, Department of Physics, Italy
3. Università degli Studi di Trento, Department of Civil Environmental and Mechanical Engineering, Italy
4. The University of Texas at Arlington, Department of Chemistry and Biochemistry, USA

4:30 PM

(ICACC-S19-008-2025) Hydration layer formation by electric double layer of fine bubbles in CMP process

S. Suda^{*1}; S. Mochizuki¹; A. Tsunoda¹; M. Hase²; S. Soeya²

1. Shizuoka University, Engineering, Japan
2. National Institute for Materials Science, Japan

4:50 PM

(ICACC-S19-009-2025) Polymer-derived porous ceramics and polymeric membranes prepared via Pickering emulsions (Invited)

P. Miele^{*1}

1. Ecole Nationale Supérieure de Chimie de Montpellier, France

5:20 PM

(ICACC-S19-010-2025) Straightforward design of 3D polymer-derived ceramic architectures by extrusion-based 3D printing technology

S. Bernard^{*1}

1. CNRS, IRCER, France

Tuesday, January 28, 2025

14th Global Young Investigator Forum

GYIF- Life Cycle Assessment (LCA) of Ceramic and Composite Products

Room: Coquina G

Session Chairs: Yinsheng Guo, University of Nebraska-Lincoln; Bai Cui, University of Nebraska-Lincoln

8:30 AM

(ICACC-GYIF-008-2025) Mechanistic Understanding of Materials Corrosion Degradation in Nuclear Reactor Environments (Invited)

J. Xi^{*1}; N. Dailey¹; W. Leng¹; Y. Xu¹

1. University of Illinois Urbana-Champaign, Nuclear, Plasma & Radiological Engineering, USA

9:00 AM

(ICACC-GYIF-009-2025) Life-cycle assessment of 2D transition metal carbides (MXenes), and their use as functional additives in ceramics and electrocatalytic applications (Invited)

S. Nemani^{*2}; M. Firouzjaei³; A. Thakur¹; M. Elliot³; B. Anasori²

1. Indiana University-Purdue University, Mechanical Engineering, USA
2. Purdue University, Mechanical Engineering, USA
3. University of Alabama, Civil Engineering, USA

9:30 AM

(ICACC-GYIF-010-2025) Non-destructive Evaluation of Metallized Silicon Nitride Substrate under Thermal Cyclic Test by Digital Image Correlation (Invited)

M. Ngo^{*1}; H. Miyazaki¹; T. Ohji¹; M. Fukushima¹

1. National Institute of Advanced Industrial Science and Technology (AIST), Multi-material Research Institute, Japan

10:00 AM

Break

GYIF-Sustainable Materials Development

Room: Coquina G

Session Chairs: Daniel Oropeza, University of California at Santa Barbara; Fiona Spirrett, Osaka University

10:20 AM**(ICACC-GYIF-011-2025) Development of Sustainable Composites and Manufacturing Technology for Future Air Mobility (Invited)**S. Chu*¹; C. Wohl¹; C. Park¹; V. L. Wiesner¹; S. Miller¹; J. R. Webster¹; D. Burns¹; S. Johnson¹; E. Frankforter¹; S. Miller²; M. Ranaivavandri¹; S. Malakooti²; D. Rinehart³; L. Abbott³; A. Santos³

1. NASA Langley Research Center, USA
2. NASA Glenn Research Center, USA
3. NASA Ames Research Center, USA

10:50 AM**(ICACC-GYIF-012-2025) Sustainable Ceramic Matrix Composites development: A Life Cycle and Multi-Criteria Analysis Approach (Invited)**A. Schneller*¹; D. Koch¹; T. Langmann¹; S. Bittmann¹

1. University of Augsburg, Institute for Materials Resource Management, Germany

11:20 AM**(ICACC-GYIF-013-2025) Carbon fiber recycling: methods and products**S. De La Pierre*¹; M. Ferraris¹

1. Politecnico di Torino, DISAT, Italy

11:40 AM**(ICACC-GYIF-014-2025) C/C-SiC fabrication based on an alternative thermoplastic carbon precursor**M. Moos*¹; N. Langhof¹; S. Schafföner¹

1. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany

FS6 Innovative material processing for diverse resource circulation loops**FS 6- Recovery of critical/valuable materials from exhausted complex products**

Room: Ballroom 5

Session Chair: Hidehiro Kamiya, Tokyo University of Agriculture and Technology

8:30 AM**(ICACC-FS6010-2025) PV Panel Recycling and Resource Recycling Society (Invited)**D. Moriya¹; M. Iwasaki*¹

1. Shinryo Corporation, Japan

9:00 AM**(ICACC-FS6011-2025) Photovoltaic Panel recycle technology with low temperature decomposition (Invited)**T. Yamashita*¹

1. Kabushiki Kaisha Tokuyama Tokuyama Seizoshu, Eco-Business Development, Japan

FS 6- Advanced powder processing both for carbon net zero and circular economy

Room: Ballroom 5

Session Chair: Hidehiro Kamiya, Tokyo University of Agriculture and Technology

9:30 AM**(ICACC-FS6012-2025) Photocurable Suspension Design Toward 3D Structuring and Disassembling Process of Ceramic Green Bodies (Invited)**M. Iijima*¹; Y. Hiroshige¹; J. Tatami¹

1. Yokohama National University, Japan

10:00 AM**Break****FS 6- Innovative material processing for diverse resource circulation loops II**

Room: Ballroom 5

Session Chair: Motoyuki Iijima, Yokohama National University

10:20 AM**(ICACC-FS6014-2025) Nanoparticles dispersion and aggregation behavior control for easily degradable adhesion under electrical pulse stimulation (Invited)**H. Kamiya*¹; Y. Okada³; M. Kubo²; K. Matsuo¹; M. Inutsuka¹; T. Koita¹; A. Narita¹; C. Tokoro¹

1. Waseda University, Japan
2. Tohoku University, Japan
3. Tokyo University of Agriculture and Technology, Japan

10:50 AM**(ICACC-FS6015-2025) Controlled debonding of epoxy adhesives with conductive spots by pulsed discharge**K. Matsuo*¹; T. Koita¹; M. Inutsuka¹; K. Ota²; T. Honda²; R. Ogawa²; C. Tokoro³

1. Waseda Daigaku Riko Gakujutsuin, Japan
2. Kabushiki Kaisha Adeka Ogu Chuo Kaihatsu Kenkyujo, Japan
3. Waseda University, Japan

11:10 AM**Poster Preview Pitch- Closing the loop in recycling: Car2Car****S1 Mechanical Behavior and Performance of Ceramics & Composites****S1- Ceramics for Concentrated Solar-Thermal Power and Industrial Process Heat I**

Room: Coquina E

Session Chairs: Dileep Singh, Argonne National Lab; Farhad Mohammadi, Ceramic Tubular Products, LLC

8:30 AM**(ICACC-S1-011-2025) Opportunities for Ceramics Material Research and Development (R&D) for Concentrating Solar-Thermal Technologies (Invited)**K. C. Raghavan*¹

1. Department of Energy, USA

9:00 AM**(ICACC-S1-012-2025) Design, Fabrication and On-Sun Performance Evaluation of Additively Manufactured SiC Receiver Components for CSP/CST Applications (Invited)**R. Sarrafi-Nour*²; J. Shiang²; A. Kebbede²; D. Dunn¹; H. McGuigan²; W. Costakis²

1. GE Aerospace, USA
2. GE Aerospace Research, USA

9:30 AM**(ICACC-S1-013-2025) Topology Optimization, Additive Manufacturing and Experimental Testing of Particle Heat Exchangers**X. Qian*¹; M. Niemiec¹; L. Bakke¹; X. Yu¹; K. Troyer¹; J. Wu¹; M. Wagner¹; D. Negrut¹; G. Nellis¹; M. Anderson¹

1. University of Wisconsin-Madison, Mechanical Engineering, USA

9:50 AM**(ICACC-S1-014-2025) Microstructure and Mechanical properties of diffusion bonded Ti₃SiC₂ MAX Phase composites**S. Bajpai*¹; D. Singh²

1. Argonne National Laboratory, Applied Materials Division, USA
2. Argonne National Lab, USA

10:10 AM**Break****10:30 AM****(ICACC-S1-015-2025) Experimental and Numerical Modeling study of Brittle to Ductile Transition in Ti₃SiC₂ MAX Phase material**P. S. Chaugule*¹; S. Bhatt¹; B. Bandyopadhyay¹; S. Ghosh¹; M. C. Messner¹; D. Singh¹

1. Argonne National Laboratory, USA

10:50 AM

(ICACC-S1-016-2025) Characterizations of Scalable, Infiltration-Free ceramic matrix composite

J. Wei^{*}; A. Thukral¹; K. Bhattacharyya¹; G. Iftime¹; R. Pandey¹

1. SRI, Future Concept, USA

11:10 AM

(ICACC-S1-017-2025) Impact of Scalable, Infiltration-Free ceramic matrix composite (SIFCMC) on concentrated solar receiver

J. Wei^{*}; J. Martinek²; A. Couet³; S. Jagadeesh³; G. Iftime¹

1. SRI, Future Concept, USA
2. National Renewable Energy Laboratory, USA
3. University of Wisconsin-Madison, USA

11:30 AM

(ICACC-S1-018-2025) Rapid printing of 3-D ceramic materials using microwave volumetric additive manufacturing

S. Mukherjee¹; E. Rosenberg¹; J. Vandenbrande¹; E. Baluyot¹; J. Schwartz¹; M. Shusteff¹; J. Tringe¹; J. Kelly^{*}

1. Lawrence Livermore National Laboratory, USA

11:50 AM

(ICACC-S1-019-2025) Reliability of Concentrating Solar Power Ceramic Components: Implication of Weibull 2- versus 3-Parameter Models

B. Barua^{*}; P. S. Chaugule¹; M. C. Messner¹; D. Singh¹

1. Argonne National Laboratory, Applied Materials Division, USA

S2 Advanced Ceramic Coatings for Structural/ Environmental & Functional Applications

S2- Environmental Barrier Coatings III

Room: Coquina C

Session Chairs: Jie Zhang, Institute of Metal Research, Chinese Academy of Sciences

8:30 AM

(ICACC-S2-010-2025) Multilayer design for Rare Earth silicate-based Environmental Barrier Coatings

S. Sampath¹; E. Garcia¹; J. Saputo^{*}

1. Stony Brook University, Center for Thermal Spray Research, USA

8:50 AM

(ICACC-S2-011-2025) Oxidation performance under water vapor of PVD Y/Yb environmental barrier coatings

C. Y. Guijosa Garcia^{*}; P. Mechnich¹; U. Schulz¹; R. Naraparaju¹

1. DLR - German Aerospace Center, Institute of Materials Research, Germany

9:10 AM

(ICACC-S2-012-2025) Damage and Failure Analysis of Environmental Barrier Coatings under Extreme Environments: Multi-physics Modeling (Invited)

K. Chen^{*}

1. National Research Council Canada, Aerospace Research Centre, Canada

9:40 AM

Break

S2- CMAS-type recession and mitigation strategies I

Room: Coquina C

Session Chair: Kang Lee, NASA Glenn Research Center

10:20 AM

(ICACC-S2-013-2025) In situ Synchrotron X-ray Diffraction Studies Assessing the Responses of EB-PVD Ceramic Coatings due to CMAS Infiltration under Thermal Gradients

Z. Stein^{*}; J. E. Förster¹; P. Kenesei²; J. Park³; J. Almer²; J. Wischek¹; M. Bartsch¹; U. Schulz¹; R. Naraparaju¹; S. Raghavan²

1. DLR - German Aerospace Center, Materials Research, Germany
2. Embry-Riddle Aeronautical University, Aerospace Engineering, USA
3. Argonne National Laboratory, Advanced Photon Source, USA

10:40 AM

(ICACC-S2-014-2025) Study of the effect of hydrogen in ASPS spraying on the microstructure of TBC and its resistance to CMAS sollicitation

M. Gaudin^{*}; S. Goutier²; G. Rivaud²; A. Joulia¹; E. Béchade²; A. Kéromnès²

1. Safran Tech, France
2. Institut de Recherche sur les Ceramiques, France

11:00 AM

(ICACC-S2-015-2025) Thermal Properties and CMAS Corrosion Resistance of Novel Rare Earth Phosphates ($\text{Sc}_{0.25}\text{Lu}_{0.25}\text{Yb}_{0.25}\text{Er}_{0.25}\text{PO}_4$) for Environmental Barrier Coatings

B. P. Majee^{*}; K. Bryce²; L. Huang³; J. Lian²

1. Rensselaer Polytechnic Institute, Department Of Mechanical, Aerospace, And Nuclear Engineering and Department of Materials Science and Engineering, USA
2. Rensselaer Polytechnic Institute, USA
3. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA

11:20 AM

(ICACC-S2-016-2025) Molten silicate interactions with aluminate-based thermal/environmental barrier coatings

S. Berens^{*}; C. S. Holgate¹; C. G. Levi¹; F. W. Zok¹

1. University of California, Santa Barbara, Materials, USA

11:40 AM

(ICACC-S2-017-2025) Reactions between CAS Slag Melts and Ceramic Materials from TBCs or EBCs in Order to Find Protective Coatings for Components in Gasifier of IGCC

S. Kim^{*}; M. Nam¹; Y. Oh¹; S. Lee¹

1. Korea Institute of Ceramic Engineering and Technology, Engineering Materials Center, Republic of Korea

S3 22th Intl Symp on Solid Oxide Cells Materials Science & Technology

S3-Electrolysis and applications II

Room: Ballroom 4

Session Chair: Federico Smeacetto, Politecnico di Torino

8:30 AM

(ICACC-S3-008-2025) Advancing Production of e-Fuels through Pressurized Co-Electrolysis in Solid Oxide Electrochemical Cells (Invited)

J. Kupecki^{*}; A. Niemczyk¹; M. Bakala¹; M. Kosiorek¹; S. Jagielski¹

1. Institute of Power Engineering - National Research Institute, Center for Hydrogen Technologies (CTH2), Poland

9:00 AM

(ICACC-S3-009-2025) State of the art of solid oxide cells from long-term operation to advanced post-test characterization (Invited)

A. Leon^{*}; J. Schefold¹; A. Micero¹; S. Soille¹

1. European Institute for Energy Research, Germany

9:30 AM

(ICACC-S3-010-2025) Impact of silicon contamination on high temperature electrolysis in MK35x solid oxide cell stacks

A. Seidl^{*1}; S. Rothe¹; S. Megel¹; K. Develos-Bagarinao²; M. Kusnezoff¹

1. Fraunhofer IKTS, Germany
2. National Institute of Advanced Industrial Science and Technology (AIST), Reserach Institute for Energy Conservation, Japan

9:50 AM

Break

S3- SOFC Applications

Room: Ballroom 4

Session Chair: Eric Wachsman, University of Maryland

10:10 AM

(ICACC-S3-011-2025) Development of metal-supported SOFC for vehicle application (Invited)

Y. Miura^{*1}

1. Nissan Jidosha Kabushiki Kaisha, Nissan Research Center, Japan

10:40 AM

(ICACC-S3-012-2025) Durability and kinetic effects of CO₂-rich mixtures on state of the art SOFC cathodes for applications in novel hybrid cycles (Invited)

M. Pagliari¹; M. Marasi¹; A. Donazzi^{*1}

1. Politecnico di Milano, Department of Energy, Italy

11:10 AM

(ICACC-S3-013-2025) Internal Reforming SOFC Using Carbon-neutral Fuels Synthesized by Co-electrolysis SOEC (Invited)

H. Sumi^{*1}

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

S4 Advanced Materials for Thermoelectric and Thermionic Energy Conversion

S4- Advanced Materials for thermelectric and thermionic energy conversion I

Room: Coquina D

Session Chairs: Michitaka Ohtaki, Kyushu Daigaku

8:30 AM

(ICACC-S4-001-2025) Engineering of thermoelectric properties in half-Heusler and metal phosphide materials (Invited)

J. Bos^{*1}

1. University of St Andrews, United Kingdom

9:00 AM

(ICACC-S4-002-2025) Strain engineering for boosting the thermoelectric performance of modulus-scale silicon (Invited)

B. Xu^{*1}; R. Nagahiro¹; Y. Ikoma²; M. Kohno²; M. Ohnishi¹; S. Terashima³; E. Iwase³; J. Shiomi¹

1. Tokyo Daigaku, School of engineering, Japan
2. Kyushu Daigaku, Japan
3. Waseda Daigaku, Japan

9:30 AM

(ICACC-S4-003-2025) Micro-thermoelectric devices (Invited)

K. Nielsch^{*1}; H. Reith¹

1. Leibniz Institute for Solid State and Materials Research, Institute of Metallic Materials, Germany

10:00 AM

Break

S4- Structure/property relationships, thermodynamics, and solid-state defect chemistry of thermoelectric/thermionic materials

Room: Coquina D

Session Chairs: Kornelius Nielsch, Leibniz Institute for Solid State and Materials Research; Navita Jakhar, Institute of Science and Technology Austria

10:20 AM

(ICACC-S4-004-2025) Structure-thermal property relationships and low thermal conductivity materials (Invited)

G. S. Nolas^{*1}

1. University of South Florida, Physics, USA

10:50 AM

(ICACC-S4-005-2025) The emerging role of type II Si clathrate, an alternative low-density Si allotrope (Invited)

Y. Liu^{*1}; J. P. Briggs¹; M. Singh¹; R. T. Collins¹; C. A. Koh¹

1. Colorado School of Mines, USA

11:20 AM

(ICACC-S4-006-2025) Phases, microstructures, and thermoelectric Properties of n-type Mg₃Sb₂-based thermoelectric materials (Invited)

S. Chen^{*1}

1. University of Houston, Physics and TcSUH, USA

11:50 AM

(ICACC-S4-007-2025) Chemistry is Key in Solution-Based Thermoelectric Material Synthesis!

C. S. Fiedler^{*1}; M. Ibáñez¹

1. Institute of Science and Technology Austria, Austria

S6 Advanced Materials and Technologies for Rechargeable Energy Storage

S6- Battery Materials Design and Characterization I

Room: Coquina B

Session Chairs: Naoaki Yabuuchi, Yokohama National University; Olivier Guillon, Forschungszentrum Juelich

8:30 AM

(ICACC-S6-009-2025) Thermal Runaway Risk and Li-ion Battery State-of-Health Monitoring (Invited)

H. Wang^{*1}; L. Lin¹

1. Oak Ridge National Laboratory, USA

9:00 AM

(ICACC-S6-010-2025) Thermochemical Pathways and Safety Strategies for Next-Generation Lithium-Ion Batteries: A Comparative Study of Liquid and Solid-State Systems (Invited)

V. Rikka^{*1}; W. Tang¹; J. Jeevarajan¹

1. UL Reserach Institutes, Electrochemical Safety Research Institute (ESRI), USA

9:30 AM

(ICACC-S6-011-2025) K_xFeO₂ as electrode material for K-ion batteries

A. Sagot¹; M. Sougrati³; V. M. Kovrugin¹; L. Stievano²; V. Pralong^{*1}

1. CNRS ENSICAEN, France
2. Université de Montpellier, Institut Charles Gernardt Montpellier, France
3. CNRS ICGM, France

9:55 AM

Break

S6- Electrode Materials Design and Characterization II

Room: Coquina B

Session Chairs: Olivier Guillon, Forschungszentrum Juelich;
Naoaki Yabuuchi, Yokohama National University

10:15 AM

(ICACC-S6-012-2025) Molten Solvate Electrolytes: Unique Transport Properties and Interfacial Reactions (Invited)

R. Tataru^{*1}; K. Dokko¹

1. Yokohama National University, Japan

10:45 AM

(ICACC-S6-013-2025) Operando Optical Imaging Platforms to Study Battery Reactions (Invited)

X. Shan^{*1}; G. Thomas¹; X. Zhao¹

1. University of Houston, Electrical and Computer Engineering, USA

11:15 AM

(ICACC-S6-014-2025) Electrode architecture design by high throughput style microstructure simulations (Invited)

H. Yu^{*1}

1. Michigan State University, Computational Mathematics Science and Engineering, USA

11:45 AM

Poster Preview Pitch- Building a Composite Cathode for Sulfidic Solid State Na-Ion Batteries via Infiltration Method

11:47 AM

Poster Preview Pitch- Improving Lithium-Ion Conductivity in Li₇La₃Zr₂O₁₂ via Molten Salt Synthesis for All Solid State Battery

11:49 AM

Poster Preview Pitch- Development of superionic conductor glass ceramic with optimized crystallization temperature

11:51 AM

Poster Preview Pitch- Effect of Zinc Oxide Artificial Layer on Interfacial Resistance of Garnet-Based Solid Electrolyte for Lithium Metal Anode

11:53 AM

Poster Preview Pitch- MgNiAlVFe and MgNiAlVTi High Entropy Alloys For NiMH Batteries

S7 19th Intl Symp on Functional Nanomaterials & Thin Films for Sustainable Energy Harvesting

S7- Nanomaterials for energy conversion, storage and catalysis- II

Room: Flagler C

Session Chair: Muhammet Toprak, KTH Royal Institute of Technology

8:30 AM

(ICACC-S7-009-2025) Syngas economy with green hydrogen for rapid decarbonization of fuels and chemicals (Invited)

S. Kim¹; Y. Song²; A. Karluk¹; J. Mahmood¹; C. T. Yavuz^{*1}

1. King Abdullah University of Science and Technology, Saudi Arabia
2. Max-Planck-Institut für Kohlenforschung, Germany

9:00 AM

(ICACC-S7-010-2025) High entropy nanoparticles as oxygen catalysts for metal-air batteries (Invited)

A. Cabot^{*1}

1. Catalonia Institute for Energy Research, Spain

9:30 AM

(ICACC-S7-011-2025) Active site switching on high entropy phosphides as bifunctional oxygen electrocatalysts for rechargeable/robust Zn-air battery

R. He^{*1}; L. Yang¹; A. Cabot¹

1. Institut de Recerca en Energia de Catalunya, Spain

9:50 AM

Poster Preview Pitch- Exploring kinetic dynamics in buffer layer formation for improved solar cell efficiency via chemical bath deposition

9:52 AM

Poster Preview Pitch- Influence of ZnO Nanowall Morphology on the Efficiency of Flexible Piezoelectric Nanogenerators

9:54 AM

Poster Preview Pitch- Surface and mechanical properties of co-sputtered Silica-Silver and Zirconia-Silver antimicrobial composite coatings: a characterization study

S7- Nanomaterials for energy conversion, storage and catalysis- III

Room: Flagler C

Session Chair: Andreu Cabot, Catalonia Institute for Energy Research

10:00 AM

Break

10:20 AM

(ICACC-S7-012-2025) Defect Engineering in Hydrogenated TiO₂ Hollow Spheres Toward Efficient Photocatalysis (Invited)

E. Moretti^{*1}; L. Liccardo²; M. Bordin¹

1. Ca' Foscari University of Venice, Department of Molecular Sciences and Nanosystems, Italy
2. Istituto di Struttura della Materia-CNR (ISM-CNR), SS 14, Km 163.5, 34149 Trieste, Italy, Italy

10:50 AM

(ICACC-S7-013-2025) Study of carbon monoxide oxidation and hysteresis behavior on mesoporous silica supported metal nanocatalyst (Invited)

R. M. Al Soubaihi^{*1}; K. M. Saoud¹; J. Dutta²

1. VCUarts Qatar, LAS, Qatar
2. Kungliga Tekniska Hogskolan, Applied Physics, Sweden

11:20 AM

(ICACC-S7-014-2025) Nanofibrous ceramic membranes in plasma-catalytic reactors for greenhouse gas conversion

R. A. Yager^{*1}; A. Stanishevsky¹; R. M. Nick¹; T. Berry¹; S. Nealy²

1. University of Alabama at Birmingham, Physics, USA
2. The University of Alabama at Birmingham College of Arts and Sciences, Chemistry, USA

11:40 AM

(ICACC-S7-015-2025) Improved robustness of spinel oxide catalysts for biomass utilizations

S. Yamaguchi^{*1}; Y. Nagashima¹; T. Suyama¹; T. Ozaki¹; M. Ootani²

1. Osaka Research Institute of Industrial Science and Technology, Applied Material Chemistry, Japan
2. Kansai Catalyst Co., Ltd., Japan

12:00 PM

(ICACC-S7-016-2025) ZnO Nanowall/Polymer Hybrid Nanogenerators: Efficient Energy Harvesting for Wearable Devices

G. Yüksel^{*1}; B. Göİ²; S. Kinden²; E. Suvaci¹

1. Eskişehir Teknik Üniversitesi, Materials Science and Engineering, Turkey
2. Eskişehir Teknik Üniversitesi, Electrical and Electronics Engineering, Turkey
3. Kahramanmaraş Sutcu Imam Üniversitesi, Electrical and Electronics Engineering, Turkey

S8 19th Intl Symp on APMT for Structural & Multifunctional Materials & Systems

S8- Green manufacturing, global environmental issues and standards

Room: Flagler A

Session Chairs: Thi Mai Dung Do, Nagaoka University of Technology; Hyun-Sik Kim, University of Seoul

8:30 AM

(ICACC-S8-009-2025) Fabrication of $\text{Li}_{3.5}\text{Ge}_{0.5}\text{V}_{0.5}\text{O}_4$ -based composite solid electrolyte (Invited)

S. Tanaka*¹

1. Nagaoka University of Technology, Materials Science and Technology, Japan

9:00 AM

(ICACC-S8-010-2025) Effect of Raw Materials in Development of Ceramic Alkaline Balls for Alkaline Drinking Water (Invited)

L. K. Sharma*¹; C. Agarwal²

1. Mahamana Ceramic Development Organization, India
2. AEC Overseas Consultants, United Arab Emirates

9:30 AM

(ICACC-S8-011-2025) Biomineralization inspired fabrication of dense ceramics at low temperature

Z. Zou*¹

1. Wuhan University of Technology, China

S8- Design-oriented manufacturing and processing

Room: Flagler A

Session Chairs: Satoshi Tanaka, Nagaoka University of Technology; Hisayuki Suematsu, Nagaoka University of Technology

9:50 AM

Break

10:10 AM

(ICACC-S8-012-2025) Engineering Thermal Conductivity in Liquid-Phase Sintered SiC Ceramics: Key Design Factors (Invited)

H. Kim*¹; Y. Kim²

1. University of Seoul, Republic of Korea
2. University of Seoul, Dept. of Materials Science & Engineering, Republic of Korea

S8- Polymer-based processing

Room: Flagler A

Session Chairs: Satoshi Tanaka, Nagaoka University of Technology; Hisayuki Suematsu, Nagaoka University of Technology

10:40 AM

(ICACC-S8-013-2025) Effectiveness of potassium-based geopolymer in immobilizing the cesium and strontium ions

T. Do*¹; Y. Sajedah¹; T. Suzuki¹; T. Nakayama²; H. Suematsu³

1. Nagaoka University of Technology, Nuclear System Safety Engineering, Japan
2. Nagaoka University of Technology, Japan
3. Nagaoka University of Technology, Extreme Energy-Density Research Institute, Japan

11:00 AM

(ICACC-S8-014-2025) Novel Flexible Passive Wireless RLC Strain Sensor

K. Rivera*¹

1. University of Rhode Island, Chemical engineering, USA

S8- Joining, integration, machining, repair, and refurbishment technologies

Room: Flagler A

Session Chairs: Satoshi Tanaka, Nagaoka University of Technology; Hisayuki Suematsu, Nagaoka University of Technology

11:20 AM

(ICACC-S8-016-2025) Field-assisted sintering for the consolidation of high-temperature ceramics (Invited)

V. M. Sglavo*¹

1. University of Trento, Italy

S9 Porous Ceramics Novel Developments and Applications

S9- Porous Ceramics- Novel Developments and Applications

Room: Ballroom 1-2

Session Chairs: Swantje Funk, Friedrich-Alexander-Universität Erlangen-Nürnberg; Michelle Weichelt, Friedrich-Alexander-Universität Erlangen-Nürnberg

8:30 AM

(ICACC-S9-009-2025) Fabrication of SiC Nanowire Based Elastic Aerogel (Invited)

H. Wang*¹; D. Lu¹; L. Su¹; S. Jia¹

1. Xi'an Jiaotong University, China

9:00 AM

(ICACC-S9-010-2025) Precursor Formulations for Isolvolumetric Synthesis of Nitride-Based Ceramics using Selective Laser Reaction Sintering

J. B. Spicer*¹; D. Zhang²; A. B. Peters³; M. Moorer¹; Y. Rhim²

1. Johns Hopkins University, Materials Science and Engineering, USA
2. Johns Hopkins Applied Physics Laboratory, USA
3. Johns Hopkins University, Ralph O'Connor Sustainable Energy Institute, USA

9:20 AM

(ICACC-S9-011-2025) Evaluating the Effect of Porosity and Sintering Aid Composition on the Ablation Response of Silicon Nitride

M. Thompson*¹; A. Kimery¹; R. Trice¹

1. Purdue University, Department of Materials Engineering, USA

9:40 AM

(ICACC-S9-012-2025) Enhancing thermal and mechanical performance of silicon nitride via pore-driven grain growth

Y. Nakashima*¹; Y. Zhou¹; K. Hirao¹; T. Ohji²; M. Fukushima¹

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan
2. Yokohama Kokuritsu Daigaku, Japan

10:00 AM

Break

S9- Porous Ceramics- Novel Developments and Applications

Room: Ballroom 1-2

Session Chair: Larissa Wahl, FAU Erlangen-Nürnberg

10:20 AM

(ICACC-S9-013-2025) Formulation and functionalization of durable porous silicate ceramics for water filtration - incorporation of agro waste and biosourced additives

I. Maury Njoya*¹; G. LeComte Nana¹; V. Chaleix²; Y. El Hafiane¹; B. Nait-Ali¹; A. Lengo Mambu²; C. Peyratout¹

1. Institut de Recherche sur les Ceramiques, France
2. Universite de Limoges, Faculté des Sciences et Techniques, France

10:40 AM

(ICACC-S9-014-2025) Designing Future Materials: Tailoring Porous Ceramics through Microstructure Engineering and Advanced Property Optimization

T. Fey*¹

1. Friedrich-Alexander University Erlangen-Nürnberg, Department Material Science and Engineering, Germany

11:00 AM

(ICACC-S9-015-2025) Deformation Control Optimizes Kelvin Cell Architecture

S. Funk*¹; T. Fey¹

1. Friedrich-Alexander University Erlangen-Nürnberg, Department Material Science and Engineering, Germany

11:20 AM

(ICACC-S9-016-2025) Energy-Reduced Fabrication of Light-Frame Ceramic Honeycombs by Replication of Additive Manufactured Templates

D. Köllner¹; S. Niedermeyer¹; M. Vermes¹; S. Funk¹; K. Kakimoto²; T. Fey*¹

1. Friedrich-Alexander University Erlangen-Nürnberg, Department Material Science and Engineering, Germany
2. Nagoya Institute of Technology, Graduate School of Eng., Dept. Mater. Sci. & Eng., Japan

11:40 AM

(ICACC-S9-017-2025) Eco-friendly zeolite clinoptilolite functionalization with antimicrobial metallic nanoparticles: green synthesis and application

F. Gattucci*¹; M. Lallukka¹; N. Grifasi¹; M. Piemetti¹; M. Armandi¹; M. Miola¹

1. Politecnico di Torino, DISAT, Italy

S12 Design and Applications of Nanolaminated MAX and MAB Phases Solid Solutions and 2D Counterparts

S12- On the Design of nanolaminated ternary transition metal carbides/nitrides (Max Phases) and Borides (MAB Phases), Solid Solutions thereof and 2D Counterparts

Room: Ponce de Leon

Session Chairs: Konstantina Lambrinou, University of Huddersfield; Thierry Cabioch, University of Poitiers

8:30 AM

(ICACC-S12-009-2025) Entropy Stabilization and Order-Disorder Transitions in Multi-Transition Metal MAX phases and MXenes (Invited)

B. C. Wyatt¹; B. Anasori*¹

1. Purdue University, Materials Engineering, USA

9:00 AM

(ICACC-S12-010-2025) Exploring the Potential of Clay Minerals and MXenes for Biomedical Applications: A First-Principles Study of 2D Hybrid Materials (Invited)

D. Cakir*¹

1. University of North Dakota, Physics and Astrophysics, USA

9:30 AM

(ICACC-S12-011-2025) Direct Etching of MAX Phases to MXene Nanosheets Using Quaternary Ammonium Fluorides: Implications for Energy Storage and Degradation Stability (Invited)

V. Kotasthane¹; Z. Tan¹; K. Y. Lee¹; J. Yun¹; E. Pentzer¹; J. Lutkenhaus²; M. Green²; M. Radovic*¹

1. Texas A&M University, Materials Science and Engineering, USA
2. Texas A&M University, Artie McFerrin Department of Chemical Engineering, USA

10:00 AM

Break

10:20 AM

(ICACC-S12-012-2025) Using neutron and synchrotron X-ray diffraction to probe and quantify bulk-sample turbostratic disorder in MAX-Phases and other layered materials

A. A. Coleman*¹; R. Springell²; J. Kelleher¹

1. Rutherford Appleton Laboratory, ISIS, United Kingdom
2. University of Bristol, Physics, United Kingdom

S12- On the Design of nanolaminated ternary transition metal carbides/nitrides (Max Phases) and Borides (MAB Phases), Solid Solutions thereof and 2D Counterparts

Room: Ponce de Leon

Session Chair: Deniz Cakir, University of North Dakota

10:40 AM

(ICACC-S12-013-2025) Engineering MXenes and their hybrids for Energy Applications (Invited)

M. Naguib*¹

1. Tulane University, Physics and Engineering Physics, USA

11:10 AM

(ICACC-S12-014-2025) Mechanisms of Deformation and Failure in Single-Crystal MAX Phase (Invited)

M. Radovic²; A. Srivastava*¹

1. Texas A&M University, USA
2. Texas A&M University, Materials Science & Engineering, USA

11:40 AM

(ICACC-S12-015-2025) Laser Ablative Patterning of MoAlB Ceramics for Hydrophobic Surfaces (Invited)

B. Cui*¹; S. Ruiz¹; R. Wall¹; L. Wadle¹; Y. Yoo¹; Y. Lu¹; C. Wohl²; V. L. Wiesner²

1. University of Nebraska-Lincoln, USA
2. NASA Langley Research Center, USA

S14 Crystalline Materials for Electrical Optical and Medical Applications

S14- Optical Material II

Room: Coquina A

Session Chair: Matthias Müller, Radiation Monitoring Devices Inc

8:30 AM

(ICACC-S14-012-2025) Synthesis and Luminescence Enhancement of Novel Deep-red Emitting Phosphor SrCa₂Ga₂O₆:Mn²⁺ (Invited)

W. Hikita*¹; Y. Nasuda²; H. Okura²; K. Toda¹

1. Niigata University, Graduate School of Science and Technology, Japan
2. Fuso Chemical Co., Ltd., Japan

9:00 AM

(ICACC-S14-010-2025) New feldspar, BaMgSi₃O₈

K. Toda*¹; W. Hikita¹

1. Niigata University, Japan

9:20 AM

(ICACC-S14-011-2025) Control of the emission and excitation Energies in Pr³⁺-activated perovskite oxide–oxynitrides by bandgap engineering

Y. Sato¹; S. Noda¹; J. Odahara¹; R. Yanamoto*¹; T. Hasegawa²; S. Yin³; J. Jia⁴; M. Kakihana²

1. Okayama Rika Daigaku, Department of Chemistry, Japan
2. Osaka Daigaku, SANKEN, Japan
3. IMRAM, Tohoku University, Japan
4. Waseda Daigaku, Global Center for Science and Engineering, Japan

9:40 AM

(ICACC-S14-009-2025) Dense, transparent Ce:Y₃Al₅O₁₂ films from flame made nanopowders for white light applications (Invited)

R. M. Laine*¹; E. Yi¹

1. University of Michigan, Materials Science and Engineering, USA

10:10 AM

Break

10:30 AM

(ICACC-S14-013-2025) Luminescence Property of Ceramic Phosphors Synthesized by the Melt Quenching Technique (Invited)K. Toda^{*1}; W. Hikita¹

1. Niigata University, Japan

11:00 AM

(ICACC-S14-014-2025) Processing of Diamond with Defects for Single Photon Emission for Quantum and Sensing ApplicationsL. N. Ramasubramanian¹; R. N. Sanyal^{*2}

1. Oklahoma State University, School of Materials Science and Engineering, USA

S14- Scintillator I

Room: Coquina A

Session Chair: Biwu Ma, Florida State University

11:20 AM

(ICACC-S14-015-2025) Scintillation properties of single crystalline lutetium oxide doped with rare earth grown by floating zone method (Invited)T. Yanagida^{*1}; D. Nakauchi¹; K. Okazaki²; K. Watanabe³; T. Kato¹; N. Kawaguchi³

1. Nara Institute of Science and Technology, Japan
2. Nara Institute of Science and Technology, Materials science, Japan
3. Nara Institute of Science and Technology, Graduate School of Materials Science, Japan
4. Kyushu Daigaku, Japan

11:50 AM

(ICACC-S14-016-2025) Gd₃Al₅O₁₂ and GdAlO₃ transparent thick film phosphors prepared using chemical vapor deposition for scintillation phosphorsA. Ito^{*1}

1. Yokohama National University, Graduate School of Environment and Information Sciences, Japan

S17 Advanced Ceramic Materials and Processing for Photonics and Energy**S17- Advanced Ceramic Materials and Processing for Photonics and Energy I**

Room: Coquina H

Session Chair: Tohru Suzuki, National Institute for Materials Science

8:30 AM

(ICACC-S17-001-2025) Novel Materials Chemistry for Applications in Energy Storage and Conversion (Invited)N. Pinna^{*1}

1. Humboldt-Universität zu Berlin, Department of Chemistry, Germany

9:00 AM

(ICACC-S17-002-2025) Next-Gen Innovations: How Green Nanomaterials Are Shaping the Future of Clean Energy (Invited)R. Naccache^{*1}

1. Concordia University, Chemistry and Biochemistry, Canada

9:30 AM

(ICACC-S17-003-2025) Synthesis of mixed and high entropy metal oxides with unique surface properties in supercritical conditions (Invited)R. M. Richards^{*1}

1. Colorado School of Mines, Chemistry, USA

10:00 AM

Break

10:20 AM

(ICACC-S17-004-2025) Selenization of Ni-hexacyanoferrate-based nanocubes: properties and catalytic performances (Invited)F. Polo^{*1}; E. Lushaj¹; T. A. Shifa¹; E. Moretti¹

1. Università Ca' Foscari, Molecular Sciences and Nanosystems, Italy

10:50 AM

(ICACC-S17-005-2025) Understanding and tailoring carbon dots (Invited)A. Tagliaferro^{*1}; M. Bartoli²

1. Politecnico di Torino, Department of Applied Science and Technology, Italy
2. Istituto Italiano di Tecnologia, Italy

11:20 AM

(ICACC-S17-006-2025) Toward Enhanced Energy Density through Interface Engineering in All-Solid-State Batteries (Invited)T. Song^{*3}; J. Park²; J. Kim²; S. Lee²; J. Kim²; I. Hwang²; M. Kim²; S. Myeong²; H. Lee²; M. Ryu²; G. Lee²; S. Han²; J. Sun²; J. Jeong¹; Y. Lee¹; U. Paik²

1. Hanyang University, Department of Battery Engineering, Republic of Korea
2. Hanyang University, Department of Energy Engineering, Republic of Korea
3. Hanyang University, Department of Energy Engineering, Department of Battery Engineering, Republic of Korea

11:50 AM

(ICACC-S17-007-2025) Unveiling kinetic dynamics in buffer layer formation during chemical bath deposition for enhanced solar cell efficiencyI. Gushchina^{*1}; C. Rossi¹; S. Slimani¹; D. Peddis²; D. Colombara¹

1. Università degli Studi di Genova, Chemistry and Industrial Chemistry, Italy
2. Istituto di Struttura della Materia Consiglio Nazionale delle Ricerche, Materiali e Dispositivi, Italy

12:10 PM

Poster Preview Pitch- Distorted Zn and Sn-based perovskite oxide nanomaterials for piezoelectric microenergy harvesting applications

12:12 PM

Poster Preview Pitch- Chemical bath deposition (CBD) of ZnMgO thin films for Cu(In,Ga)Se₂ photovoltaics (PV)

12:14 PM

Poster Preview Pitch- Empowering advanced photovoltaic (PV) pioneers: a bilateral Italy-USA project**S18 Ultra-High Temperature Ceramics****S18- Novel Processing Methods**

Room: Coquina F

Session Chairs: Ian McCue, Northwestern University; Christopher Weinberger, Colorado State University

8:30 AM

(ICACC-S18-010-2025) Design Stability of Nanostructured TaC Composites (Invited)I. McCue^{*1}; C. Ott¹

1. Northwestern University, Materials Science and Engineering, USA

9:00 AM

(ICACC-S18-011-2025) Pressureless Sintering of Hafnium Diboride-Silicon Carbide Particulate CompositesT. W. Moore^{*1}

1. US Army Combat Capabilities Development Command Army Research Laboratory Aberdeen Proving Ground, USA

9:20 AM

(ICACC-S18-012-2025) Gas Chemistry Influences on Titanium Carbide Fiber Growth by Laser Chemical Vapor DepositionK. J. Mitchell^{*1}; G. Thompson²

1. University of Alabama, Interdisciplinary Materials Science PhD Program, USA
2. University of Alabama, Metallurgical & Materials Engineering, USA

9:40 AM

(ICACC-S18-013-2025) Synthesis of Ultra High Temperature Ceramics by Spark Plasma Sintering: non-reactive and reactive routes

T. Menard^{*1}; F. Rebillat²; J. Braun³; L. Maillé⁴

1. Laboratoire des Composites Thermostructuraux, France
2. University Bordeaux, Laboratory of thermostuctural composites, France
3. CEA, France
4. University of Bordeaux - Laboratory for Thermostructural Composites (LCTS), UMR 5801, France

10:00 AM

Break

10:20 AM

(ICACC-S18-014-2025) The Role of Surface Energies and Dopants in Controlling Transition Metal Carbide Powder Shape

Y. Huang¹; C. R. Weinberger^{*1}

1. Colorado State University, Department of Mechanical Engineering, USA

10:40 AM

(ICACC-S18-015-2025) Synthesis of Binary Solid Solution Powders via Boro/Carbothermal Reduction and Arc Melting

Z. Ayguzer Yasar^{*1}; R. Haber¹

1. Rutgers The State University of New Jersey, Material Science and Engineering, USA

11:00 AM

(ICACC-S18-016-2025) Synthetic Method of Oxidized Zr-based polymer Precursor for PIP Method using the Sol-Gel Method

J. So^{*1}; K. Lee¹; S. Kim¹; M. Park¹; S. Lee¹

1. Korea Institute of Materials Science, Republic of Korea

S19 Molecular-level Processing and Chemical Engineering of Functional Materials

S19- Precursor-derived high-entropy ceramics and UHTCs

Room: Ballroom 3

Session Chair: Gunnar Westin, Uppsala University

8:30 AM

(ICACC-S19-011-2025) A New Route to High Entropy Nitride Compounds (Invited)

R. M. Laine^{*1}; J. Heron²

1. University of Michigan, Materials Science and Engineering, USA
2. University of Michigan, USA

9:00 AM

(ICACC-S19-012-2025) Molecular Precursor Strategies for High-Entropy Oxides (Invited)

Z. Aytuna¹; T. Fischer^{*1}; S. Mathur¹

1. Universität zu Köln Mathematisch-Naturwissenschaftliche Fakultät, Institute of Inorganic and Materials Chemistry, Germany

9:30 AM

(ICACC-S19-013-2025) Ultrahigh Temperature Ceramics from Electrified Pyrolysis (Invited)

S. Ren^{*1}

1. University of Maryland, USA

S19- Conversion, decomposition, and structural formation of molecular precursors

Room: Ballroom 3

Session Chair: Thomas Fischer, University of Cologne

10:00 AM

Break

10:20 AM

(ICACC-S19-014-2025) Single Source Precursors for Spinel Ferrites in Chemical Vapor Deposition

S. Diel¹; T. Fischer^{*1}; S. Mathur¹

1. Universität zu Köln Mathematisch-Naturwissenschaftliche Fakultät, Institute of Inorganic and Materials Chemistry, Germany

10:40 AM

(ICACC-S19-015-2025) Development of Highly Weather-Resistant Components Using Photo-induced Metal organic decomposition (MOD) and Resource Recycling

T. Tsuchiya^{*1}

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

11:00 AM

(ICACC-S19-016-2025) Growth control of nanocrystals: A deeper understanding of surface energetic contributions

R. Castro^{*1}

1. Lehigh University, Material Science & Engineering, USA

11:20 AM

(ICACC-S19-017-2025) From precursor to nanoparticle formation, size control and structural study (Invited)

J. Jouin^{*1}; F. Remondiere¹; J. Gambe¹; A. Lemarchand¹; O. Masson¹; P. Thomas¹

1. Institut de Recherche sur les Ceramiques, France

14th Global Young Investigator Forum

GYIF-Sustainable Materials Development/ Eco-Design Principles for Ceramics and Composites

Room: Coquina G

Session Chairs: Stefano De La Pierre, Politecnico di Torino;

Sang-Hyon Chu, NASA Langley Research Center

1:30 PM

(ICACC-GYIF-015-2025) Specialized Data-Driven Framework for Designing Compositionally Complex Ceramics for Energy Storage and Conversion (Invited)

B. Ouyang^{*1}

1. Florida State University, Chemistry and biochemistry, USA

2:00 PM

(ICACC-GYIF-016-2025) Abrasive Effects of Lunar Regolith on Material Wear for Long-Term Lunar Application

Z. Stein^{*1}; C. Wohl²; V. L. Wiesner²; S. Raghavan¹

1. Embry-Riddle Aeronautical University, Aerospace Engineering, USA
2. NASA Langley Research Center, Advanced Materials and Processing Branch, USA

2:20 PM

(ICACC-GYIF-017-2025) Improving sustainability in gas turbine engines through mindful material selection (Invited)

C. S. Holgate^{*1}; S. Berens¹; N. Basilyan¹; C. G. Levi¹

1. University of California, Santa Barbara, Materials, USA

2:50 PM

Break

GYIF- Energy and Material-Efficient Manufacturing Processes

Room: Coquina G

Session Chairs: Mark Du, Argonne National Laboratory;
Yuki Nakashima, National Institute of Advanced Industrial Science and Technology (AIST)

3:20 PM

(ICACC-GYIF-018-2025) Harsh Environment Material Manufacturing for Clean Energy Technologies at Idaho National Laboratory (Invited)

J. Rufner^{*1}; A. Preston¹; A. Gorman¹; X. Zhang¹

1. Idaho National Laboratory, Materials and Manufacturing, USA

3:50 PM

(ICACC-GYIF-019-2025) Flexible Chemical and Fuel Production using Protonic Ceramic Electrochemical Cells (PCEC) for Energy and Materials-Efficient Manufacturing Processes (Invited)

D. Ding^{*1}

1. Idaho National Lab, Hydrogen and electrochemistry, USA

4:20 PM

(ICACC-GYIF-020-2025) Hexagonal boron nitride incorporated electrospun polyvinylidene separators with enhanced thermal conductivity and stability for safer Li-ion batteries (Invited)

B. Kottathodi^{*1}; W. Tang¹; J. Jeevarajan¹

1. UL Research Institutes- ESRI, USA

4:50 PM

(ICACC-GYIF-021-2025) Sustainable Lunar Construction Using Freeze Casting and Sintering of Regolith (Invited)

S. S. Hossain^{*1}; J. W. Bullard¹

1. Texas A&M University, Department of Civil and Environmental Engineering, USA

FS6 Innovative material processing for diverse resource circulation loops

FS 6- Innovative material processing for diverse resource circulation loops II

Room: Ballroom 5

Session Chairs: Enrico Bernardo, University of Padova;
Katsuya Teshima, Shinshu University

1:30 PM

(ICACC-FS6016-2025) Optimizing Concrete Performance with Recycled Crushed Glass Aggregate (Invited)

D. Alterman^{*1}; C. Tokoro²; C. Gerber¹; A. Narita¹; T. Koita²; D. Jozwiak-Niedzwiedzka⁴

1. University of the Sunshine Coast, Australia
2. Waseda University, Japan
3. Waseda University, Sustainable Energy & Environmental Society Open Innovation Research Organization (SEES), Japan
4. Polska Akademia Nauk, Poland

2:00 PM

(ICACC-FS6017-2025) Novel fabrication and disassembly processes for ceramic devices by chemical reactions near room temperature for material recycling (Invited)

Y. Yamaguchi^{*1}

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

2:30 PM

(ICACC-FS6018-2025) Sintering Kinetics and Optimization of Polymer Sintering for Improved Filter Performance (Invited)

M. Kaneko^{*1}

1. NITTETSU MINING CO.,LTD., MACHINERY AND ENVIRONMENT, Japan

3:00 PM

Break

FS6- Advanced powder processing both for carbon net zero and circular economy II

Room: Ballroom 5

Session Chairs: Dariusz Alterman, University of the Sunshine Coast;
Yuki Yamaguchi, National Institute of Advanced Industrial Science and Technology (AIST)

3:20 PM

(ICACC-FS6019-2025) Advanced Membrane Technology for Direct Air Capture: Utilizing Ionic Liquid Mixtures and Nanoceramics (Invited)

T. Makino^{*1}

1. National Institute of Advanced Industrial Science and Technology, Japan

3:50 PM

(ICACC-FS6020-2025) Flux-grown crystal innovation for circulating water systems - Data-driven/AI & high-throughput processes (Invited)

K. Teshima^{*1}; T. Yamada¹; F. Hayashi¹; N. Isu¹; A. Tanaka¹; C. Terashima²; S. Oishi¹

1. Shinshu University, Institute for Aqua Regeneration, Japan
2. Tokyo University of Science, Research Center for Space System Innovation, Japan

FS6- Circular economy perspectives for inorganic waste/wastewater valorisation/stabilization I

Room: Ballroom 5

Session Chairs: Yuki Yamaguchi, National Institute of Advanced Industrial Science and Technology (AIST); Dariusz Alterman, University of the Sunshine Coast

4:20 PM

(ICACC-FS6021-2025) Enhanced waste glass upcycling by engineered alkali activation

F. Carollo¹; Z. Muhammad Jamshaid¹; G. Tameni¹; P. Sgarbossa¹; E. Bernardo^{*1}

1. University of Padova, Industrial Engineering, Italy

4:40 PM

(ICACC-FS6022-2025) Pumice stone, refractory brick and cork wood on the facade of buildings to mitigate noise pollution in urban street canyons

J. Rendón Giraldo^{*1}; H. A. Colorado L.²

1. Universidad de Antioquia, CCComposites Laboratory, Colombia
2. Universidad de Antioquia, Colombia

5:00 PM

(ICACC-FS6023-2025) Tailoring of secondary metal oxide raw materials for sustainable ceramics in concentrated solar thermal technology

G. Alkan^{*1}; P. Mechnich²; D. Kenn³; P. Friedrich³

1. Deutsches Zentrum für Luft- und Raumfahrt DLR, Germany
2. DLR - German Aerospace Center, Institute of Materials Research, Germany
3. Rheinisch-Westfälische Technische Hochschule Aachen, Germany

S1 Mechanical Behavior and Performance of Ceramics & Composites

S1- Ceramics for Concentrated Solar-Thermal Power and Industrial Process Heat II

Room: Coquina E

Session Chair: Kamala Raghavan, Department of Energy

1:30 PM

(ICACC-S1-020-2025) Development of a SiC based Heat Exchanger for Concentrated Solar Application* (Invited)

D. Singh^{*1}

1. Argonne National Lab, USA

2:00 PM

(ICACC-S1-021-2025) Development of a Silicon Carbide Composite Receiver for Concentrated Solar Power

F. Mohammadi^{*1}; J. Halfinger¹; K. Armijo²; N. Schroeder²; T. Daspit³; M. Anderson⁴

1. Ceramic Tubular Products, LLC, USA
2. Sandia National Laboratories, USA
3. University of Virginia, USA
4. University of Wisconsin-Madison, USA

2:20 PM

(ICACC-S1-022-2025) Compatibility of metallic phase change materials with SiC and with SiC/SiC joints

C. Malinverni^{*2}; M. Salvo²; C. Prentice¹; M. Farnham¹; V. Casalegno²

1. Archer Technicoat Ltd, ATL, United Kingdom
2. Politecnico di Torino, Italy

2:40 PM

(ICACC-S1-023-2025) Heat exchanger additive manufacturing for CSP: Experimental and modeling studies for improving overhang stability

M. Du^{*1}; Q. MacKenzie¹; G. Hu¹; D. Singh¹

1. Argonne National Laboratory, USA

3:00 PM

Break

3:20 PM

(ICACC-S1-024-2025) Rapid joining of silicon carbide through Current Activated Reactive Ultrafast Joining (CARUJ)

S. Shivakumar^{*1}; B. Barua²; M. C. Messner²; P. S. Chaugule²; J. Luo¹; D. Singh²

1. University of California San Diego, USA
2. Argonne National Lab, USA

S1- Repair, Joining, Integration and Testing of Ceramics

Room: Coquina E

Session Chairs: Dong Liu, University of Oxford; Michael Halbig, NASA Glenn Research Center

3:40 PM

(ICACC-S1-025-2025) Robust Repair and Refurbishment (R3) Technologies for Ceramic Matrix Composites in Aerospace and Ground Based Applications (Invited)

M. C. Halbig^{*1}; M. Singh²; A. S. Almansour³; G. Costa¹

1. NASA Glenn Research Center, USA
2. Ohio Aerospace Institute, USA
3. NASA Glenn Research Center, Mechanical Engineering, USA

4:10 PM

(ICACC-S1-026-2025) Ceramic to metal joining for high temperature oxygen separation applications

S. De La Pierre^{*1}; F. Da Prato¹; P. Fedeli²; A. Cavaliere²; A. Cammi²; A. Benelli¹; F. Smeacetto¹; F. Drago²; M. Ferraris¹

1. Politecnico di Torino, DISAT, Italy
2. Ricerca sul Sistema Energetico RSE SpA, Italy

4:30 PM

(ICACC-S1-027-2025) Developing and testing joints and surface modification techniques for CMCs for energy-intensive industries

V. Casalegno^{*1}; C. Malinverni¹; M. Salvo²; G. Puchas³; S. Schafföner⁴; P. Bertrand⁵

1. Politecnico di Torino, DISAT, Italy
2. Politecnico di Torino, Italy
3. University of Bayreuth, Ceramic Materials Engineering, Germany
4. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany
5. UTBM, CNRS, Laboratory ICB, UMR - 6303 CNRS, France

4:50 PM

(ICACC-S1-028-2025) Glass-based sealants for joining α to β'' -Al₂O₃ in a novel Na-Zn battery

M. Salvo^{*1}; F. D'Isanto¹; A. Baggio¹; D. Basso²; D. Gaia²; F. Smeacetto¹

1. Politecnico di Torino, Department of Applied Science and Technology, Italy
2. FZSONICK S.A., Switzerland

5:10 PM

Poster Preview Pitch- Joining and Coating of Oxide-CMC by Pre ceramic Polymers

5:12 PM

Poster Preview Pitch- Silicon Nitride-Invar Joining

5:14 PM

Poster Preview Pitch- Composites Materials Handbook 17

5:16 PM

Poster Preview Pitch- Advanced Joining Technologies at J-Tech@ PoliTO

5:18 PM

Poster Preview Pitch- Machinable SiC composites for elevated temperature tribological applications: A promising alternative to traditional SiC ceramics

5:20 PM

Poster Preview Pitch- A Multi-Scale Hierarchical PHFGMC Framework for Predicting Mechanical Properties of C/C-SiC CMCs

S2 Advanced Ceramic Coatings for Structural/ Environmental & Functional Applications

S2- CMAS-type recession and mitigation strategies II

Room: Coquina C

Session Chair: Kuiying Chen, National Research Council Canada

1:30 PM

(ICACC-S2-018-2025) The effect of soda additions on the degradation of gadolinium zirconate by CMFAS (Invited)

C. S. Holgate^{*1}; N. Basilyan¹; C. G. Levi¹

1. University of California, Santa Barbara, Materials, USA

2:00 PM

(ICACC-S2-019-2025) A Core-Shell Thermal Barrier Coating with Strong Resistance to Molten Silicate Attack and Fracture

Z. Li^{*1}; G. Brewster²; L. Isern³; C. Chalk³; J. Nicholls³; P. Xiao¹; Y. Chen¹

1. The University of Manchester, Department of materials, United Kingdom
2. Rolls-Royce Plc Marine, United Kingdom
3. Cranfield University Surface Engineering and Precision Institute, United Kingdom

2:20 PM

(ICACC-S2-020-2025) Chemical and mechanical properties of modified Yb₂Si₂O₇ environmental barrier coatings corroded by molten CMAS

G. Costa^{*1}; M. J. Presby²; A. S. Almansour³; R. I. Webster¹; K. Lee¹

1. NASA Glenn Research Center, USA
2. NASA Glenn Research Center, Environmental Effects and Coatings Branch, USA
3. NASA Glenn Research Center, Mechanical Engineering, USA

2:40 PM

(ICACC-S2-021-2025) Progressive Development of Deposits of CMAS Arriving as Individual Minerals

E. H. Jordan^{*1}; H. D. Diaz²; S. P. Jordan²; B. Jun³

1. University of Connecticut, Mechanical Engineering, USA
2. Google, Quantum, USA
3. University of Connecticut, Materials Science, USA

3:00 PM

Break

S2- CMAS-type recession and mitigation strategies III

Room: Coquina C

Session Chair: Seongwon Kim, Korea Institute of Ceramic Engineering and Technology (KICET)

3:20 PM

(ICACC-S2-022-2025) Thermochemistry of Yttrium, Ytterbium, and Gadolinium CMAS Glasses

R. Bogle²; B. Aberra³; R. I. Webster¹; N. P. Bansal¹; M. J. Presby⁴; G. Costa^{*1}

1. NASA Glenn Research Center, USA
2. Purdue University, USA
3. Arizona State University, USA
4. NASA Glenn Research Center, Environmental Effects and Coatings Branch, USA

3:40 PM

(ICACC-S2-023-2025) Mechanistic Insights in the Degradation of Thermal/Environmental Barrier Coatings by Mixtures of Calcium-Magnesia-Aluminosilicate Glass & Salt/Sulfates

C. J. Louzon^{*1}; N. P. Padture¹

1. Brown University, School of Engineering, USA

4:00 PM

(ICACC-S2-024-2025) Influence of Cation Size on Calcium-Magnesium-Aluminosilicate Interactions with Binary Rare Earth Disilicate Coatings

L. A. Doumaux^{*1}; E. Opila²; R. Golden³

1. University of Virginia, Materials Science and Engineering, USA
2. University of Virginia, USA
3. Rolls-Royce Corp, USA

4:20 PM

(ICACC-S2-026-2025) Spherical CMAS-type particles for controlled, sequential exposure of thermal/environmental barrier coatings

P. Mechnich^{*1}; G. Alkan¹

1. Deutsches Zentrum für Luft- und Raumfahrt DLR, Germany

S2 22th Intl Symp on Solid Oxide Cells Materials Science & Technology

S3- Metal supported cells

Room: Ballroom 4

Session Chair: Prabhakar Singh, University of Connecticut

1:30 PM

(ICACC-S3-014-2025) Metal-supported solid oxide electrolyzers for high temperature electrolysis (Invited)

B. Hu^{*1}; Z. Zhu¹; F. Shen¹; G. Lau¹; M. Tucker¹

1. Lawrence Berkeley National Laboratory, Energy Storage and Distributed Resources, USA

2:00 PM

(ICACC-S3-015-2025) Durable and robust steam electrolysis in Metal Supported Cells

J. Zamudio Garcia^{*1}; B. Sudiredy¹; P. Hendriksen¹; A. Hagen¹

1. Technical University of Denmark, DTU Energy, Denmark

2:20 PM

(ICACC-S3-016-2025) Large-Area Metal Supported BZCY Proton Conducting Electrolysis Cell

Z. Zhuang^{*1}; L. Mastropasqua¹

1. University of Wisconsin-Madison, Mechanical Engineering, USA

2:40 PM

(ICACC-S3-017-2025) Evaluation of Electrochemical Properties on Controlled Microstructure by Infiltration Method for Solid Oxide Fuel Cell Cathode

R. A. Budiman^{*1}; T. Namigawara¹; K. Yashiro²; T. Kawada¹

1. Tohoku Daigaku, Graduate School of Environmental Studies, Japan
2. Shimane Daigaku, Faculty of Materials for Energy, Japan

S3- Air Electrode

Room: Ballroom 4

Session Chair: Jakub Kupecki, Institute of Power Engineering

3:00 PM

Break

3:20 PM

(ICACC-S3-018-2025) Microstructural Engineering of Innovative Nanostructured Oxygen Electrodes for Solid Oxide Cells (Invited)

E. Djurado^{*1}; O. Celikbilek²; N. Khamidy¹; R. Sharma¹

1. Universite Grenoble Alpes Phelma, LEPMI, France
2. Universite Grenoble Alpes, CEA LITEN, France

3:50 PM

(ICACC-S3-019-2025) Enhancing Low-Temperature SOFC Performance and Durability via Surface Modification and Scaling High Power Cells (Invited)

E. D. Wachsman^{*1}

1. University of Maryland, USA

4:20 PM

(ICACC-S3-020-2025) Development of Heterostructured Cr-Resistant Oxygen Electrodes for Solid Oxide Electrolysis Cells (SOECs)

Y. Zhong^{*1}; G. Liu¹; A. Kalu³; C. Klemstine²; S. Yang¹; W. Li²; E. M. Sabolsky²; X. Liu²

1. Worcester Polytechnic Institute, Mechanical and Materials Engineering, USA
2. West Virginia University, Mechanical & Aerospace Engineering, USA
3. West Virginia University, Chemical and Biomedical Engineering, USA

4:40 PM

(ICACC-S3-021-2025) Structure and Electrochemical Behavior of Praseodymium Oxide Thin Film Oxygen Electrode

B. Lemieszek¹; S. Molin^{*1}

1. Department of Functional Materials Engineering, Faculty of Electronics, Telecommunications and Informatics, Poland

5:00 PM

(ICACC-S3-022-2025) Study of the Reversible Solid Oxide Fuel Cell's performance with PrNi_{0.5}Co_{0.5}O_{3-δ} Oxygen Electrode and 10ScCeSZ Electrolyte

S. A^{*1}; S. S¹; A. St¹

1. CSIR-National Aerospace Laboratories, Bengaluru, Surface Engineering Division, India

5:20 PM

(ICACC-S3-023-2025) Cu-doped La₂NiO₄ oxides as Oxygen Electrodes for Solid Oxide Electrolysis Cells

S. B. Karki^{*1}; L. M. Seymour²; L. Le²; R. Springer²; T. Liu²; C. A. Coyle²; O. A. Marina²

1. Pacific Northwest National Laboratory, Energy and Environment Division, USA
2. Pacific Northwest National Lab, USA

S4 Advanced Materials for Thermoelectric and Thermionic Energy Conversion

S4- Theoretical and experimental approaches to thermal and electrical transport mechanisms in thermoelectric/thermionic materials

Room: Coquina D

Session Chairs: Yanan Liu, Colorado School of Mines; Shuo Chen, University of Houston

1:30 PM

(ICACC-S4-008-2025) Electron Transport in Hierarchical Ceramic Composites (Invited)

J. Bahk^{*1}; M. Jackson¹

1. University of Cincinnati, Mechanical and Materials Engineering, USA

2:00 PM

(ICACC-S4-009-2025) In-Plane Thermal Conductivity Measurements of 2D Layered Materials Using Heat Diffusion Imaging (Invited) *WITHDRAWN*

M. Malat^{*1}; F. Tonni¹; M. Zebarjadi¹

1. University of Virginia School of Engineering & Applied Science, Electrical & Computer Engineering, USA

2:30 PM

(ICACC-S4-010-2025) Applying the Wiedemann-Franz Law in Thermoelectric Ceramics *WITHDRAWN*

S. Akhbarifar^{*1}

1. The Catholic University of America, Physics, USA

2:50 PM

(ICACC-S4-011-2025) Thermoelectric Properties of ScN Thin Films Controlled by Ion Implantation

C. Poterie^{*1}; H. Bouteiller¹; R. Burcea¹; S. Dubois¹; A. le Febvrier²; P. Eklund²; T. Cabioch¹; J. Barbot¹

1. PPRIME Institute, France
2. Uppsala Universitet, Department of Chemistry, Sweden

3:10 PM

Break

S4- Advanced Materials for thermoelectric and thermionic energy conversion II

Room: Coquina D

Session Chairs: Bin Xu, Tokyo Daigaku; Jan-Willem Bos, University of St Andrews

3:30 PM

(ICACC-S4-012-2025) Advancing Thermoelectric Performance with Solution-Based Synthesis of Defect-Tuned Silver Selenide (Invited)

N. Jakhar^{*1}; T. Kleinhanns¹; Y. Liu²; S. Xu¹; A. Lawal¹; F. Milillo¹; S. Horta¹; M. Ibáñez¹

1. Institute of Science and Technology Austria, Austria
2. Hefei University of Technology, China

4:00 PM

(ICACC-S4-013-2025) High-Performance Thermoelectric Polymers with $zT > 1$

J. Ouyang^{*1}

1. National University of Singapore, Department of Materials Science & Engineering, Singapore

4:20 PM

(ICACC-S4-014-2025) Novel conjugated polymers decorated with radical pending units for thermoelectric applications

E. Orgiu^{*1}

1. Université du Québec, Institut national de la recherche scientifique (INRS), Canada

4:40 PM

(ICACC-S4-015-2025) Reproducing Cassini-era SiGe Using Vacuum Casting and Mechanical Alloying (Invited)

H. Wang^{*1}

1. Oak Ridge National Laboratory, USA

5:10 PM

(ICACC-S4-016-2025) Building Thermoelectric Modules for Nuclear Battery Applications

H. Bouteiller^{*1}; T. Muth¹; A. May¹; D. Hoelzer¹; H. Wang¹

1. Oak Ridge National Laboratory, USA

S6 Advanced Materials and Technologies for Rechargeable Energy Storage

S6- All-solid-state batteries III

Room: Coquina B

Session Chairs: Wan Si Tang, Underwriters Laboratories Inc; Mahalingam Balasubramanian, Oak Ridge National Lab

1:30 PM

(ICACC-S6-015-2025) Development of High-Performance All-Solid-State Lithium-Sulfur Battery (Invited)

M. Jeong¹; M. Kindle¹; J. Wu¹; D. Jin¹; U. Kim¹; H. Xu¹; D. Lu^{*1}

1. Pacific Northwest National Laboratory, USA

2:00 PM

(ICACC-S6-016-2025) High Performance Solid-State Batteries with Solvent-Free Processing (Invited)

Y. Lin^{*1}; J. Su¹; V. Yamakov²; J. Kang¹; D. Dornbusch³; R. P. Viggiano³

1. NASA Langley Research Center, Advanced Materials and Processing Branch, USA
2. Analytical Mechanics Associates, USA
3. NASA Glenn Research Center, Materials, Chemistry, and Physics Branch, USA

2:30 PM

(ICACC-S6-017-2025) Anode-free solid-state batteries based on 3D-printed metal-carbon composite interlayers (Invited)

S. Risal¹; Z. Fan^{*1}

1. University of Houston, USA

3:00 PM

Break

S6- Solid electrolytes for batteries I

Room: Coquina B

Session Chairs: Wan Si Tang, Underwriters Laboratories Inc;

3:20 PM

(ICACC-S6-018-2025) Developments of Air-Stable Sulfide Solid Electrolytes (Invited)

M. Otoyama^{*1}; K. Kuratani¹; H. Kobayashi¹

1. National Institute of Advanced Industrial Science and Technology, Japan

3:50 PM

(ICACC-S6-019-2025) Mechano-electrochemical Phenomena in Ceramic Ion Conductors (Invited)

J. Sakamoto^{*1}

1. University of California Santa Barbara, Materials, USA

4:20 PM

(ICACC-S6-020-2025) Composite Electrolytes for High-Energy Lithium Batteries (Invited)

D. Bresser^{*1}

1. Karlsruher Institut für Technologie, Helmholtz Institute Ulm (HIU), Germany

S7 19th Intl Symp on Functional Nanomaterials & Thin Films for Sustainable Energy Harvesting

S7- Nanomaterials for energy conversion, storage and catalysis- IV

Room: Flagler C

Session Chair: Muhammet Toprak, KTH Royal Institute of Technology

1:30 PM

(ICACC-S7-017-2025) Organoferrous Photosensitizers for DSSC Applications: A Promising Future? (Invited)

C. Cebrian Avila^{*1}; P. C. Gros²

1. Universite de Strasbourg, France
2. Universite de Lorraine, France

2:00 PM

(ICACC-S7-018-2025) Tailoring Microstructure of Polyvinyl Chloride Films via BaTiO₃ Nanowires to Achieve Improved Electrical and Mechanical Performance

S. Dadashov^{*1}; B. Göll¹; S. Kinden²; E. Suvac²

1. Eskisehir Teknik Universitesi, Chemical Engineering, Turkey
2. Eskisehir Teknik Universitesi, Material Science and Engineering, Turkey
3. Eskisehir Teknik Universitesi, Electric Electronics Engineering, Turkey
4. Eskisehir Teknik Universitesi, Material Science, Turkey

2:20 PM

(ICACC-S7-019-2025) Enhanced Oxygen Evolution and Zinc-Air Battery Performance via Electronic Spin Modulation in Heterostructured Catalysts

L. Yang^{*1}; R. He¹; A. Cabot¹

1. Institut de Recerca en Energia de Catalunya, Spain

2:40 PM

(ICACC-S7-020-2025) Promoting Polysulfide Redox Reactions through Electronic Spin Manipulation

J. Yu^{*1}

1. Institut de Recerca en Energia de Catalunya, Spain

S7- Nanotoxicity, bio-imaging, drug-delivery and tissue engineering with tailored nano-bioconjugates

Room: Flagler C

Session Chair: Jose Serrano Claumarchirant, Kungliga Tekniska Hogskolan

3:00 PM

Break

3:20 PM

(ICACC-S7-021-2025) Bioconjugated Nanoparticles for Precision Drug Delivery (Invited)

S. Ilyas²; T. Fischer¹; S. Mathur^{*1}

1. Universität zu Köln Mathematisch-Naturwissenschaftliche Fakultät, Institute of Inorganic and Materials Chemistry, Germany
2. Institute of Inorganic and Materials Chemistry, Chemistry, Germany

3:50 PM

(ICACC-S7-022-2025) Development of Inorganic Nanoparticles for Emerging X-Ray Fluorescence Bioimaging (Invited)

M. S. Toprak^{*1}; G. Saladino¹; B. Brodin¹; H. M. Hertz¹

1. KTH Royal Institute of Technology, Dept. of Applied Physics, Sweden

4:20 PM

(ICACC-S7-023-2025) Magnetite@mesoporous silica core-shell nanostructures: an innovative and promising theranostic material

M. Garrido Blay^{*1}; B. Hamawandi²; G. Saladino²; M. Marcos³; J. Ros-Lis³; P. Amorós¹; M. S. Toprak²

1. Universitat de Valencia, ICMUV, Spain
2. KTH Royal Institute of Technology, Applied Physics, Sweden
3. Universidad Politecnica de Valencia, Instituto Interuniversitario de Investigación de Reconocimiento Molecular y Desarrollo Tecnológico (IDM), Spain
4. Universitat de Valencia, Inorganic Chemistry, Spain

4:40 PM

(ICACC-S7-024-2025) Red to near-infrared emitting materials for biomedical optoelectronics (Invited)

M. Mauro^{*1}

1. Universite de Strasbourg, France

S8 19th Intl Symp on APMT for Structural & Multifunctional Materials & Systems

S8-Advanced composite manufacturing technologies, hybrid processes

Room: Flagler A

Session Chairs: Lalit Sharma, CSIR-Central Glass & Ceramic Research institute; Gaku Okuma, Tokyo Institute of Technology

1:30 PM

(ICACC-S8-017-2025) Alumina ceramics without sintering additives as potential substrates for integrated circuits (Invited)

K. Balazsi^{*2}; C. Balazsi¹

1. Magyar Kutatasi Halozat Energiatudományi Kutatóközpont, Hungary
2. Magyar Kutatasi Halozat Energiatudományi Kutatóközpont, Thin Film Physics, Hungary

2:00 PM

(ICACC-S8-018-2025) High-speed growth of non-oxide composites by laser chemical vapor deposition using alkylamido compound precursors (Invited)

H. Katsui^{*1}; K. Shimoda²; M. Hotta¹

1. National Institute of Advanced Industrial Science and Technology (AIST), Multi-Material Research Institute, Japan
2. National Institute for Materials Science (NIMS), Research Center for Structural Materials, Japan

2:30 PM

(ICACC-S8-019-2025) Chemical vapor deposition of HfO₂-Lu₂O₃ and ZrO₂-Lu₂O₃ films and their phase relations

A. Ito^{*1}

1. Yokohama National University, Graduate School of Environment and Information Sciences, Japan

2:50 PM

(ICACC-S8-020-2025) Modeling study of SiC deposition into porous substrates by thermal gradient chemical vapor infiltration

N. Bessouet^{*1}; G. L. Vignoles¹; S. Jacques¹

1. Laboratoire des Composites Thermostructuraux, France

3:10 PM

Break

3:30 PM

(ICACC-S8-021-2025) Design and processing to develop multifunctional AlN-SiC and AlC-SiC based bulk, nano and microcrystalline large band gap materials (Invited)

N. B. Singh^{*1}

1. University of Maryland Baltimore County, Chemistry and Biochemistry and Computer Science and Electrical Engineering, USA

4:20 PM

(ICACC-S8-023-2025) Physico-chemical studies of the preparation of SiC/BN/SiC composites

G. L. Vignoles^{*1}; S. Jacques²; H. Plaisantin³; J. Danet²; G. Chollon²; O. Caty¹; Y. Lepetitcorps¹; G. Couégnat²; J. Roger¹; S. Denneulin⁴; A. Marchais⁴; N. Eberling-Fux⁴; G. Camus²; S. Jouannigot²; P. Fénétaud¹; C. Chanson¹; H. Delpouve¹; P. Carminat¹; H. Carpentier¹

1. University Bordeaux, LCTS - Lab for ThermStructural Composites, France
2. CNRS LCTS, France
3. Laboratoire des Composites Thermostructuraux, France
4. Safran SA, Safran Ceramics, France

4:40 PM

(ICACC-S8-024-2025) On the manufacturing of novel materials by using Corn-based Precursors

M. Fuka^{*1}; J. Zhang¹; S. Gupta¹

1. University of North Dakota, Mechanical Engineering, USA

5:00 PM

(ICACC-S8-025-2025) Design and Development of Multicomponent Polymeric Blends for Enhanced Performance

A. Islam^{*}; A. Thorne¹; S. Gupta¹

1. University of North Dakota, Mechanical Engineering, USA

S9 Porous Ceramics Novel Developments and Applications

S9- Porous Ceramics- Novel Developments and Applications

Room: Ballroom 1-2

Session Chair: Tobias Fey, Friedrich-Alexander University Erlangen-Nürnberg

1:30 PM

(ICACC-S9-018-2025) Shaping tomorrow using robocasting: Fabrication of periodic and non-periodic porous ceramic structures (Invited)

L. Wahl^{*}; M. Weichelt¹; N. Travitzky¹; T. Fey¹

1. Friedrich-Alexander University Erlangen-Nürnberg, Department Material Science and Engineering, Germany

2:00 PM

(ICACC-S9-019-2025) Comparing Robocasting and Injection Molding: A Study on Auxetic Structures and Material Behaviour

M. Weichelt^{*}; D. Köllner¹; T. Fey¹

1. Friedrich-Alexander University Erlangen-Nürnberg, Department Material Science and Engineering, Germany

2:20 PM

(ICACC-S9-020-2025) Keep it simple: Kelvin Cells via Liquid Crystal Display-Stereolithography Printing

S. Funk^{*}; T. Fey¹

1. Friedrich-Alexander University Erlangen-Nürnberg, Department Material Science and Engineering, Germany

2:40 PM

(ICACC-S9-021-2025) High-Resolution 3D Imaging of Porous Ceramics Using Confocal Laser Fluorescence Microscopy (Invited)

M. Uematsu^{*}; K. Ishii²; T. Kimura¹; T. Uchikoshi³

1. Japan Fine Ceramics Center, Japan
2. Nagoya Institute of Technology, Advanced Ceramics Research Center, Japan
3. National Institute for Materials Science, Japan

3:10 PM

(ICACC-S9-022-2025) Feature selection method based on porosity-hygroscopy correlations of geopolymer matrices for the prediction of the Moisture Control Capacity

E. Kamseu^{*}

1. MIPROMALO, Research, Cameroon

3:30 PM

Poster Pitch Preview- Activation of volcanic ash as support for FeO_x gliding arc plasma deposition and application in the catalytic oxidation

S12 Design and Applications of Nanolaminated MAX and MAB Phases Solid Solutions and 2D Counterparts

S12- On the Design of nanolaminated ternary transition metal carbides/nitrides (Max Phases) and Borides (MAB Phases), Solid Solutions thereof and 2D Counterparts

Room: Ponce de Leon

Session Chair: Sylvain Dubois, PPRIME Institute

1:30 PM

(ICACC-S12-016-2025) Behaviour under ion irradiation of Cr₂AlC (Invited)

T. Cabioch^{*}; F. Brenet¹; M. Beaufort¹

1. Institut PPrime - Université de Poitiers - CNRS - ENSMA, France

2:00 PM

(ICACC-S12-017-2025) The effect of microstructure on the radiation response of MAX phase ceramics (Invited)

K. Lambrinou^{*}; I. Ekhikioya¹; N. Goossens²; T. Lapauw³; B. Tunca³; S. Huang⁴; G. Greaves¹; J. A. Hinks¹; J. Vleugels³; P. Persson⁵

1. University of Huddersfield, School of Computing and Engineering, United Kingdom
2. Empa, High Performance Ceramics, Switzerland
3. Katholieke Universiteit Leuven, Department of Materials Engineering, Belgium
4. KU Leuven, Materials Engineering, Belgium
5. Linköpings universitet, Department of Physics, Chemistry and Biology, Sweden

2:30 PM

(ICACC-S12-018-2025) In Situ high temperature neutron-diffraction studies of loaded MAX₂Al bars and FAST-synthesized Cr₂AlC Brazilian-discs

A. A. Coleman^{*}; J. Kelleher¹; R. Springell²

1. Rutherford Appleton Laboratory, ISIS, United Kingdom
2. University of Bristol, Physics, United Kingdom

S12- On the Design of nanolaminated ternary transition metal carbides/nitrides (Max Phases) and Borides (MAB Phases), Solid Solutions thereof and 2D Counterparts

Room: Ponce de Leon

Session Chairs: Ankit Srivastava, Texas A&M University; Christina Birkel, Arizona State University

2:50 PM

Break

3:10 PM

(ICACC-S12-019-2025) MAX and MAB phase single crystals and their 2D derivatives (Invited)

T. Ouisse^{*}; T. Ito²; H. Pazniak¹; F. Wilhelm³; A. Sharma¹

1. Grenoble INP, France
2. Nagoya University, Nagoya University Synchrotron Radiation research Center, Japan
3. ESRF, France

3:40 PM

(ICACC-S12-020-2025) Surface electronic structure of the Zr₃SnC₂ MAX phase studied by angle-resolved photoemission spectroscopy

T. Ito^{*}; T. Ouisse²; M. Mita³; K. Tanaka⁴; L. Jouffret⁵; H. Pazniak²; S. Quessada²

1. Nagoya University, Nagoya University Synchrotron Radiation research Center, Japan
2. Grenoble INP, France
3. Nagoya University, Graduate School of Engineering, Japan
4. Bunshi Kagaku Kenkyujo Kyokutan Shigaiko Kenkyu Shisetsu, Japan
5. Université Clermont Auvergne, CNRS, ICCF, France

4:00 PM

(ICACC-S12-021-2025) Synthesis of high temperature MAX phase in the Nb-Al-C, V-Al-C and Ta-Al-C system by molten salt shielded synthesis (Invited)

A. Dash*¹; C. Roy¹

1. Danmarks Tekniske Universitet, Department of Energy Conversion and Storage, Denmark

4:30 PM

(ICACC-S12-022-2025) Synthesis and Characterization of Mo₂NiB₂ Ceramics

G. Ngige*¹; M. Malusky¹; J. Zhang¹; S. Gupta¹

1. University of North Dakota, Mechanical Engineering, USA

4:50 PM

(ICACC-S12-023-2025) First-principles investigation of the phase stability and mechanical properties of 2D MXenes

N. D. Oyeniran*¹; C. Hu¹; P. Ganesh²; J. Jakowski³; P. Kent³; B. Sumpter²; J. Huang²

1. The University of Alabama, Aerospace Engineering and Mechanics, USA
2. Center of Nanophase Materials Sciences, Oak Ridge National Laboratory, USA
3. Computational Sciences and Engineering Division, Oak Ridge National Laboratory, USA

5:10 PM

(ICACC-S12-024-2025) Design and Characterization of PEEK-based Composites for Tribological Applications

M. Malusky*¹; S. Gupta¹

1. University of North Dakota, Mechanical Engineering, USA

5:30 PM

Poster Preview Pitch- Development of carbon fibre-based continuous MAX-Phase fibres and corresponding coatings

5:32 PM

Poster Preview Pitch- Turbostratic-Layering Disorder in MAX-Phases

S14 Crystalline Materials for Electrical Optical and Medical Applications

S14- Scintillator II

Room: Coquina A

Session Chairs: Hiroaki Furuse, National Institute for Materials Science (NIMS); Yasushi Sato, Okayama University of Science

1:30 PM

(ICACC-S14-017-2025) Synthesis and characterization of translucent (Gd_{0.894}La_{0.1}Ce_{0.006})₃Al₃Ga₂O₁₂ ceramics (Invited)

S. Kim¹; M. Zhuravleva²; C. Melcher²; J. Glodo¹; Y. Wang¹; M. Müller*¹

1. Radiation Monitoring Devices Inc, Ceramics, USA
2. University of Tennessee, Scintillation Materials Research Center, USA

2:00 PM

(ICACC-S14-018-2025) Scintillation Properties of Transparent Rare-Earth Ions Doped PbF₂ Crystals Prepared by Spontaneous Melt Crystallization (Invited)

N. Kawaguchi*¹; T. Kunikata¹; T. Kato¹; D. Nakauchi¹; T. Yanagida¹

1. Nara Institute of Science and Technology, Japan

2:30 PM

(ICACC-S14-019-2025) Eco-friendly Organic Metal Halide Hybrids for X-ray Scintillation and Detection (Invited)

B. Ma*¹

1. Florida State University, Chemistry and Biochemistry, USA

3:00 PM

Break

S14- Piezoelectric/Ferroelectric Material

Room: Coquina A

Session Chairs: Mariola Ramirez, Universidad Autonoma de Madrid; Tetsuo Tsuchiya, National Institute of Advanced Industrial Science and Technology (AIST)

3:20 PM

(ICACC-S14-020-2025) High-Performance Domain-Engineered Tunable Dielectrics for Efficient Sensing (Invited)

J. E. Spanier*¹

1. Drexel University, Mechanical Engineering and Mechanics, USA

3:50 PM

Poster Preview Pitch- New method for the exact determination of the Curie temperature using temperature-dependent X-ray diffraction on the model system barium titanate

3:52 PM

Poster Preview Pitch- Phase identity and microstructure-property relationships in BiFeO₃-BaTiO₃ ceramics

3:54 PM

(ICACC-S14-023-2025) Tuning the properties of magnetoelectric nanoparticles to enable multiplexed brain stimulation

A. Milojkovic*¹; K. Kozielski¹

1. Technische Universitat Munchen, Germany

4:14 PM

(ICACC-S14-024-2025) Ultra-low dielectric permittivity in Li₂O-B₂O₃-SiO₂ glass-ceramics

J. Qiu*¹; C. Tu²; K. Feng³

1. Ming Chi University of Technology, International Ph.D. Program in Innovative Technology of Biomedical Engineering and Medical Devices, Taiwan
2. Fu Jen Catholic University, Physics, Taiwan
3. Ming Chi University of Technology, Department of Mechanical Engineering, Taiwan

S17 Advanced Ceramic Materials and Processing for Photonics and Energy

S17- Advanced Ceramic Materials and Processing for Photonics and Energy II

Room: Coquina H

Session Chairs: Rafik Naccache, Concordia University; Federico Polo, Ca' Foscari University of Venice

1:30 PM

(ICACC-S17-008-2025) Chiral metal complexes for enhanced photo- and electrochemically-induced circularly polarized luminescence (Invited)

M. Mauro*¹

1. Universite de Strasbourg, France

2:00 PM

(ICACC-S17-009-2025) Rational design of inorganic nanomaterials with tailored morphology as efficient photocatalysts (Invited)

E. Moretti*¹

1. Ca' Foscari University of Venice, Department of Molecular Sciences and Nanosystems, Italy

2:30 PM

(ICACC-S17-010-2025) Novel Catalysts for Water Splitting: Strategies for Performance Enhancement (Invited)

T. A. Shifa*¹

1. Ca' Foscari University of Venice, Department of Molecular Sciences and Nanosystems, Italy

3:00 PM

Break

3:20 PM

(ICACC-S17-011-2025) Innovative Approaches in Theranostics: The Role of Luminescent Rare Earth Doped Nanoparticles (Invited)

F. Vetrone*¹

1. INRS, Université du Québec, Centre Énergie, Matériaux et Télécommunications, Canada

3:50 PM

(ICACC-S17-012-2025) Sodium: the journey of a “diffusion catalyst” from the surface to the bulk of Cu(In,Ga)Se₂ (Invited)

D. Colombara*¹

1. Università degli Studi di Genova, Italy

4:20 PM

(ICACC-S17-013-2025) Nano-Catalyst Formation by Exsolution: Applications For Electrochemical Fuel Production (Invited)

S. Barnett*¹

1. Northwestern University, USA

4:50 PM

(ICACC-S17-014-2025) Design of CeO₂-based nanocomposites for production of Liquid Hydrogen Carriers (Invited)

T. Montini*¹

1. Università degli Studi di Trieste, Department of Chemical and Pharmaceutical Sciences, Italy

S18 Ultra-High Temperature Ceramics

S18- Processing-Microstructure-Property Relationship

Room: Coquina F

Session Chairs: Kun Wang, Alfred University; Vinothini Venkatachalam, University of Birmingham

1:30 PM

(ICACC-S18-017-2025) Near net shape processing of high & ultra-high temperature ceramic matrix composites (Invited)

V. Venkatachalam*¹; J. Binner²

1. University of Birmingham, Metallurgy and Materials, United Kingdom
2. University of Birmingham, Ceramic Science & Engineering, United Kingdom

2:00 PM

(ICACC-S18-018-2025) Polymer Derived Ultra-High Temperature Ceramic Matrix Composites

A. Advincula*¹; S. Angelopoulos¹; W. Meador¹; J. Ponder¹; J. Delcamp¹; M. B. Dickerson¹; T. Pruyn¹

1. Air Force Research Laboratory, Materials and Manufacturing Directorate, USA

2:20 PM

(ICACC-S18-019-2025) Group IV (Zr, Hf) Metal Carbide Whisker Synthesis

P. Loughney*¹; L. M. Rueschhoff¹

1. Air Force Research Lab, Materials and Manufacturing Directorate, USA

2:40 PM

(ICACC-S18-020-2025) Sintering of Arc-Melted Carbon-rich Carbides

A. Patel*¹; A. Celik¹; Z. Ayguzer Yasar¹; R. A. Haber¹

1. Rutgers The State University of New Jersey, Material Science and Engineering, USA

3:00 PM

Break

3:20 PM

(ICACC-S18-021-2025) Development of Advanced High Temperature Testing of Ceramic Materials (Invited)

B. Allen*¹

1. Dynamic Systems Inc., USA

3:50 PM

(ICACC-S18-022-2025) Densification, mechanical and thermal properties of zirconium diboride ceramics

Y. Zhou*¹; W. Fahrenholtz¹; G. Hilmas¹

1. Missouri University of Science & Technology, Materials Science and Engineering, USA

4:10 PM

(ICACC-S18-023-2025) Influence of fibre architecture on the fracture behaviour of 2D C_r-ZrB₂-SiC ultra-high temperature ceramic matrix composites: A 3D image analysis

A. R. Mishra*¹; V. Singh²; D. Kumar²; M. Patel²; R. Mitra¹

1. Indian Institute of Technology Kharagpur, Metallurgical and Materials Engineering, India
2. DRDO Defence Metallurgical Research Laboratory, India

4:30 PM

(ICACC-S18-024-2025) Microstructural Evolution in a One-Directional Phase Changing UHTC-Metal-Composite

M. J. Large*¹; B. Taylor⁴; J. Rosales⁴; C. R. Weinberger²; G. Thompson³

1. The University of Alabama, Materials Science, USA
2. Colorado State University, Department of Mechanical Engineering, USA
3. University of Alabama, Metallurgical & Materials Engineering, USA
4. NASA Marshall Space Flight Center, USA

4:50 PM

(ICACC-S18-025-2025) Effect of B₄C on sintering behavior and induced self-healing of SiC-based ceramics prepared by solid-state synthesis

M. Park*¹; S. Jung¹; W. Kwon¹; S. Lee¹

1. Korea Institute of Materials Science, Extreme Materials Research Institute, Republic of Korea

S19 Molecular-level Processing and Chemical Engineering of Functional Materials

S19- Precursor-derived ceramics for high-temperature applications

Room: Ballroom 3

Session Chair: Günter Motz, University of Bayreuth

1:30 PM

(ICACC-S19-018-2025) Preceramic Polymers and Hybrid Systems for the Fabrication of Nanoscale High-Temperature Ceramics (Invited)

M. B. Dickerson*¹; J. Ponder²; J. J. Bowen¹; T. Pruyn¹; J. Delcamp¹

1. Air Force Research Laboratory, Materials and Manufacturing Directorate, USA
2. Air Force Research Lab, USA

2:00 PM

(ICACC-S19-019-2025) Thermal Stability of Yttrium-modified Polymer-Derived Ceramics

R. Shiva Kumar*¹; R. Prasad¹

1. Indian Institute of Technology Ropar, Metallurgical and Materials Engineering, India

2:20 PM

(ICACC-S19-020-2025) Polymer-derived HfSiCO monolithic ceramics and fibers using Starfire's SHP-199

K. Hendrix*¹; P. Kroll²

1. The University of Texas at Arlington, Chemistry and Biochemistry, USA
2. University of Texas, Arlington, USA

2:40 PM

(ICACC-S19-021-2025) Solution processing of metal carbide composites (Invited)

G. Westin*¹

1. Uppsala University, Sweden

S19- Pyrolysis and precursor-derived ceramic fibers

Room: Ballroom 3

Session Chair: Matthew Dickerson, Air Force Research Laboratory

3:10 PM**Break****3:30 PM****(ICACC-S19-022-2025) Novel Multifibrillar Carbon/Ceramic Hybrid Fibers Consisting of Thousands of Individual Nanofibers (Invited)**G. Motz^{*1}; J. Denk²; S. Schafföner²; X. Liao³; S. Agarwal³

1. University of Bayreuth, Ceramic Materials Engineering, Germany
2. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany
3. Universität Bayreuth, Macromolecular Chemistry II, Germany
4. Tianjin University, School of Materials Science and Engineering, China

4:00 PM**(ICACC-S19-023-2025) Alumina-YAG and Alumina-Zirconia fiber precursors: from synthesis to oxide ceramic conversion**F. Vergnaud^{*1}; E. De Sousa¹; J. Jouin¹; G. Delaizir¹; S. Bernard¹; P. Thomas¹

1. Institut de Recherche sur les Ceramiques, France

4:20 PM**(ICACC-S19-024-2025) Synthesis of tailored preceramic polymers for the design of SiAlON fibers**B. Tolve Granier^{*2}; S. Beaudet-Savignat¹; P. Hourquebie¹; S. Bernard²

1. CEA Le Ripault, France
2. CNRS, IRCER, France

4:40 PM**(ICACC-S19-025-2025) Computational Pyrolysis of SMP-10 and SHP-199 (Invited)**P. Kroll^{*1}

1. The University of Texas at Arlington, Department of Chemistry and Biochemistry, USA

Poster Session A

Room: Ocean Center

5:00 PM**(ICACC-PA001-2025) Enhancing Energy Output in Piezoelectric Nanodevices: A Focus on Electrode Selection**B. Göll^{*1}; G. Yüksel²; S. Dadashov³; S. Kinden³; E. Suvaci²

1. Kahramanmaraş Sutcu Imam Üniversitesi, Electrical and Electronics Engineering, Turkey
2. Eskişehir Teknik Üniversitesi, Materials Science and Engineering, Turkey
3. Eskişehir Teknik Üniversitesi, Electrical engineering, Turkey
4. Eskişehir Teknik Üniversitesi, Chemical Engineering, Turkey

(ICACC-PA002-2025) Beyond Earth for Earth: Innovating Sensors with 3D-Printed Lunar Regolith CompositesM. Sorgi Johann^{*1}; S. De Hoffmann¹; L. Greenwood¹; J. Astacio¹; S. Raghavan¹

1. Embry-Riddle Aeronautical University, Aerospace Engineering, USA

(ICACC-PA003-2025) Closing the loop in recycling: Car2CarM. Wahab^{*1}; S. Fuhrmann¹

1. Technische Universität Bergakademie Freiberg, Institute of Glass Science and Technology, Germany

(ICACC-PA004-2025) Recycling and circular economy with clay waste: trends and challengesL. C. Hernández García^{*1}; H. A. Colorado L.¹

1. Universidad de Antioquia, Colombia

(ICACC-PA005-2025) Vibrational spectroscopies of modified ytterbium di-silicate environmental barrier coatings reacted with a Ca-Mg-Al-Silicate meltB. S. Hulbert^{*1}; K. Lee¹; G. Costa¹

1. NASA Glenn Research Center, USA

(ICACC-PA006-2025) High Purity Lanthanum and Yttrium-Based Materials Analysis by Astrum ES Glow Discharge Mass SpectrometryG. Bartov^{*1}; K. Putyera¹

1. Eurofins EAG Syracuse, USA

(ICACC-PA007-2025) Investigating Durability of 8YSZ via Wear and Erosion Testing for Lunar ApplicationsA. Tirado Pujols^{*1}; Z. Stein¹; C. Wohl²; V. L. Wiesner²; S. Raghavan¹

1. Embry-Riddle Aeronautical University, Aerospace Engineering, USA
2. NASA Langley Research Center, Advanced Materials and Processing Branch, USA

(ICACC-PA008-2025) Thermomechanical Properties of Rare Earth Phosphates as Environmental Barrier CoatingsJ. O. Kazeem^{*1}; L. Huang²; B. P. Majee³; J. Lian³; K. Bryce³

1. Rensselaer Polytechnic Institute, Chemical and Biological engineering, USA
2. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA
3. Rensselaer Polytechnic Institute, Department Of Mechanical, Aerospace, And Nuclear Engineering and Department of Materials Science and Engineering, USA

(ICACC-PA009-2025) Optimizing Steam Jet Parameters for Enhanced Environmental Barrier Coating (EBC) Performance Testing in High-Temperature, High-Velocity EnvironmentsM. L. Caulfield^{*1}; E. Opila²

1. University of Virginia, Mechanical and Aerospace Engineering, USA
2. University of Virginia, USA

(ICACC-PA010-2025) Synthesis Strategies for BaCe_{0.7}Zr_{0.1}Yb_{0.1}O_{3-δ} to Boost Ionic Conductivity in Solid Oxide Cell ElectrolytesA. Gondolini¹; E. Mercadelli¹; A. Bartoletti¹; P. Pinasco¹; M. Ardit²; N. Precisvalle³; S. Massardo⁴; S. Presto⁴; M. Viviani⁴; A. Sanson^{*1}

1. CNR-ISSMC, Italy
2. University of Padova, Department of Geosciences, Italy
3. University of Ferrara, Department of Physics and Earth Sciences, Italy
4. CNR-ICMATE, Italy

(ICACC-PA011-2025) Thickness Dependence of the Support Layer on Gas Diffusion Resistance, Electrode Performance, and Carbon Deposition in Electrode-Supported CellsR. A. Budiman^{*1}; T. Kawada¹; K. Yashiro¹

1. Tohoku Daigaku, Graduate School of Environmental Studies, Japan

(ICACC-PA012-2025) Design and processing of glass-ceramic sealants for protonic ceramic electrolysis cell SRU assemblyF. Da Prato^{*1}; S. Anelli²; D. Ferrero³; D. Schmitter³; J. Dailly³; M. Santarelli¹; F. Smeacetto⁴

1. Politecnico di Torino, Energy Department - DENERG, Italy
2. Politecnico di Torino, DISAT, Italy
3. European Institute for Energy Research, Germany
4. Politecnico di Torino, Applied Science and Technology, Italy

(ICACC-PA013-2025) High temperature gas sealing properties of sericite-based self-expansion compression sealsY. Abo^{*1}; S. Suda¹

1. Shizuoka University, Engineering, Japan

(ICACC-PA014-2025) Effects of CeO₂ nano-dispersion in LSM cathode on SOFC electrode propertiesK. Kawaminami^{*1}; S. Suda¹

1. Shizuoka University, Engineering, Japan

(ICACC-PA015-2025) Electrophoretic deposition of MnCu based coating for reversible SOCsF. Gallo^{*1}; F. D'Isanto²; S. Anelli³; M. Torrelli⁴; L. Bernadet⁴; D. Montinaro⁵; F. Smeacetto²

1. Politecnico di Torino, Italy
2. Politecnico di Torino, Department of Applied Science and Technology, Italy
3. Politecnico di Torino, DISAT, Italy
4. Catalonia Institute for Energy Research, Advanced Materials for Energy Applications, Spain
5. SolydEra S.p.a, Italy

(ICACC-PA016-2025) Super-theoretical capacity of cobalt oxides in lithium-ion batteriesJ. Lee^{*1}; J. Kumchompoo¹

1. National Sun Yat-sen University, Department of Chemistry, Taiwan

(ICACC-PA017-2025) Influence of Air Storage on Surface Changes in Stoichiometric and Li-Rich NMC811M. Winkowska-Struzik²; D. A. Buchberger²; W. Uhrzynowski²; M. Struzik^{*1}; A. Czerwinski²

1. Politechnika Warszawska, Faculty of Physics, Poland
2. Uniwersytet Warszawski, Faculty of Chemistry, Poland

(ICACC-PA019-2025) Functionalized Carbon Coating for High-Performance Pure Silicon Anode in Lithium-Ion CapacitorsK. Roh^{*1}; M. O¹

1. Korea Institute of Ceramic Engineering and Technology, Energy Storage Materials Center, Republic of Korea

(ICACC-PA020-2025) MSnF₄ (M=Pb, Ba)-based solid electrolytes for room temperature applicationsA. Mineshige^{*}; M. Sugiura¹

1. University of Hyogo, Japan

(ICACC-PA022-2025) Sintering Enhancement of Garnet Electrolytes for All-Solid-State Li-Ion BatteriesC. Li^{*}

1. National Tsing Hua University, Materials Science and Engineering, Taiwan

(ICACC-PA023-2025) Polymer brush applications in lithium-ion battery electrodesJ. Lee^{*}; Y. Chang¹; C. Li²

1. National Sun Yat-sen University, Department of Chemistry, Taiwan
2. National Tsing Hua University, Materials Science and Engineering, Taiwan

(ICACC-PA024-2025) Building a Composite Cathode for Sulfidic Solid State Na-Ion Batteries via Infiltration MethodL. Trezecik Silvano^{*}; T. Schubert¹; V. Knoblauch¹; P. Kaya¹

1. Hochschule Aalen, Institute for Materials Research - IMFAA, Germany

(ICACC-PA026-2025) Ion transport across grain boundaries in CeF₃-based solid electrolytesN. Miura^{*}; A. Mineshige¹

1. University of Hyogo, Japan

(ICACC-PA027-2025) Development of superionic conductor glass ceramic with optimized crystallization temperatureJ. Pierdoná^{*}; A. Rodrigues¹; J. M. de Almeida²

1. Federal University of Sao Carlos, Brazil
2. Federal University of Sao Carlos, Materials Engineering, Brazil

(ICACC-PA028-2025) Effect of Zinc Oxide Artificial Layer on Interfacial Resistance of Garnet-Based Solid Electrolyte for Lithium Metal AnodeM. Kim^{*}; S. Jeon²; H. Han²; H. Kim³; D. Kim³; Y. Yoon¹

1. Gachon University, Materials Science and Engineering, Republic of Korea
2. Gachon University, Next Generation Smart Energy System Convergence, Republic of Korea
3. Auburn University, USA

(ICACC-PA029-2025) Improving Lithium-Ion Conductivity in Li₇La₃Zr₂O₁₂ via Molten Salt Synthesis for All Solid State BatteryH. Kang^{*}; M. Park²; S. Kim²; J. Kwon³; D. Kim²; Y. Yoon¹

1. Gachon University, Materials Science and Engineering, Republic of Korea
2. Gachon University, Republic of Korea
3. Mokpo National University, Republic of Korea
4. Auburn University, Mechanical Engineering, USA

(ICACC-PA030-2025) Enhanced Photocatalytic Reaction of (TiO₂-WO₃) on the Sr₂Al₁₄O₂₅:Eu, Dy Long-Lasting PhosphorH. Kang¹; J. Kim^{*}

1. University of Seoul, Dept. of Materials Science and Engineering, Republic of Korea

(ICACC-PA031-2025) Investigation of 3D-printed structures with spinel oxide catalysts for biomass utilizationY. Nagashima^{*}; S. Yamaguchi¹; M. Ootani²

1. Osaka Research Institute of Industrial Science and Technology Izumi Center, Research Division of Applied Material Chemistry, Japan
2. Kansai Catalyst Co., Ltd., Japan

(ICACC-PA032-2025) Green Chemistry in Materials Synthesis and Thermoelectric Device Engineering: A Comprehensive Strategy for TEGs DevelopmentB. Hamawandi¹; J. F. Serrano Clauemarchant^{*}; A. B. Ergül¹; M. S. Toprak¹

1. Kungliga Tekniska Hogskolan, Applied Physics, Sweden

(ICACC-PA033-2025) Designing the Crystal Structure of Silicon Oxide Anodes to Enhance Their Phase Stability in Lithium-Ion BatteriesQ. Sun^{*}; J. Li¹; A. Cabot¹

1. Institut de Recerca en Energia de Catalunya, Spain

(ICACC-PA034-2025) Mechanisms Governing the Influence of Solvation Structures on Amorphous Solid Electrolyte Interphase Formation in Aqueous Zinc-Ion BatteriesG. Zeng^{*}; Q. Sun¹; A. Cabot¹

1. Institut de Recerca en Energia de Catalunya, Spain

(ICACC-PA035-2025) Dual-Functional Pre-lithiation for Optimized High-Performance SiO_x Anodes in Lithium-Ion BatteriesJ. Li^{*}; Q. Sun¹; A. Cabot¹

1. Institut de Recerca en Energia de Catalunya, Spain

(ICACC-PA036-2025) Preparation of ZrO₂-CeO₂ solid solution based defective oxide thin films by spray pyrolysis method for electrostrictionM. Mehdizade¹; S. Molin^{*}

1. Gdansk University of Technology, Laboratory of Functional Materials, Faculty of Electronics, Telecommunications and Informatics, Poland

(ICACC-PA037-2025) YSZ thin film growth via Pulsed Laser Deposition - a case studyM. Malys¹; A. Cuper²; T. Gagnidze¹; J. Mrowczynski¹; M. Ratajczyk¹; B. Lemieszek³; S. Molin³; M. Struzik^{*}

1. Politechnika Warszawska, Faculty of Physics, Poland
2. Politechnika Warszawska, Centre for Advanced Materials and Technologies, Poland
3. Gdansk University of Technology, Laboratory of Functional Materials, Faculty of Electronics, Telecommunications and Informatics, Poland

(ICACC-PA038-2025) Exploring kinetic dynamics in buffer layer formation for improved solar cell efficiency via chemical bath depositionI. Gushchina^{*}; C. Rossi¹; S. Slimani²; D. Peddis³; D. Colombara²

1. Università degli Studi di Genova, Chemistry and Industrial Chemistry, Italy
2. Università degli Studi di Genova, Italy
3. Istituto di Struttura della Materia Consiglio Nazionale delle Ricerche, Italy

(ICACC-PA039-2025) Effect of PDC-derived porous carbon on the electrocatalytic performance of spinel and perovskite oxides for enhanced OER activityK. Sanket^{*}; S. K. Behera¹

1. National Institute of Technology Rourkela, Ceramic Engineering, India

(ICACC-PA040-2025) Innovative Magnetite@Mesoporous Silica Core-Shell Nanostructures: A Promising Theranostic MaterialM. Garrido Blay^{*}; B. Hamawandi²; G. Saladino²; M. Marcos³; J. Ros-Lis⁴; P. Amorós¹; M. S. Toprak²

1. Universitat de Valencia, ICMUV, Spain
2. KTH Royal Institute of Technology, Applied Physics, Sweden
3. Universidad Politécnica de Valencia, Instituto Interuniversitario de Investigación de Reconocimiento Molecular y Desarrollo Tecnológico (IDM), Spain
4. Universitat de Valencia, Química Inorgánica, Spain

(ICACC-PA041-2025) Enhancing the Structural Stability of Layered Lithium-Rich Manganese-Based Cathode Materials through Anionic and Cationic Co-DopingZ. Xi^{*}; Q. Sun¹; A. Cabot¹

1. Institut de Recerca en Energia de Catalunya, Spain

(ICACC-PA042-2025) Smart Interlayer Construction for Improving NASICON-type Solid Electrolyte/Li Interface Compatibility in Solid-state Lithium Metal BatteriesS. Zhang^{*}; Q. Sun¹; A. Cabot¹

1. Institut de Recerca en Energia de Catalunya, Spain

(ICACC-PA043-2025) Influence of ZnO Nanowall Morphology on the Efficiency of Flexible Piezoelectric NanogeneratorsG. Yüksel^{*}; A. GÜZEL²; Y. ÖZTÜRK²; E. Suvaci¹

1. Eskişehir Teknik Üniversitesi, Materials Science and Engineering, Turkey
2. Tubitak Marmara Arastirma Merkezi, Materials Institute, Turkey

(ICACC-PA044-2025) Surface and mechanical properties of co-sputtered Silica-Silver and Zirconia-Silver antimicrobial composite coatings: a characterization studyF. Gattucci^{*}; G. Maculotti²; L. Giorio²; G. Genta²; C. Balagna¹

1. Politecnico di Torino, DISAT, Italy
2. Politecnico di Torino, DIGEP, Italy

(ICACC-PA045-2025) Fabrication of magnesium- and zirconium-added alumina nanofibrous ceramic via alternating field electrospinningB. Nguyen^{*}; R. M. Nick¹; R. A. Yager¹; M. Binczarski²; W. Maniukiewicz²; A. Stanishevsky¹

1. University of Alabama at Birmingham, Physics, USA
2. Politechnika Lodzka, Chemistry, Poland

(ICACC-PA047-2025) Investigating a simplified dip-coating technique for the development of C_4 /hBN/SiC compositesS. E¹; B. Kumar*¹

1. Indian Institute of Technology Roorkee, Metallurgical and Materials Engineering, India

(ICACC-PA048-2025) Usage of 3D Optical Microscopy for Understanding Defects in CompositesO. Odofin*¹; J. Zhang¹; S. Gupta¹

1. University of North Dakota, Mechanical Engineering, USA

(ICACC-PA049-2025) Fabrication and Laser-Assisted Machining (LAM) of Fused Silica-Based Ceramic Composites Reinforced with NanoparticlesR. Jain*¹; S. Pulcharu¹

1. National Institute of Technology Warangal Department of Mechanical Engineering, Mechanical Engineering, India

(ICACC-PA050-2025) Preparation and characterization of lightweight SiC frameworks by connecting SiC fibers with SiC jointsJ. Yang*¹; N. Zhang¹; B. Wang¹

1. Xi'an Jiaotong University, State Key Laboratory for Mechanical Behavior of Materials, China

(ICACC-PA051-2025) Processing of Nb/Ta-Al₂O₃ composites by FAST/SPS and investigation of 3D-microstructureG. Kallien*¹; B. Kraft¹; G. Schell¹; S. Wagner¹

1. Karlsruher Institut für Technologie, Applied Materials, Germany

(ICACC-PA053-2025) Effect of Mg- Doping on the Structural, Dielectric and Impedance Properties of Lithium TitanateE. Izci*¹

1. Eskisehir Technical University, Physics, Turkey

(ICACC-PA054-2025) The Effect of Groundnut Shel Addition on the Dielectric Properties of Lithium Titanate CeramicsE. Izci*¹

1. Eskisehir Technical University, Physics, Turkey

(ICACC-PA055-2025) Activation of volcanic ash as support for FeOx gliding arc plasma deposition and application in the catalytic oxidationM. Pitap Mbowou*¹

1. Université de Yaoundé I, Chimie inorganique, Cameroon

(ICACC-PA056-2025) Development of carbon fibre-based continuous MAX-Phase fibres and corresponding coatingsF. Jung*¹; L. Aretz²; B. Vollbrecht¹; K. Jois¹

1. RWTH Aachen University, Institut für Textiltechnik, Germany
2. Institute of Mineral Engineering, RWTH Aachen University, Chair of Ceramics, Germany

(ICACC-PA057-2025) Turbostratic-Layering Disorder in MAX-PhasesA. A. Coleman*¹; J. Kelleher¹; R. Springell²

1. Rutherford Appleton Laboratory, ISIS, United Kingdom
2. University of Bristol, Physics, United Kingdom

(ICACC-PA058-2025) Current Progress in Manufacturing of MAX or MAB Powders (MoAlB or Cr₂AlC)P. Hoagland*¹; A. Veitz¹; J. Lariviere¹; M. Malusky¹; J. Sturm¹; S. Gupta¹

1. University of North Dakota, Mechanical Engineering, USA

(ICACC-PA059-2025) Self-Assembly of Biomolecular Piezoelectric CrystalsJ. Lee*¹

1. Daegu Gyeongbuk Institute of Science & Technology, Department of Energy Science and Engineering, Republic of Korea

(ICACC-PA060-2025) Near-infrared emission characteristics of rare-earth-doped transparent ceramic materials by solar pumpingK. Takimoto²; H. Furuse*¹; Y. Kiyota²; T. Nomura²; H. Nakamura²; S. Nakamura³; H. Sone²

1. National Institute for Materials Science (NIMS), Japan
2. Kitami Institute of Technology, Japan
3. Ibaraki University, Japan

(ICACC-PA061-2025) Optimized Synthesis of Polycrystalline-Based XTa_2O_6 (X=Mg, Cu, Zn) SemiconductorsB. Claes*¹; L. Stand²; M. Zhuravleva²; C. Melcher²

1. The University of Tennessee Knoxville Tickle College of Engineering, USA
2. University of Tennessee, Scintillation Materials Research Center, USA

(ICACC-PA062-2025) Doping effects on the PTCT properties of barium titanate-bismuth sodium titanate (BT-BNT)A. Eberwein*¹; S. Subotic¹; T. Weismann¹; S. Wagner¹; E. C. Bucharsky¹; K. Schell¹

1. Karlsruher Institut für Technologie, Germany

(ICACC-PA063-2025) New method for the exact determination of the Curie temperature using temperature-dependent X-ray diffraction on the model system barium titanateS. Subotic*¹; A. Eberwein¹; T. Weismann¹; S. Wagner¹; E. C. Bucharsky¹; G. Schell¹

1. Karlsruher Institut für Technologie, IAM-KWT, Germany
2. Karlsruher Institut für Technologie, Germany

(ICACC-PA064-2025) Phase identity and microstructure-property relationships in BiFeO₃-BaTiO₃ ceramicsJ. Mou*¹

1. The University of Manchester, Materials, United Kingdom

(ICACC-PA065-2025) Creation of the RbI – SrI₂ phase diagram to facilitate scintillator scale-upM. A. Gillespie*¹; K. S. Pestovich²; M. Zhuravleva²; C. Melcher²; L. Stand²; E. van Loef³

1. The University of Tennessee Knoxville Tickle College of Engineering, Materials Science and Engineering, USA
2. University of Tennessee, Scintillation Materials Research Center, USA
3. Radiation Monitoring Devices Inc, USA

(ICACC-PA066-2025) Empowering advanced photovoltaic (PV) pioneers: a bilateral Italy-USA projectI. Gushchina¹; C. Rossi¹; P. Anacleto²; G. Friedman³; D. Colombara*²

1. Università degli Studi di Genova, Chemistry and Industrial Chemistry, Italy
2. Università degli Studi di Genova, Italy
3. International Iberian Nanotechnology Laboratory, Portugal
4. Drexel University, Electrical and Computer Engineering, USA

(ICACC-PA067-2025) Chemical bath deposition (CBD) of ZnMgO thin films for Cu(In,Ga)Se₂ photovoltaics (PV)C. Rossi*¹; D. Garzon²; I. Gushchina¹; M. Grotti¹; F. Soggia¹; E. Puzo¹; S. Sadewasser²; D. Colombara¹

1. Università degli Studi di Genova, Chemistry and Industrial Chemistry, Italy
2. International Iberian Nanotechnology Laboratory, Portugal

(ICACC-PA068-2025) Solid state synthesis of Er-Yb co-doped MgNb₂O₆ ceramics and the exploration of their up-conversion photoluminescence and photocatalytic propertiesS. Yakubu*¹; M. R. Meirelles¹; F. O. Kolawole²; M. Gonçalves¹; J. A. Eiras²; M. H. Lente¹

1. Universidade Federal de São Paulo, Material Science and Engineering, Brazil
2. Federal University of São Carlos, Physics, Brazil
3. National Institute for Space and Research, Material Science and Engineering - Brazil-Associated Laboratory of Sensors, and Materials, Brazil

(ICACC-PA069-2025) Distorted Zn and Sn-based perovskite oxide nanomaterials for piezoelectric microenergy harvesting applicationsS. Paul*¹

1. Indian Association for the Cultivation of Science, School of Applied & Interdisciplinary Sciences, India

(ICACC-PA071-2025) Multiphased Al₂O₃-YAG fiber: influence of seeding material and thermal treatmentF. Vergnaud¹; J. Jouin¹; G. Delaizir¹; P. Thomas¹; S. Bernard*¹

1. CNRS, IRCER, France

(ICACC-PA073-2025) La_{0.5}Sr_{0.5}Co_{0.2}Fe_{0.2}Ni_{0.2}Cu_{0.2}A_{0.2}O₃ (A=V,Al,Mg) Perovskites For Medium Temperature Solid Oxide Fuel CellsG. Çakmak*¹; H. YÜCE¹; B. Piskin¹; F. Piskin¹

1. Mugla Sıtkı Kocman Üniversitesi Fen Fakültesi, Turkey

(ICACC-PA074-2025) Study on Property Changes Induced by Slurry Filtration in CMP ProcessJ. Kwon*¹; T. Kim¹

1. Sungkyunkwan University, Department of Semiconductor and Display Engineering, Republic of Korea

(ICACC-PA075-2025) Development of Macroporous Alumina Foams Utilizing Cellulose-Based Expanded Green Microspheres as Pore Formers

M. Jonsson^{*2}; F. Akhtar¹; A. De¹

1. Lulea University of Technology, Division of Materials Science, Sweden
2. Nouryon AB Goteborg, Sweden

(ICACC-PA076-2025) Direct and Indirect Microwave Heating of SnO₂-ZnO ceramics

P. Simonova^{*1}; C. Petit²; C. Meunier²; F. Valdivieso²; W. Pabst¹

1. Vysoka skola chemicko-technologicka v Praze, Department of Glass and Ceramics, Czechia
2. Ecole des Mines de Saint-Etienne, Laboratoire Georges Friedel, France

(ICACC-PA077-2025) Processing and Characterization of Carbon Dots - Phyllosilicate Composites

G. Lecomte-Nana^{*2}; M. A. Escobal¹; J. Duclere²; C. Peyratout¹; R. T. Candidato Jr.⁴

1. Universite de Limoges, France
2. ENSCI, France
3. Laboratoire SPCTS, Chemistry, France
4. MSU-Iligan Institute of Technology, Physics, Philippines

(ICACC-PA078-2025) Densification kinetics analysis of ZnO densified by Spark Plasma Sintering and Cold Spark Plasma Sintering

N. Albar^{*1}; T. Herisson de Beauvoir¹; C. Maniere²; E. Sanchez¹; G. Chevallier¹; C. Estournes¹; A. Weibel¹

1. Centre Inter-Universitaire de Recherche, France
2. Laboratoire de Cristallographie et Sciences des Matériaux, France

(ICACC-PA079-2025) Mass Transport in Low-Temperature Ceramic Sintering and Printing Assisted by Pressure and Water

F. Fei^{*1}; X. Song¹

1. University of Iowa, USA

(ICACC-PA080-2025) Synthesis of B₄C Powder via Sol-gel Approaches

O. Yucel^{*1}; M. Simmons¹; N. Middleton²; C. Roberson⁵; J. Binne³

1. University of Birmingham, Metallurgy and Materials, United Kingdom
2. DSTL, United Kingdom
3. University of Birmingham, Ceramic Science and Engineering, United Kingdom
4. University of Birmingham, School of Chemical Engineering, United Kingdom
5. Novamat, United Kingdom

Wednesday, January 29, 2025

FS4 Ceramic/Carbon Reinforced Polymers

FS 4: Ceramic/Carbon Reinforced Polymers I

Room: Coquina G

Session Chair: Masahito Ueda, Nihon University

8:30 AM

(ICACC-FS4001-2025) Classification of damage mode of CFRP by AE technique with considering response function of AE sensor (Invited)

T. Sakai^{*1}; T. Shiraishi²

1. Saitama University, Japan
2. Saitama-ken Sangyo Gijutsu Sogo Center, Japan

9:00 AM

(ICACC-FS4002-2025) Characterization of damage progression in polymer matrix composites using in situ techniques and image processing (Invited)

S. Oshima^{*1}; S. Kobayashi²

1. Tokyo Metropolitan University, Department of Aeronautics and Astronautics, Japan
2. Tokyo Metropolitan University, Mechanical Engineering, Japan

9:30 AM

(ICACC-FS4003-2025) Composite high pressure vessel with ring-shaped axial load members for hydrogen fuel cell vehicle

J. Serizawa^{*2}; T. Ogasawara²; T. Yokozeki¹

1. Tokyo Daigaku, Japan
2. Tokyo Noko Daigaku - Koganei Campus, Japan

9:50 AM

(ICACC-FS4004-2025) Novel Polymer-Coated Ceramic Powders for Making Highly Filled Polymer Composites

D. Bajaj^{*1}; E. Wojcicki¹; P. Elpers¹; J. Janse¹

1. Saudi Basic Industries Corporation, Specialties, Technology and Innovation, USA

10:10 AM

Break

FS 4: Ceramic/Carbon reinforced Polymers II

Room: Coquina G

Session Chair: Takenobu Sakai, Saitama University

10:30 AM

(ICACC-FS4005-2025) On enhancement of axial compressive strength of carbon fiber reinforced plastic by matrix modification (Invited)

M. Ueda^{*1}

1. Nihon University, Japan

11:00 AM

(ICACC-FS4006-2025) In-situ Shear Exfoliation and Post Processing of Hexagonal Boron Nitride Based Polymer Nanocomposite Coating **WITHDRAWN**

A. Ridoy^{*1}; A. Kumar¹; A. Ashraf¹

1. University of South Florida, Mechanical Engineering, USA

11:20 AM

Poster Preview Pitch- Characterization of mode I fracture behavior in aging-treated A7075/CFRP adhesive-bonded joints using acoustic emission method

11:22 AM

Poster Preview Pitch-Development of a densification process for metal BJT compacts with fine grains

11:24 AM

Poster Preview Pitch- Effect of Surface Textures on Mechanical and Osteogenic Properties of Alumina Toughened Zirconia Composites

11:26 AM

Poster Preview Pitch- Development and Evaluation of Low Environment Impact Fabrication Methods for Zirconia CIM Parts

11:28 AM

Poster Preview Pitch- Ceramic coating of fibre reinforced polymers using separate powder injected laser application

FS6 Innovative material processing for diverse resource circulation loops

FS6- Innovative material processing for diverse resource circulation loops III

Room: Ballroom 5

Session Chairs: Isabella Lancellotti, University of Modena and Reggio Emilia; Masamoto Tafu, Toyama Koto Senmon Gakko

8:30 AM

(ICACC-FS6024-2025) Holistic material utilization – glass and glass ceramics as the key towards efficient resource circulation loops (Invited)

M. Wahab^{*1}; S. Fuhrmann¹; S. A. Sander¹; S. Hossain¹; J. Grottendieck¹; M. Milek¹

1. Technische Universität Bergakademie Freiberg, Institute of Glass Science and Technology, Germany

9:00 AM

(ICACC-FS6025-2025) Heavy metal concentration reduction for fertilizer application of sewage sludge incineration ash using Coanda effect-based air classifier (Invited)

M. Ito^{*1}; K. Zhou²; M. Córdova²; K. Fujimori¹; Y. Iwai¹; E. Tamura¹; K. Oyama²; H. Kamiya²; C. Tokoro²

1. Sanki Engineering Co Ltd, Japan
2. Waseda University, Japan

9:30 AM

(ICACC-FS6026-2025) Designing electrodialysis with bipolar membrane condition to recover terephthalic acid from depolymerized PET solution (Invited)

H. Iwai^{*2}; T. Naruse¹; Y. Taniguchi¹; S. Sampei¹; T. Sasaki¹; M. Miwa¹; T. Saeki¹; C. Tokoro²

1. Kirin Holdings Company, Ltd, Kirin Central Research Institute, Japan
2. Waseda University, Japan

10:00 AM

(ICACC-FS6027-2025) Reuse of landfill waste as stabilized inorganic glass fertilizers

A. Tamayo^{*1}; F. Rubio¹; J. Rubio¹

1. Institute of Ceramics and Glass, CSIC, Spain

10:20 AM

Break

FS6- Circular economy perspectives for inorganic waste/wastewater valorisation/stabilization II

Room: Ballroom 5

Session Chair: Hisanori Iwai, Waseda University

10:30 AM

(ICACC-FS6028-2025) Circular economy perspectives for inorganic waste/wastewater valorisation/stabilization: case studies (Invited)

I. Lancellotti^{*1}

1. University of Modena and Reggio Emilia, Engineering Enzo Ferrari, Italy

11:00 AM

(ICACC-FS6029-2025) Cementitious pastes with partial substitution of BOF steel slag produced with CO₂ injection in fresh mixture (Invited)

G. Ferrara^{*1}; P. Humbert²; M. Nispel³; D. Garufi²; P. Palmero¹

1. Politecnico di Torino, Applied Science and Technology, Italy
2. CRH Innovation Centre for Sustainable Construction, Netherlands
3. Fels Vertriebs und Service GmbH & Co. KG, Germany

11:30 AM

(ICACC-FS6030-2025) Recovery of carbon-free limes from unused alkaline from cleaning drainage using calcium wastes (Invited)

M. Tafu^{*1}; K. Ishigane¹; T. Tobe²; N. Tobe³

1. National Institute of Technology, Toyama College, Japan
2. Ecoma Inc, Japan
3. Tobe-Shoji Co., Ltd, Japan

S1 Mechanical Behavior and Performance of Ceramics & Composites

S1- Novel Computational Approaches to Enhance Performance and Characterization

Room: Coquina E

Session Chairs: Gerard Vignoles, University Bordeaux; Marco Pelanconi, SUPSI

8:30 AM

(ICACC-S1-029-2025) Numerical evaluation of allowable surface crack size in ceramics based on strength scatter due to internal defects

S. Ozaki^{*1}; T. Maeda²; T. Osada³

1. Yokohama National University, Japan
2. Yokohama National University, Graduate School of Engineering Science, Japan
3. Busshitsu Zairyo Kenkyu Kiko, Japan

8:50 AM

(ICACC-S1-030-2025) Modeling martensitic transformation temperatures in Zirconia-Ceria solid solutions using machine learning interatomic potentials

O. T. Rettenmaier^{*1}; J. Gabriel¹; S. Patala¹

1. Northwestern University, McCormick School of Engineering, USA
2. Canadian Nuclear Laboratories, Canada

9:10 AM

(ICACC-S1-031-2025) Fracture Simulation of Iron Nitride Polycrystals in Nitrided Steel by Reactive Molecular Dynamics Method

M. Yokoi^{*1}; M. Kawaura¹; Y. Su²; S. Fukushima¹; Y. Ootani¹; N. Ozawa²; M. Kubo¹

1. Tohoku Daigaku, Institute for Materials Research, Japan
2. Tohoku University, New Industry Creation Hatchery Center, Japan

9:30 AM

(ICACC-S1-033-2025) Structural characterization and thermomechanical analysis of heat tiles on the SpaceX starship

Z. C. Cordero^{*1}

1. Massachusetts Institute of Technology, Aeronautics and Astronautics, USA

9:50 AM

Break

10:10 AM

(ICACC-S1-034-2025) Thermomechanical behavior of C_f/C composites – experiments and image-based modeling (Invited)

G. Couégnat²; O. Caty¹; M. Charron¹; A. Raude¹; C. Billard¹; A. P. Gillard¹; A. Portal¹; G. L. Vignoles^{*1}

1. Université de Bordeaux, LCTS - Lab. for ThermoStructural Composites, France
2. Centre National de la Recherche Scientifique, LCTS - Lab. for ThermoStructural Composites, France

10:40 AM

(ICACC-S1-036-2025) A domain map for the tensile behaviors of unidirectional fiber-reinforced composites

M. McAllister^{*1}; F. W. Zok²; E. B. Callaway¹

1. Pratt & Whitney, USA
2. University of California, USA

11:00 AM

(ICACC-S1-037-2025) Finite element analysis of crack growth and crack-healing of oxidation-induced self-healing ceramics

T. Maeda^{*4}; M. Rahman¹; T. Osada²; S. Ozaki³

1. Chittagong University of Engineering and Technology, Department of Mechanical Engineering, Bangladesh
2. Busshitsu Zairyo Kenkyu Kiko Kozo Zairyo Kenkyu Kyoten, Research Center for Structural Materials, Japan
3. Yokohama Kokuritsu Daigaku, Faculty of Engineering, Japan
4. Yokohama Kokuritsu Daigaku, Graduate School of Engineering Science, Japan

S1- Ceramic Matrix Composites (CMCs) Processing–Microstructure–Mechanical Properties Correlation

Room: Coquina E

Session Chairs: Marco Pelanconi, SUPSI; Gerard Vignoles, University Bordeaux

11:20 AM

(ICACC-S1-077-2025) A Parametric Study to Investigate the Effects of Modifier Oxides on A Baseline EBC (Si/Yb₂Si₂O₇) on Reducing the TGO Growth Rate

A. Abdul-Aziz^{*1}; K. Lee²

1. Kent State University, Aerospace Engineering, USA
2. NASA Glenn Research, USA

11:40 AM

(ICACC-S1-047-2025) Development of novel oxide based ceramic matrix composites with high thermal stability and high mechanical properties

Y. Nawata^{*1}; I. Ohta¹; I. Yamashita¹

1. Tosoh Corporation, Japan

12:00 PM

(ICACC-S1-046-2025) Low Residual Si Reaction Bonded SiC and Diamond Composites

J. Wang*; M. Aghajanian¹; S. Salamone¹

1. Coherent Corp, USA

S2 Advanced Ceramic Coatings for Structural/ Environmental & Functional Applications

S2- New testing simulation and material concepts for T/EBC I

Room: Coquina C

Session Chair: Bryan Harder, NASA Glenn Research Center

8:30 AM

(ICACC-S2-027-2025) Ductile phase-toughened oxide coatings for reusable rocket engine turbomachinery

Z. C. Cordero*¹

1. Massachusetts Institute of Technology, Aeronautics and Astronautics, USA

8:50 AM

(ICACC-S2-028-2025) Thermal Stress Analysis of Two Different Thermal Cycling Tests of Thermal Barrier Coatings

X. Liu*¹; L. Zhao¹; P. Hsu¹

1. Florida Institute of Technology, USA

9:10 AM

(ICACC-S2-029-2025) Effect of water vapor atmosphere changes on TBC characteristics

J. Pyeon*¹; J. Lee¹; S. Baek¹; B. Yang²; S. Yang¹; Y. Jung¹

1. Changwon National University, Republic of Korea
2. Changwon National University College of Mechatronics, Mechatronics Research Center, Republic of Korea

9:30 AM

(ICACC-S2-030-2025) A Dynamic Testing Approach for Particulate Erosion – Corrosion of Gas Turbine Coatings (Invited)

J. L. Stokes*¹; M. J. Presby¹

1. NASA Glenn Research Center, Environmental Effects and Coatings Branch, USA

10:00 AM

Break

S2- New test, simulation, and material concepts for T/EBC II

Room: Coquina C

Session Chair: Ravisankar Naraparaju, DLR - German Aerospace Center

10:20 AM

(ICACC-S2-032-2025) Steam Stability of Xenotime-Inspired Rare Earth Phosphates as Environmental Barrier Coatings

I. Hawthorne*¹; E. Opila¹

1. University of Virginia, USA

10:40 AM

(ICACC-S2-033-2025) Investigating temperature-dependent optical properties and phononic scattering processes in rare earth multi-cation oxides

W. Riffe*¹; S. Zare²; H. B. Schonfeld²; K. D. Ardrey¹; P. Balachandran¹; E. J. Opila¹; D. Clarke³; P. E. Hopkins²

1. University of Virginia, Department of Materials Science and Engineering, USA
2. University of Virginia, Mechanical and Aerospace Engineering, USA
3. Harvard University, USA

11:00 AM

(ICACC-S2-034-2025) Machine Learning Prediction of Entropy Formation Ability of Rare Earth Phosphates

J. O. Kazeem*¹; L. Huang²; B. P. Majee³; J. Lian⁴; K. Bryce³

1. Rensselaer Polytechnic Institute, Chemical and Biological engineering, USA
2. Rensselaer Polytechnic Institute, Materials Science and Engineering, USA
3. Rensselaer Polytechnic Institute, Department Of Mechanical, Aerospace, And Nuclear Engineering and Department of Materials Science and Engineering, USA
4. Rensselaer Polytechnic Institute, USA

11:20 AM

(ICACC-S2-035-2025) Ultrathick Thermal Barrier Coatings Enabled by Featured Additively Manufactured Substrates

S. Sampath¹; J. Saputo*¹; A. Donnelly¹; R. Subramanian²

1. Stony Brook University, Center for Thermal Spray Research, USA
2. Siemen Energy, USA

S3 22th Intl Symp on Solid Oxide Cells Materials Science & Technology

S3- Pressurized Operation

Room: Ballroom 4

Session Chair: Katherine Develos-Bagarinao, National Institute of Advanced Industrial Science and Technology (AIST)

8:30 AM

(ICACC-S3-024-2025) Extreme Pressure Testing of Solid Oxide Electrolyzers including Co-Electrolysis (Invited)

D. McLarty*¹

1. Alternative Energy Materials, USA

9:00 AM

(ICACC-S3-025-2025) Pressurized testing of solid oxide single cells

C. Grosselindemann*¹; A. Weber¹

1. Karlsruher Institut für Technologie, Institute for Applied Materials - Electrochemical Technologies, Germany

9:20 AM

(ICACC-S3-026-2025) Modeling the Conditions for Stable Operation of Pressurized Solid Oxide Electrolysis Cells

R. M. Tagawa*¹; S. Barnett¹

1. Northwestern University, USA

9:40 AM

(ICACC-S3-027-2025) Innovative strategies for high-pressure resistant interfaces and coatings for reversible solid oxide cells

F. Smeacetto*²; M. Salvo¹; S. Anelli²; F. Gallo¹; F. Puleo³; F. D'Isanto³; L. Bernadeti⁴; M. Torrell⁴; A. Sabato⁴; A. Tarancón⁴

1. Politecnico di Torino, Italy
2. Politecnico di Torino, DISAT, Italy
3. Politecnico di Torino, Department of Applied Science and Technology, Italy
4. Catalonia Institute for Energy Research, Advanced Materials for Energy Applications, Spain

10:00 AM

Break

S3- Simulation & Modeling

Room: Ballroom 4

Session Chair: Henrik Frandsen, Technical University of Denmark

10:20 AM

(ICACC-S3-028-2025) Using simulation to analyze solid oxide cell degradation

H. W. Abernathy*¹; W. K. Epting²; Y. Lei³

1. National Energy Technology Laboratory, Thermal Sciences, USA
2. National Energy Technology Laboratory, USA
3. US DOE National Energy Technology, USA

10:40 AM

(ICACC-S3-029-2025) 3D Multiphysics model for protonic ceramic cells: impact of structural and operational parameters on hydrogen production and structural integrity

A. Moranti^{*1}; F. Da Prato¹; S. Anelli²; D. Ferrero¹; M. Santarelli¹; F. Smeacetto²

1. Politecnico di Torino, Energy Department (DENERG), Italy
2. Politecnico di Torino, Department of Applied Science and Technology (DISAT), Italy

11:00 AM

(ICACC-S3-030-2025) Investigation of Oxygen Reduction Reaction on Pt and Ag over BaZrO₃ via Density Functional Theory

W. Li^{*1}; V. Drozd¹; M. Sozal¹; M. Li²; Z. Cheng³

1. Florida International University, Mechanical & Materials Engineering, USA
2. Idaho National Laboratory, USA
3. Colorado State University, Mechanical Engineering, USA

11:20 AM

(ICACC-S3-031-2025) Defect Thermodynamics Modeling of Proton Conducting Perovskite Electrode and Electrolyte Materials Evaluated Based on Density Functional Theory

Y. Lee^{*1}; Y. Duan¹; D. Sorescu¹; W. Saidi¹; D. Morgan²; W. K. Epting¹; G. Hackett³; H. W. Abernathy³

1. National Energy Technology Laboratory, USA
2. University of Wisconsin-Madison, Dept. of Materials Science and Engineering, USA
3. National Energy Technology Laboratory Morgantown, USA

11:40 AM

(ICACC-S3-032-2025) Design of tubular and planar cells and short-stack based on co-ionic conductor electrolyte layer for cathodic synthesis of light olefins (Invited)

M. Santarelli^{*1}; D. Ferrero¹; A. Moranti¹

1. Politecnico di Torino, Italy

12:10 PM

(ICACC-S3-033-2025) Characterizing the uncertainty of residual stresses in a solid oxide cell

A. Moncy^{*1}; A. Farshidi¹; H. L. Frandsen²

1. Topsoe A/S, Denmark
2. Technical University of Denmark, Department of Energy Conversion and Storage, Denmark

S5 Next-Generation Bioceramics and Biocomposites

S5- Bioceramics and composites for tissue engineering I

Room: Ponce de Leon

Session Chair: Katalin Balazsi, Centre for Energy Research HAS

8:30 AM

(ICACC-S5-001-2025) Bouncy Bioglass for bone and cartilage regeneration (Invited)

F. Tallia^{*1}

1. Imperial College London, Materials, United Kingdom

9:00 AM

(ICACC-S5-002-2025) Bioceramics-based hybrid materials for bone regeneration (Invited)

A. Zima^{*1}; P. Pantak¹; A. Belcarz²; K. Kowalska¹; J. P. Czechowska³

1. Akademia Gorniczo-Hutnicza im Stanislaw Staszica w Krakowie, Department of Ceramics and Refractories, Poland
2. Uniwersytet Medyczny w Lublinie, Chair and Department of Biochemistry and Biotechnology, Poland
3. Akademia Gorniczo-Hutnicza im Stanislaw Staszica w Krakowie, Department of Ceramics and Refractories Employees, Poland

9:30 AM

(ICACC-S5-003-2025) Thermo-physical and biological properties of Si₃N₄-substituted 45S5 bioactive glass (Invited)

C. Bagci^{*1}; F. E. Bastan²; A. R. Boccaccini³

1. Hitit University, Department of Metallurgical and Materials Engineering, Turkey
2. Sakarya Universitesi, Thermal Spray R&D Lab., Department of Metallurgical and Materials Engineering, Turkey
3. University of Erlangen-Nuremberg, Institute of Biomaterials, Department of Material Science and Engineering, Germany

10:00 AM

Break

S5- Bioceramics and composites for tissue engineering II

Room: Ponce de Leon

Session Chair: Hui-Suk Yun, Korea Institute of Materials Science

10:20 AM

(ICACC-S5-004-2025) Designing multifunctional constructs for tissue regeneration using nanostructured ceramic biomaterials and advanced fabrication techniques (Invited)

G. Montalbano^{*1}; S. Fiorilli¹; J. Barberi¹; A. Benedetto Mas¹; L. Coviello¹; F. Fiore¹; C. Vitale-Brovarone¹

1. Politecnico di Torino, Department of Applied Science and Technology (DISAT), Italy

10:50 AM

(ICACC-S5-005-2025) Preparation and in vitro biocompatibility of titania hollow fibers (Invited)

S. Chen²; A. Osaka^{*1}

1. Okayama University, Faculty of Engineering, Japan
2. Taiyuan University of Technology, College of Biomedical Engineering, China

S6 Advanced Materials and Technologies for Rechargeable Energy Storage

S6- Electrode and Electrolyte Materials for Lithium-ion Batteries I

Room: Coquina B

Session Chairs: Donald Dornbusch, NASA Glenn Research Center

8:30 AM

(ICACC-S6-022-2025) Novel Silicon Oxycarbide (SiOC) Polymer-Derived Ceramic Anodes for Next-Generation Lithium-Ion Batteries (Invited)

K. Marcus^{*1}

1. Semplastics EHC LLC, X-BATT, USA

9:00 AM

(ICACC-S6-023-2025) Highly active-material-concentrated cathodes of nickel and cobalt-free cation-disordered rock-salts for Li-ion batteries

D. Seo^{*1}

1. Korea Advanced Institute of Science and Engineering (KAIST), Republic of Korea

9:20 AM

(ICACC-S6-024-2025) Ca₂V₂O₇ as an anode-active material for lithium-ion batteries: Effect of conductive additive and mass loading on electrochemical performance

L. Trezecik Silvano^{*3}; J. Sandherr²; M. Valadares Folgueras²; E. Ferreira de Souza¹; P. Kaya³; V. Knoblauch³

1. Universidade Estadual de Ponta Grossa, Chemistry, Brazil
2. Universidade do Estado de Santa Catarina Centro de Ciencias Tecnologicas, Mechanical Engineer, Brazil
3. Hochschule Aalen, Institute for Materials Research - IMFAA, Germany

9:40 AM

(ICACC-S6-025-2025) Water Processed Ultra Low-Cost Solid-State Li-Ion Batteries

S. Yasui^{*1}

1. Tokyo Institute of Technology, Japan

S6- Electrode and Electrolyte Materials for Lithium-ion Batteries II

Room: Coquina B

Session Chairs: Valerie Pralong, CNRS ENSICAEN; Lorenzo Stievano, Université de Montpellier

10:00 AM

Break

10:20 AM

(ICACC-S6-026-2025) Tailoring the fueling capability of Halide Solid Catholyte through composition (Invited)

J. Gaubicher^{*1}; P. Moreau¹; B. Stamenkovic¹; E. Quarez¹; I. Profatlova²; V. Tarnopolskiy²; N. Dupre³

1. INSTITUT DES MATERIAUX JEAN ROUXEL, CHEMISTRY, France
2. Commissariat à l'énergie atomique et aux énergies alternatives Siege administratif, Energy storage, France
3. CNRS-IMN, ST2E, France

10:45 AM

(ICACC-S6-027-2025) Direct STEM probing of short-range order in cation-disordered oxide cathode for rechargeable batteries (Invited)

C. Wang^{*1}

1. Pacific Northwest National Lab, USA

11:10 AM

(ICACC-S6-028-2025) Lithium Dendrite-Suppressing Polymer Fiber Frameworks for Anodeless Batteries (Invited)

J. Kim^{*1}

1. Stevens Institute of Technology, Chemical Engineering & Materials Science, USA

11:35 AM

(ICACC-S6-029-2025) Microstructural Design of Li-Na Alloy Anode for the Lithium-Ion Batteries **WITHDRAWN**

C. Li¹; P. Huang¹; C. Lee²; P. Wei³; Y. Luo³; Y. Chang³; S. Lin^{*1}

1. National Cheng Kung University, Materials Science and Engineering, Taiwan
2. National Cheng Kung University, Academy of Innovative Semiconductor and Sustainable Manufacturing, Taiwan
3. Delta Electronics Inc, Taiwan

11:55 AM

(ICACC-S6-030-2025) Formation of an inorganic-organic bilayer on Li metal for high energy density Li metal batteries

J. Kim^{*1}; S. Myeong¹; S. Lee¹; H. Lee¹; S. Choi¹; M. Ryu¹; J. Kim¹; J. Park¹; I. Hwang¹; M. Kim¹; M. Woo¹; K. Kim²; J. Yeo³; Y. Jung³; T. Song¹; U. Paik¹

1. Hanyang University, Energy Engineering, Republic of Korea
2. Pusan National University, School of Materials Science and Engineering, Republic of Korea
3. Changwon National University College of Mechatronics, Republic of Korea
4. Korea Institute of Energy Research, Republic of Korea

S7 19th Intl Symp on Functional Nanomaterials & Thin Films for Sustainable Energy Harvesting

S7- Synthesis, functionalization and assembly of inorganic and hybrid nanostructures

Room: Flagler C

Session Chair: Sedat Ballikaya, Istanbul University

8:30 AM

(ICACC-S7-026-2025) Interfacially coupled magnetic nanocomposites: magnetic materials for sustainability (Invited)

T. Sarkar^{*1}

1. Uppsala Universitet, Department of Materials Science and Engineering, Sweden

9:00 AM

(ICACC-S7-027-2025) Nanomaterials and Patterning Approaches for Improved Surface-Enhanced Raman Spectroscopy Performance (Invited)

A. Sarakovskis^{*1}; C. F. Tipaldi¹; K. Vitolis¹; L. Ignatane¹

1. Institute of Solid State Physics, University of Latvia, Latvia

9:30 AM

(ICACC-S7-028-2025) Stöber Method to Amorphous Metal Organic Frameworks Coatings and Colloids (Invited)

N. Pinna^{*1}; W. Zhang¹

1. Humboldt-Universität zu Berlin, Department of Chemistry, Germany

S7- Functional coatings and innovative thin film techniques, e.g., ALD, PECVD- I

Room: Flagler C

Session Chair: Sedat Ballikaya, Istanbul University

10:00 AM

Break

10:20 AM

(ICACC-S7-029-2025) Co-sputtered antipathogen composite coatings for air filtration (Invited)

C. Balagna^{*3}; A. Luceri¹; S. Perero¹; M. Donalizio²; D. Lembo²; M. Ferraris³

1. Politecnico di Torino, DISAT, Italy
2. Università degli Studi di Torino, Italy
3. Politecnico di Torino, Department of Applied Science and Technology, Italy

10:50 AM

(ICACC-S7-030-2025) External Fields in Chemical Vapor Deposition Processing of Functional Materials (Invited)

T. Karimpour¹; B. Singh¹; T. Fischer^{*1}

1. Universität zu Köln Mathematisch-Naturwissenschaftliche Fakultät, Institute of Inorganic and Materials Chemistry, Germany

11:20 AM

(ICACC-S7-031-2025) Oxides thin films for chalcogenide photovoltaics (PV) by chemical bath deposition (CBD)

C. Rossi^{*1}; D. Garzon²; I. Gushchina¹; M. Grotti¹; F. Soggia¹; E. Puzo¹; S. Sadewasser²; D. Colombara¹

1. Università degli Studi di Genova, Chemistry and Industrial Chemistry, Italy
2. International Iberian Nanotechnology Laboratory, Portugal

S8 19th Intl Symp on APMT for Structural & Multifunctional Materials & Systems

S8- Advanced powder synthesis and processing

Room: Flagler A

Session Chairs: Tohru Suzuki, National Institute for Materials Science; Young-Wook Kim, WORLDEX Industry & Trading Co., Ltd.

8:30 AM

(ICACC-S8-026-2025) Spray freeze granulation drying using aqueous slurries of graphene-coated aluminum nitride powder with high water resistance (Invited)

J. Tatami^{*1}; R. Yamazaki¹; M. Iijima¹

1. Yokohama National University, Japan

9:00 AM

(ICACC-S8-027-2025) Chemical synthesis of Magnesium Aluminate Spinel (MAS) powders by self-combustion method

H. Balmori^{*1}; A. Mauro Nolasco¹; J. Ortiz-Landeros¹; L. Tellez-Jurado²

A. M. Paniagua-Mercado²

1. Instituto Politécnico Nacional, Metallurgical and Materials Engineering, Mexico
2. Instituto Politécnico Nacional, Materials science, Mexico

9:20 AM

(ICACC-S8-028-2025) Anisotropic Grain Boundary Mobility and Microstructural Evolution of Alumina

I. Naamne^{*}; R. Marder^{*}; W. D. Kaplan^{*}¹

1. Technion - Israel Institute of Technology, Dept. of Materials Science and Engineering, Israel

9:40 AM

(ICACC-S8-029-2025) Microstructural control of nano phase-separated features of CeO₂/Al₂O₃ and CeO₂/Cr₂O₃ produced by a redox-driven eutectoid decomposition reaction

R. Maier^{*}¹; A. Johnston-Peck¹

1. National Institute of Standards and Technology, MML, USA

10:00 AM

Break

10:20 AM

(ICACC-S8-030-2025) Hot atoms in neutron irradiated β -MoO₃ for medical radioactive isotope production

H. Suematsu^{*}¹; Y. Yang¹; M. Ngo²; T. Kitagawa¹; Y. Fujita³; Y. Takahashi¹; T. Suzuki¹; T. Nakayama¹; T. Do¹; K. Niihara⁴

1. Nagaoka University of Technology, Japan
2. National Institute of Advanced Industrial Science and Technology (AIST), Multi-material Research Institute, Japan
3. Nihon Genshiryoku Kenkyu Kaihatsu Kiko, Department of Japan Materials Testing Reactor, Japan
4. Nagaoka Sutoku Daigaku, Japan

10:40 AM

(ICACC-S8-031-2025) Molecule Intercalation into MoO₃₋₆-II under high oxygen partial pressure

J. Zhao^{*}¹; D. Terasawa¹; T. Do¹; T. Nakayama¹; H. Suematsu¹

1. Nagaoka Gijutsu Kagaku Daigaku, Extreme Energy-Density Research Institute, Japan

11:00 AM

(ICACC-S8-032-2025) Challenges of 21st Centuries and modification of Dual Solid State electrolytes for next generation Lithium Metal batteries (LMB)

S. H. Siyal^{*}¹

1. Dawood University of Engineering and Technology, Metallurgy and Materials Engineering, Pakistan

S13 Development & Applications of Adv Ceramics & Composites for Nuclear Fission/ Fusion Energy Sys

S13- SiC material technologies for core structures of light water reactors and advanced reactors I

Room: Coquina D

Session Chair: Wen Jiang, NC State University

8:30 AM

(ICACC-S13-001-2025) Physics Informed Non-Destructive Evaluation of SiC/SiC_m Cladding (Invited)

G. Subhash^{*}¹; M. P. MacIsaac¹; A. Beck²; C. Tran³; W. Eum³; J. Harley³

1. University of Florida, Mechanical and Aerospace Engineering, USA
2. University of Florida, Department of Physics, USA
3. University of Florida, Department of Electrical and Computer Engineering, USA

9:00 AM

(ICACC-S13-002-2025) Damage Progression and Failure of SiC/SiC Composite Tubes under Hard-Contact Radial Expansion

E. Cakmak^{*}¹; N. Cinbiz¹; J. D. Arregui-Mena³; T. Koyanagi²

1. Oak Ridge National Laboratory, Materials Science and Technology Division, USA
2. Oak Ridge National Laboratory, USA
3. Oak Ridge National Lab, Nuclear Materials Science & Technology Group, USA

9:20 AM

(ICACC-S13-003-2025) CMC Tubular Components in High-Temperature Reactor (HTR) Nuclear Applications: ASTM Draft Standard for Compressive Strength of Axially-Loaded Tubes

M. G. Jenkins^{*}¹; J. E. Gallego¹

1. Bothell Engineering and Science Technologies, USA

9:40 AM

(ICACC-S13-004-2025) Compatibility of SiC/SiC composite ATF cladding materials with high-temperature steam

M. K. Grosse^{*}¹; M. Steinbrück¹; S. Huang²; J. Vleugels²; C. Sauder³; K. Lambrinou⁴

1. Karlsruhe Institute of Technology, Institute for Applied Materials, Germany
2. KU Leuven, Materials engineering, Belgium
3. CEA, DRMP, France
4. University of Huddersfield, School of Computing and Engineering, United Kingdom

S13- SiC material technologies for core structures of light water reactors and advanced reactors II

Room: Coquina D

Session Chair: Tatsuya Hinoki, Kyoto University

10:00 AM

Break

10:20 AM

(ICACC-S13-005-2025) Horizon scorpion: Improving the Performance of SiC/SiC Composites for LWRs (Invited)

T. Fey^{*}¹; K. Lambrinou²; C. Sauder³; M. K. Grosse³; M. Steinbrück³; S. Huang²; J. Vleugels²

1. Friedrich-Alexander University Erlangen-Nürnberg, Department Material Science and Engineering, Germany
2. KU Leuven, Materials engineering, Belgium
3. Karlsruhe Institute of Technology, Institute for Applied Materials, Germany
4. CEA, DRMP, France
5. University of Huddersfield, School of Computing and Engineering, United Kingdom

10:50 AM

(ICACC-S13-006-2025) Progressive Irradiation Approach Is Advancing SiGA® Cladding Towards Lead Test Rods

S. Gonderman^{*}¹; L. Borowski¹; D. Frazer¹; C. Deck¹

1. General Atomics, NTM, USA

11:10 AM

(ICACC-S13-007-2025) Bowing of SiC/SiC composite materials under fast neutron flux gradients

C. Petrie^{*}¹; P. Doyle¹; D. Chandler¹; T. Koyanagi²

1. Oak Ridge National Laboratory, Nuclear Energy and Fuel Cycle Division, USA
2. Oak Ridge National Laboratory, USA

11:30 AM

(ICACC-S13-008-2025) Development of CVI/CVD-SiC/ SiC Composite for Accident-Tolerant Fuels of LWR Applications

S. Suyama^{*}¹; M. Ukai¹; T. Nishimura¹; S. Kuboya¹; M. Akimoto¹; F. Kawahara¹; T. Takada¹; F. Sawa¹

1. Toshiba Energy Systems & Solutions Corporation, Japan

11:50 AM

(ICACC-S13-009-2025) Accelerated Development of Silicon Carbide Cladding through Multiscale Modeling

G. Jacobsen^{*}¹; H. Shatoff¹; J. Kosmata¹; C. Ellis¹; J. Rizk¹; K. Spilker²; G. Singh³; K. Gamble³

1. General Atomics, Nuclear Technologies and Materials, USA
2. Los Alamos National Laboratory, USA
3. Idaho National Laboratory, USA

S15 9th International Symposium on Additive Manufacturing and 3-D Printing Technologies

S15- 9th International Sym on Additive Manufacturing and 3D Printing Technologies- Laser Lithography

Room: Coquina A

Session Chairs: Soshu Kirihaara, Osaka University; Paolo Colombo, University of Padova

8:30 AM

(ICACC-S15-001-2025) Powder bed fusion of polymeric preforms and their conversion into a ceramic: properties and applications after their densification by PIP, RMI, CVI (Invited)

A. Ortona^{*1}

1. Scuola Universitaria Professionale della Svizzera Italiana, DTI, Switzerland

9:00 AM

(ICACC-S15-002-2025) Elucidating laser processing-property relationship in aluminum nitride towards laser powder bed fusion

R. McNamara^{*1}; J. Ma¹

1. University of Virginia, Materials Science and Engineering, USA

9:20 AM

(ICACC-S15-003-2025) Fabrication of Micro-embossed Lithium Lanthanum Zirconate sheets by ceramic stereolithography for solid electrolyte applications

F. Spirrett^{*1}; S. Kirihaara¹

1. Osaka University, Joining and Welding Research Institute, Japan

9:40 AM

(ICACC-S15-004-2025) Ceramic Stereolithography for Multi-Dimensional Geometries

S. Kirihaara^{*1}; F. Spirrett¹; N. Tsuruta¹

1. Osaka University, Joining and Welding Research Institute, Japan

S15- 9th International Sym on Additive Manufacturing and 3D Printing Technologies- Vat Photopolymerization 1

Room: Coquina A

Session Chairs: Fiona Spirrett, Osaka University; Alberto Ortona, SUPSI

10:00 AM

Break

10:20 AM

(ICACC-S15-005-2025) Volumetric additive manufacturing of SiOC by xolography

K. Huang¹; G. Franchin¹; P. Colombo^{*1}

1. University of Padova, Industrial Engineering, Italy

10:40 AM

(ICACC-S15-006-2025) Laser-induced slip casting for Silicon Carbide: Enhancing Printability Through Rheological Optimization

J. Feldbauer¹; C. L. Cramer^{*1}; B. L. Armstrong²; D. Gilmer³; M. Schwentenwein³; M. Mohammadi³; S. M. Allan⁴

1. Oak Ridge National Lab, Manufacturing Science Division, USA
2. Oak Ridge National Lab, Material Science & Technology, USA
3. Lithoz GmbH, Austria
4. Lithoz America, LLC, USA
5. The University of Tennessee Knoxville Tickle College of Engineering, USA

11:00 AM

(ICACC-S15-007-2025) Strength Dependence on Print Orientation and Strength-Size Scaling in Additively-Manufactured Alumina

J. Nance^{*1}; K. T. Strong¹

1. Sandia National Laboratories, Materials Mechanics and Tribology, USA

11:20 AM

(ICACC-S15-008-2025) Structural characterization of joined ceramic components manufactured via digital light polymerization

C. Albunio²; R. Fordham¹; S. M. Allan^{*1}; S. Sobhani²

1. Lithoz America, LLC, USA
2. Cornell University, USA

11:40 AM

(ICACC-S15-009-2025) Wear Response of Al₂O₃ Ceramics Produced Using Digital Light Processing Additive Manufacturing

A. David^{*1}; K. P. Plucknett¹

1. Dalhousie University, Mechanical Engineering, Canada

S16 Geopolymers Inorganic Polymers and Sustainable Construction Materials

S16-Synthesis, processing, microstructure of geopolymers I

Room: Ballroom 1-2

Session Chair: Waltraud Kriven, University of Illinois at Urbana-Champaign

8:30 AM

(ICACC-S16-001-2025) Ammonium hydroxide activation of metakaolin and engineered additives enabling direct ink writing of mullite ceramics (Invited)

P. Scanferla²; A. Ourgessa²; H. Elsayed¹; J. Kraxner²; D. Galusek²; E. Bernardo^{*1}

1. University of Padova, Department of Industrial Engineering, Italy
2. Trencianska Univerzita Alexandra Dubceka v Trencine Centre for Functional and Surface Functionalized Glass, Slovakia

9:00 AM

(ICACC-S16-002-2025) Compositional Effects in Potassium Metakaolin Geopolymers Containing Alumina and Glass Frit (Invited)

P. F. Keane^{*1}; R. Jacob¹; M. Belusko²; N. Stanford³; F. Bruno⁴; W. M. Kriven⁵

1. Forschungszentrum Julich GmbH, Institute of Energy Materials and Devices, Microstructure and Properties of Materials (IMD-1), Germany
2. Mondial Advisory Pty Ltd, Australia
3. University of South Australia, STEM, Australia
4. University of South Australia Future Industries Institute, Australia
5. University of Illinois at Urbana-Champaign, USA

9:30 AM

(ICACC-S16-003-2025) Influence of Graphene Nanoplatelets on Physical Properties of Geopolymers (Invited)

N. Buettner²; A. Akono^{*1}

1. North Carolina State University, USA
2. Northwestern University, USA

10:00 AM

Break

S16-Synthesis, processing, microstructure of geopolymers II

Room: Ballroom 1-2

Session Chair: Henry Colorado L., Universidad de Antioquia

10:20 AM

(ICACC-S16-004-2025) Effects of Core and Corona Composition on the Properties of Preceramic Polymer Grafted Nanoparticles

J. Ponder^{*2}; N. D. Posey¹; A. Advincula²; T. Prunyn¹; M. B. Dickerson¹

1. Air Force Research Laboratory, Materials and Manufacturing Directorate, USA
2. UES, A BlueHalo Company/Air Force Research Laboratory, USA

10:40 AM

(ICACC-S16-005-2025) Mineral coating to waterproof concrete structures

O. Pardessus^{*1}; A. Gharzouni²; X. Bourbon³; O. Helson⁴; S. Rossignol³

1. Institut de Recherche sur les Ceramiques, 87000, France
2. IRCER, France
3. Laboratoire SPCTS, France
4. Agence nationale pour la gestion des dechets radioactifs, France

11:00 AM

(ICACC-S16-006-2025) Investigation of thermo-chemical modification of sepiolite on its geopolymerization (Invited)

C. Bagci^{*1}; P. Mokhtari²; W. M. Kriven²

1. Hitit University, Department of Metallurgical and Materials Engineering, Turkey
2. University of Illinois at Urbana-Champaign, Materials Science and Engineering, USA

11:30 AM

(ICACC-S16-007-2025) Impact of Alumina Platelets, Sand, and Basalt Fiber on Squeeze Flow and Shape Retentive Properties of Geopolymer Paste (Invited)

A. S. Brandvold^{*1}; A. C. Trindade¹; W. M. Kriven²

1. University of Illinois at Urbana-Champaign, Materials Science and Engineering, USA
2. University of Illinois at Urbana-Champaign, USA

12:00 PM

Poster Preview Pitch- Sustainable Construction: An Innovative Geopolymer-Pozzolan Hybrid Binder

S17 Advanced Ceramic Materials and Processing for Photonics and Energy

S17- Advanced Ceramic Materials and Processing for Photonics and Energy III

Room: Coquina H

Session Chairs: Davide Janner, Politecnico di Torino; Oomman Varghese, University of Houston

8:30 AM

(ICACC-S17-015-2025) Microwave-Assisted Routes towards Ln³⁺-Doped Nanomaterials with Controlled Composition and Morphology (Invited)

E. Hemmer^{*1}

1. University of Ottawa, Chemistry and Biomolecular Sciences, Canada

9:00 AM

(ICACC-S17-016-2025) Isostructural Lattice Alloying to Boost Broadband Light Emission from Self-Trapped Excitons for High Performance Lead-Free X-ray Scintillators (Invited)

J. Bao^{*1}; T. Chen²; D. Mu³; F. Lin²; W. Tang⁴; X. Li³; S. Ye²; Y. Wang²; J. Yang²; R. Wang²; X. Wen²; S. Yue⁴; X. Xu³; W. Zhang²; H. Chen⁴; C. Wang²

1. University of Houston, USA
2. Yunnan University, China
3. Kunming University of Science and Technology, China
4. University of Electronic Science and Technology of China, China
5. Swinburne University of Technology, Australia
6. Chinese Academy of Sciences, China

9:30 AM

(ICACC-S17-017-2025) Giant Auxetic Two-Dimensional Materials and their Photonics and Energy Applications (Invited)

G. Fanchini^{*1}

1. University of Western Ontario, Physics and Astronomy, Canada

10:00 AM

Break

10:20 AM

(ICACC-S17-018-2025) Solution processing of complex semiconductors (Invited)

G. Westin^{*1}

1. Uppsala University, Sweden

10:50 AM

(ICACC-S17-019-2025) Design of Optoelectronic Properties in Covalent Organic Frameworks (Invited)

D. Perepichka^{*1}

1. McGill University, Department of Chemistry, Canada

11:20 AM

(ICACC-S17-020-2025) Characterization of PMN-0.30PT-Er-Yb ceramic for photoluminescent properties tuned by applied bias electric field

S. Yakubu^{*1}; J. A. Eiras²; M. H. Lente¹

1. Universidade Federal de Sao Paulo, Material Science and Engineering, Brazil
2. Federal University of Sao Carlos, Physics, Brazil

11:40 AM

(ICACC-S17-021-2025) Highly Ce(III)-Doped Boron-Aluminosilicate-Lanthanum Glass for Advanced Photonic Devices

V. D. Dubrovina^{*1}; X. Zhu¹; L. Li¹; J. K. Lee¹; T. N. ten Broek¹; R. A. Norwood¹; N. N. Peyghambarian¹

1. The University of Arizona James C Wyant College of Optical Sciences, USA

S18 Ultra-High Temperature Ceramics

S18- Advanced Characterizations and Simulations

Room: Coquina F

Session Chair: Gregory Thompson, University of Alabama

8:30 AM

(ICACC-S18-026-2025) Connecting Microscale-to-Macroscale Fracture Toughness from Single Grain Transition Metal Carbide Testing (Invited)

A. Stubbers²; S. Hossain³; J. P. Santiago⁶; O. A. Graeve⁵; C. R. Weinberger⁴; G. Thompson^{*1}

1. University of Alabama, Metallurgical & Materials Engineering and the Alabama Materials Institute, USA
2. University of Alabama, Alabama Materials Institute, USA
3. Colorado State University, School of Advanced Materials Discovery, USA
4. Colorado State University, Department of Mechanical Engineering and the School of Advanced Materials Discovery, USA
5. University of California, San Diego, Mechanical and Aerospace Engineering and the Program in Materials Science and Engineering, USA
6. University of California San Diego, Department of Mechanical and Aerospace Engineering, USA

9:00 AM

(ICACC-S18-027-2025) Phase exploration of TM-X-C (X = Al, Si) thin film materials:Correlation between theory and experiments

S. Richter^{*1}; C. Gutschka¹; R. Hahn¹; T. Wojcik¹; E. Ntemou²; D. Primetzhofer²; S. Kolozsvári³; P. Polcik³; C. Jerg⁴; J. Ramm⁴; H. Riedl⁵

1. Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria, Austria
2. Uppsala universitet Institutionen for fysik och astronomi, Sweden
3. Plansee Composite Materials GmbH, Germany
4. OC Oerlikon Balzers AG, Liechtenstein
5. TU Wien, Institute of Materials Science and Technology, Austria

9:20 AM

(ICACC-S18-028-2025) Effect of Valence Electron Concentration on Slip Behavior in Sub-Stoichiometric Rocksalt Carbides and Nitrides

B. Watkins^{*1}; C. H. Blacksher²; G. Thompson²; C. R. Weinberger¹

1. Colorado State University, Department of Mechanical Engineering, USA
2. University of Alabama, Metallurgical & Materials Engineering, USA

9:40 AM

Break

S18- Super-hard UHTCs

Room: Coquina F

Session Chair: William Fahrenheit, Missouri University of Science & Technology

10:00 AM

Break

10:20 AM

(ICACC-S18-029-2025) New Superhard Boride Ceramics: An Integrated Computational and Experimental Study (Invited)

W. Fahrenheit*¹

1. Missouri University of Science & Technology, Dept. of Materials Science and Engineering, USA

10:50 AM

(ICACC-S18-030-2025) Superhard Refractory High-Entropy Ceramics

D. Hossain*¹; N. S. McIlwaine²; N. O. Marquez Rios²; R. Mayanovic⁴; E. Zurek⁵; D. Brenner²; W. Fahrenheit⁶; D. E. Wolfe⁷; S. Curtarolo⁷; J. Maria²

1. The University of Tennessee Knoxville Tickle College of Engineering, Mechanical Aerospace and Biomedical Engineering, USA
2. The Pennsylvania State University, Materials Science and Engineering, USA
3. NC State University, Materials Science and Engineering, USA
4. Missouri State University, Physics Astronomy and Materials Science, USA
5. University at Buffalo, Department of Chemistry, USA
6. Missouri University of Science & Technology, Dept. of Materials Science and Engineering, USA
7. Duke University, Materials Science, Electrical Engineering and Physics, USA

11:10 AM

(ICACC-S18-031-2025) Microindentation of Hard Ceramic Thin Films at Low Loads

N. S. McIlwaine*¹; N. O. Marquez Rios¹; J. Maria¹

1. The Pennsylvania State University, Materials Science and Engineering, USA

11:30 AM

(ICACC-S18-032-2025) Superlattice of high entropy borides for high hardness alloys

N. O. Marquez Rios*¹; N. S. McIlwaine¹; J. Maria¹

1. The Pennsylvania State University, Materials Science and Engineering, USA

S19 Molecular-level Processing and Chemical Engineering of Functional Materials

S19- Precursor-derived ceramics for sustainability I

Room: Ballroom 3

Session Chair: Gurpreet Singh, Kansas State University

8:30 AM

(ICACC-S19-026-2025) Polymer derived ceramics as the source of carbon for the electrocatalytic layer in proton exchange membrane fuel cells (Invited)

A. Tamayo*¹; E. Chinarro¹; J. Rubio¹

1. Institute of Ceramics and Glass, CSIC, Spain

9:00 AM

(ICACC-S19-027-2025) Photopolymerization-assisted solidification templating of Ni-modified polysiloxane for CO₂ methanation

K. Rauchenwald*²; K. Föttinger¹; T. Konegger²

1. Technische Universität Wien, Institute of Materials Chemistry, Austria
2. Technische Universität Wien, Institute of Chemical Technologies and Analytics, Austria

9:20 AM

(ICACC-S19-028-2025) Topochemical fluorination and de-fluorination in the context of photocatalysis and tailoring optical properties (Invited)

S. Perween*¹

1. University of Stuttgart, Institute for Materials Science, Germany

S19- Precursor-derived ceramics for sustainability II

Room: Ballroom 3

Session Chairs: Shama Perween, University of Stuttgart; Peter Kroll, University of Texas, Arlington

9:50 AM

Break

10:10 AM

(ICACC-S19-029-2025) Wet-chemical assisted synthesis approaches to access MAX phases and antiperovskite phases (Invited)

N. Kubitza*¹

1. Technische Universität Darmstadt, Eduard-Zintl-Institute, Germany

10:40 AM

(ICACC-S19-030-2025) Voltage Cutoff Techniques to Improve Cycling Stability in WS₂ Nanocages for Na⁺ and K⁺ Storage

A. Roy*¹; G. Singh¹

1. Kansas State University, Mechanical and Nuclear Engineering, USA

11:00 AM

(ICACC-S19-031-2025) PDC MoS₂ nanocomposites—preparation and performance as Li-ion battery electrode

A. Roy¹; G. Singh*¹

1. Kansas State University, Mechanical and Nuclear Engineering, USA

11:20 AM

(ICACC-S19-032-2025) Contribution of ceramic-based cathodes for long-term lithium-sulfur batteries

M. M. Amaral*¹; J. Nelson Weker²; H. G. Zanin¹; G. Singh²

1. Universidade Estadual de Campinas, Electrical and Computer Engineering, Brazil
2. Kansas State University, Mechanical and Nuclear Engineering Dept., USA
3. SLAC National Accelerator Laboratory, Stanford Synchrotron Radiation Lightsource, USA

11:40 AM

(ICACC-S19-033-2025) Enhancing Lithium-Ion Battery Performance with C₆₀-Reinforced Self-Supporting SiOC Composite Electrode

A. Roy*¹; G. Singh¹

1. Kansas State University, Mechanical and Nuclear Engineering, USA

FS7 Ceramics for global decarbonization

FS7- Carbon Capture, Utilization, and Storage

Room: Ballroom 5

Session Chairs: Charles Lewinsohn, Colorado State University System; Marta Boaro, Università degli Studi di Udine

1:30 PM

(ICACC-FS7001-2025) Opportunities for ceramics to decarbonize power generation through fusion (Invited)

Y. Katoh*¹

1. Oak Ridge National Laboratory, USA

2:00 PM

(ICACC-FS7002-2025) Taking Flight with Direct Air Carbon Capture (Invited)

L. McMillon-Brown*¹; J. Stenlid²; A. Ravichandran²; E. Skountzos²; J. Lawson²

1. NASA Glenn Research Center, Photovoltaics and Electrochemical Systems Branch, USA
2. NASA Ames Research Center, USA

2:30 PM

(ICACC-FS7003-2025) High temperature electrolysis for decarbonization and syngas production

A. Michaelis*¹

1. Fraunhofer IKTS, Germany

2:50 PM

(ICACC-FS7004-2025) Producing Onsite Hydrogen and Syngas for Manufacturing Feedstocks, Distributed Fuels and Onsite Energy

S. Reinartz^{*1}; B. Blackburn¹

1. Utility Global, Inc., USA

3:10 PM

Break

FS7-Energy Efficiency

Room: Ballroom 5

Session Chairs: Charles Lewinsohn, Colorado State University System; Alexander Michaelis, Fraunhofer IKTS

3:30 PM

(ICACC-FS7005-2025) Development of Aurivillius-based photoelectrodes for the photoelectrochemical CO₂ reduction reaction (Invited)

S. Casadio¹; N. Sangiorgi¹; A. Sanson^{*1}

1. CNR-ISSMC, Italy

4:00 PM

(ICACC-FS7006-2025) Sustainable solid sorbents for CO₂ capture – Amine functionalized layered oxides

P. Behr^{*1}; M. Pizzoccaro-Zilamy²; S. Baumann¹; O. Guillon¹; W. Brilman²; W. Meulenberg¹; L. Lefferts²

1. Forschungszentrum Julich GmbH, IMD-2, Germany
2. University Twente, Netherlands

4:20 PM

(ICACC-FS7007-2025) Role of catalysis in promoting chemical looping processes and oxygen transport in perovskite-derived oxides

M. Boaro^{*1}; F. Orsini²; A. Strazzolini¹; D. Ferrero²; M. Santarelli²; A. Trovarelli¹

1. Università degli Studi di Udine, Polytechnic Department of Engineering and Architecture, Italy
2. Politecnico di Torino, Italy

4:40 PM

(ICACC-FS7008-2025) Solar Thermochemical Fuel Production: Multiphysics Modeling of the Ceria Redox Cycle with Non-Uniform Porous Morphologies

F. Orsini^{*1}; D. Ferrero¹; M. Santarelli¹

1. Politecnico di Torino, Department of Energy, Italy

5:00 PM

Poster Preview Pitch- Impact of Accelerated Degradation on CO₂ Separation Performance of Zeolite Adsorbents

S1 Mechanical Behavior and Performance of Ceramics & Composites

S1- Ceramic Matrix Composites (CMCs) Processing–Microstructure–Mechanical Properties Correlation

Room: Coquina E

Session Chairs: Marco Pellanconi, SUPSI; Dietmar Koch, University of Augsburg; Tadashi Matsunaga, UBE Corporation

1:30 PM

(ICACC-S1-038-2025) Continuous Silicon Carbide-based Ceramic Fibers (Tyranno Fiber®) Developed by UBE Corporation and their Mini-Composite Performance

T. Matsunaga^{*1}

1. UBE Corporation, Specialty Products Division, Japan

1:50 PM

(ICACC-S1-039-2025) Development and mechanical characterization of short fibers ceramic matrix composites through bending tests

U. Legallois^{*1}; S. Beaudet-Savignat¹; P. Hourquebie¹; D. Brandt¹; J. Gerard²

1. Commissariat à l'énergie atomique et aux énergies alternatives Direction des applications militaires Le Ripault, Material, France
2. Ingenierie des Matériaux Polymères, France

2:10 PM

(ICACC-S1-040-2025) Processing - microstructure – mechanical properties relationship of discontinuous SiC fibers reinforced-intermetallic matrix composites

E. Daufresne de la Chevalerie^{*1}; M. Bechelany²; O. Dezellus²; Y. Le Petitcorps¹

1. Laboratoire des Composites Thermostructuraux, France
2. Laboratoire des Multimateriaux et Interfaces, France
3. Safran Tech, Safran Ceramics, France

2:30 PM

(ICACC-S1-041-2025) Development of a Novel Oxide Composite for Use as a High-Temperature Solid-State Lubricant

C. Grimley^{*1}; E. Volpe²; J. Kweder²; A. Kupferberg¹

1. Lucideon Ltd, United Kingdom
2. Technetics Group, USA

2:50 PM

Break

3:10 PM

(ICACC-S1-042-2025) Advances in additive manufacturing of carbon and carbide complex architectures: from replica of 3D printed templates to ceramic matrix composites (Invited)

A. Ortona^{*1}

1. SUPSI, MEMTi, Switzerland

3:40 PM

(ICACC-S1-043-2025) Understanding gas phase formation of silicon carbide during reactive melt infiltration of carbon substrates (Invited)

M. Prakashan¹; T. Schneider²; D. Koch^{*1}

1. Universität Augsburg, Institute of Materials Resource Management MRM, Germany
2. ArianeGroup GmbH, Germany

4:10 PM

(ICACC-S1-044-2025) Ceramic Matrix Composites (CMC) made of newly available SILAFIL® SiC Fibers (Invited)

W. Humbs^{*1}; M. Rothmann¹; K. Jaeger¹

1. BJS Ceramics GmbH, Germany

4:40 PM

(ICACC-S1-045-2025) Synthesis and Processing of YSZ/SiBCN Ceramic Matrix Composites for Hydrogen-Fueled Gas Turbine Engines

Y. Wang^{*1}; F. Faysal¹; C. Maitti¹; J. Gou¹

1. University of Central Florida, Mechanical and Aerospace Engineering, USA

S2 Advanced Ceramic Coatings for Structural/ Environmental & Functional Applications

S2- New testing simulation and material concepts for T/EBC III

Room: Coquina C

Session Chair: Eric Jordan, University of Connecticut

1:30 PM

(ICACC-S2-036-2025) Development of a Multi fuel-Multi geometry-Multi atmosphere rig for testing high temperature performance of thermal/environmental barrier coatings (Invited)

R. Naraparaju^{*1}

1. DLR - German Aerospace Center, Materials Research, Germany

2:00 PM

(ICACC-S2-037-2025) Environmental Barrier Coating Surface Temperature Mapping Using a Compatible Er-Doped Sc_2SiO_5 Temperature Sensing Layer

J. I. Eldridge^{*1}; K. Lee¹; J. A. Setlock²

1. NASA Glenn Research Center, USA
2. The University of Toledo, USA

2:20 PM

(ICACC-S2-038-2025) Pull Adhesion Testing of HfO_2 Coatings

A. Vozar²; R. Sarrafi-Nouri²; B. J. Harder¹; J. Salem^{*1}; M. Slizik¹; M. J. Presby⁴

1. NASA Glenn Research Center, Materials and Structures, USA
2. GE Research, Performance Coatings, USA
3. GE Aerospace, Research Center, USA
4. NASA Glenn Research Center, Environmental Effects and Coatings, USA

2:40 PM

(ICACC-S2-039-2025) Foreign Object Damage in Environmental Barrier Coatings Deposited on a Ceramic Matrix Composite

L. C. Hoffman^{*1}; M. J. Presby²

1. HXS, LLC, NASA Glenn Research Center, USA
2. NASA Glenn Research Center, Environmental Effects and Coatings Branch, USA

3:00 PM

Poster Preview Pitch- Optimizing Steam Jet Parameters for Enhanced Environmental Barrier Coating (EBC) Performance Testing in High-Temperature, High-Velocity Environments

S2- Advanced ceramic coatings for extreme environments

Room: Coquina C

Session Chair: Peter Mechnich, DLR - German Aerospace Center

3:02 PM

Break

3:22 PM

(ICACC-S2-040-2025) Electrochemical corrosion and long-term oxidation resistance of Ti-Al-C, (Ti, Mo)-Al-C and (Ti, Cr)-Al-C coatings (Invited)

T. Prikhna^{*1}; V. Podhurska²; V. Shtefan³; O. Ostash²; M. Karpets⁴; V. Sverdun¹; S. Ponomryov⁵; T. Serbenyuk¹; A. Kuprin⁶

1. Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Ukraine
2. Karpenko Physico-Mechanical Institute of the NAS of Ukraine, Department of Hydrogen Technologies and Alternative Energy Materials, Ukraine
3. Leibniz Institute for Solid State and Materials Research Dresden, Germany
4. National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine
5. Institute of Semiconductor Physics of the National Academy of Sciences of Ukraine, Ukraine
6. National Science Center Kharkov Institute of Physics and Technology, Ukraine

3:52 PM

(ICACC-S2-041-2025) β -SiAlON synthesis and application as a surface coating for Si_3N_4 heating elements

T. J. Wineger^{*1}; W. M. Kriven¹; D. do Carmo Silva¹

1. University of Illinois Urbana-Champaign, Materials Science and Engineering, USA

4:12 PM

(ICACC-S2-042-2025) Heat Management in Anodic Spark Deposition: A Potential Solution with other Challenges

R. Ali^{*1}; M. Shah²

1. University of Kentucky, Department of Electrical and Computer Engineering, USA
2. Shaheed Benazir Bhutto University Shaheed Benazirabad, Pakistan

4:32 PM

(ICACC-S2-043-2025) Harnessing Energy from Salinity Gradients: Enhanced Asymmetric Capacitive Mixing with MnO_2 -Coated Activated Carbon Electrodes

I. Hwang^{*1}; J. Kim¹; J. Park¹; M. Woo¹; C. Park¹; G. Cha¹; S. Han¹; J. Sun¹; S. Hong¹; Y. Lee¹; J. Jeong¹; J. Yeo²; Y. Jung³; K. Kim⁴; T. Song¹; U. Paik¹

1. Hanyang University, Department of Energy Engineering, Republic of Korea
2. Korea Institute of Energy Research, Republic of Korea
3. Changwon National University, Republic of Korea
4. Pusan National University, Republic of Korea

4:52 PM

(ICACC-S2-044-2025) Comparative Analysis between alumina (Al_2O_3), titania (TiO_2), and zirconia (TiO_2) as ceramic materials for moisture sensors

M. Shah²; R. Ali^{*1}

1. University of Kentucky, Department of Electrical and Computer Engineering, USA
2. Shaheed Benazir Bhutto University Shaheed Benazirabad, Pakistan

S3 22th Intl Symp on Solid Oxide Cells Materials Science & Technology

S3- Fuel electrodes & electrolytes

Room: Ballroom 4

Session Chair: Vincenzo Esposito, Technical University of Denmark

1:30 PM

(ICACC-S3-034-2025) Exsolution mechanisms, phase stability, and redox-behavior of substituted strontium titanate perovskites (Invited)

O. Guillon^{*1}; M. Weber²; A. Schwiers³; R. Dittmann³; R. Waser³; F. Gunkel¹; C. Lenser¹; N. H. Menzler¹

1. Forschungszentrum Jülich GmbH, IMD-2, Germany
2. Forschungszentrum Jülich GmbH, PGI-7/IMD-2, Germany
3. Forschungszentrum Jülich GmbH, PGI-7, Germany

2:00 PM

(ICACC-S3-035-2025) $\text{SrTi}_{1-x}\text{Fe}_x\text{O}_{3-\delta}$ Under Solid Oxide Cell Fuel-Electrode Conditions: Connecting Electrochemical Degradation and Phase Instability

J. M. Reinke^{*1}; S. Barnett¹

1. Northwestern University, Materials Science and Engineering, USA

2:20 PM

(ICACC-S3-036-2025) Development and characterization of novel fuel electrode supported solid oxide electrolysis cells in the COMPAS project

H. L. Frandsen^{*1}; A. Lopez de Moragas¹; J. Taubmann¹; M. P. Klitkou¹; M. Yarahmadi¹; P. Hendriksen¹; P. Khajavi¹

1. Technical University of Denmark, Department of Energy Conversion and Storage, Denmark

2:40 PM

(ICACC-S3-037-2025) Ni-GDC fuel electrode supported cells: An alternative for extending the lifetime of solid oxide electrolyzers

A. Lopez de Moragas^{*1}; M. Phan Klitkou¹; M. Yarahmadi¹; P. Khajavi¹; H. Lund Frandsen¹

1. Technical University of Denmark, Department of Energy Conversion and Storage, Denmark

3:00 PM

Break

3:20 PM

(ICACC-S3-038-2025) Characterization of a metal-based nickel electrode (Ni-GDC) under steam electrolysis conditions

L. Balice^{*2}; C. Frantz¹; K. Lawand¹; E. Boehm-Courjault¹; J. Van Herle¹; C. Lenser²; N. H. Menzler²; O. Guillon²; M. Bram²

1. EPFL Valais Wallis, STI-SCI-JVH Group of Energy Materials (GEM, Switzerland)
2. Forschungszentrum Jülich GmbH, IMD-2, Germany

3:40 PM

(ICACC-S3-039-2025) Probing degradation phenomena in solid oxide cells using nanoscale techniques (Invited)

K. Develos-Bagarinao^{*1}

1. National Institute of Advanced Industrial Science and Technology (AIST), Global Zero Emission Research Center, Japan

4:10 PM

(ICACC-S3-040-2025) Effect of Ni Content and Fuel Composition on Ni Migration in Ni-YSZ Electrodes

P. Pibulchinda^{*1}; D. M. Cox¹; S. Barnett¹

1. Northwestern University, Materials Science and Engineering, USA

4:30 PM

(ICACC-S3-041-2025) Room and high temperature tensile strength of ultrathin 3% yttria-stabilized zirconia (3YSZ) ceramic tapes for solid oxide fuel cells (SOECs)

I. Bombarda¹; N. Langhof¹; S. Schafföner^{*1}

1. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany

4:50 PM

(ICACC-S3-042-2025) Charge carrier relaxation phenomena in selected oxide ion conductors studied by impedance spectroscopy

M. Malys^{*1}; M. Struzik¹; B. Lemieszek²; A. Cuper¹; J. Mrowczynski¹; M. Ratajczyk¹; S. Molin²

1. Politechnika Warszawska, Faculty of Physics, Poland
2. Gdansk University of Technology, Laboratory of Functional Materials, Faculty of Electronics, Telecommunications and Informatics, Poland

5:10 PM

(ICACC-S3-043-2025) Sodium carbonate ceria composite electrolytes for applications in low temperature solid oxide cells

M. C. Diaz Lacharme^{*1}; K. Monzillo²; A. Bartoletti³; E. Callone²; A. Gondolini³; S. Dirè⁴; V. Vaiano²; A. Donazzi¹

1. Politecnico di Milano, Department of Energy, Italy
2. Università degli Studi di Salerno, Dipartimento di Ingegneria Industriale, Italy
3. CNR-ISSMC, Istituto di Scienza, Tecnologia e Sostenibilità per lo sviluppo dei Materiali Ceramici, Italy
4. Università degli Studi di Trento, Italy
5. Università degli Studi di Trento, Klaus Muller Magnetic Resonance Lab, Italy

S5 Next-Generation Bioceramics and Biocomposites

S5- Ceramics and composites with antimicrobial/ antiviral properties

Room: Ponce de Leon

Session Chair: Kalpana Katti, North Dakota State University

1:30 PM

(ICACC-S5-006-2025) Glass/Ceramic Composite Coatings Embedding Silver Nanoparticles with Antipathogen Properties (Invited)

C. Balagna^{*2}; F. Gattucci¹; A. Luceri¹; S. Perero¹; M. Ferraris²

1. Politecnico di Torino, DISAT, Italy
2. Politecnico di Torino, Department of Applied Science and Technology, Italy

2:00 PM

(ICACC-S5-007-2025) Investigating the composition-structure-property relationships of novel antibacterial glass particles developed through a design of mixtures approach

C. Andrea^{*1}; D. Boyd²

1. Dalhousie University, Biomedical Engineering, Canada
2. Dalhousie University, Department of Applied Oral Science, Faculty of Dentistry, Canada

2:20 PM

(ICACC-S5-008-2025) Enhancing Antimicrobial Property of Fluorapatite Bone Scaffolds with Low-Dose Copper Doping

P. Elahi^{*1}; S. K. Steyl¹; J. Shea¹; V. Krishnamoorthi²; J. P. Beck²; J. Agarwal¹; S. Jeyapalina¹

1. University of Utah Health, Department of Surgery, USA
2. University of Utah Health, Department of Biomedical Engineering, USA
3. University of Utah Health, Department of Orthopedics, USA

2:40 PM

Break

S5- Biomineralization and tissue-material interactions

Room: Ponce de Leon

Session Chair: Cristina Balagna, Politecnico di Torino

3:20 PM

(ICACC-S5-009-2025) Reliable in vitro models of cancer metastasis through next-generation tunable bio-nano composite scaffolds (Invited)

K. S. Katti^{*1}; D. R. Katti¹; J. Kim¹; P. Ravi²; S. Ghosh¹; A. Gaba⁴; P. Vyas³

1. North Dakota State University, Department of Biological Sciences, USA
2. North Dakota State University College of Engineering, Civil Construction and Environmental Engineering, USA
3. Sanford Medical Center Fargo, Orthopaedics, USA
4. Sanford Medical Center Fargo, Oncology, USA

3:50 PM

(ICACC-S5-010-2025) Modeling the cell-cell and cell-substrate interface in cancer bone metastasis

D. R. Katti^{*1}; K. S. Katti¹; H. Gaikwad¹; S. V¹

1. North Dakota State University, Civil Construction and Environmental Engineering, USA

4:10 PM

(ICACC-S5-011-2025) Engineering curved strontium sulfate crystals

C. Detwiler Gray^{*2}; A. Martin¹; E. Samajpati³; A. Perez-Huerta³; V. Merk¹

1. Florida Atlantic University, Chemistry & Biochemistry, Ocean & Mechanical Engineering, USA
2. Florida Atlantic University, Chemistry and Biochemistry, USA
3. The University of Alabama at Birmingham College of Arts and Sciences, Department of Geological Sciences, USA

S6 Advanced Materials and Technologies for Rechargeable Energy Storage

S6- Sodium-ion Batteries I

Room: Coquina B

Session Chair: Chongmin Wang, Pacific Northwest National Lab

1:30 PM

(ICACC-S6-056-2025) Shedding Light on Charge Compensation Processes and Structural Details of Battery Materials using Advanced X-ray Spectroscopic Methods (Invited)

M. Balasubramanian^{*1}

1. Oak Ridge National Laboratory, USA

2:00 PM

(ICACC-S6-032-2025) Exploring Fluorine-Free Sodium-Ion Electrolytes and their Interface with Electrodes for Sodium-Ion Batteries (Invited)

C. Ban^{*1}

1. University of Colorado Boulder College of Engineering and Applied Science, USA

2:30 PM

(ICACC-S6-033-2025) Electronic Structure and Electrochemical Mechanisms in Electrode Materials for Potassium Batteries (Invited)

L. Stievano^{*1}; L. Monconduit¹

1. Université de Montpellier, Institut Charles Gernardt Montpellier, France

3:00 PM

Break

S6-Sodium-ion Batteries II

Room: Coquina B

Session Chairs: Badri Narayanan, University of Louisville; Wan Si Tang, Underwriters Laboratories Inc

3:20 PM

(ICACC-S6-034-2025) Understanding the Intersection of Solvation Structure and Interfaces for Next-Generation Na Metal Batteries (Invited)

R. Carter^{*1}; L. Morris²; C. Pyles¹; A. Dunkelberger¹; M. Swift¹; J. Hart³; Z. Warecki¹; C. Love¹

1. US Naval Research Laboratory, USA
2. American Society for Engineering Education, USA
3. Nova Research Inc, USA

3:50 PM

(IACC-S6-049-2025) Fast Charge Transfer Pathway via Dielectric Interface

T. Teranishi^{*1}; Y. Higaki¹; S. Kondo¹; A. Kishimoto¹; C. Sasaoka²; H. Hirabaru²; S. Katayama²

1. Okayama University, Japan
2. Nippon Denko Co., Ltd, Japan

4:20 PM

(ICACC-S6-036-2025) Design of Novel High-Performance Cathode Materials for Na-ion Batteries (Invited)

P. Kaghazchi^{*1}

1. Forschungszentrum Juelich, Germany

S7 19th Intl Symp on Functional Nanomaterials & Thin Films for Sustainable Energy Harvesting

S7- Functional coatings and innovative thin film techniques, e.g., ALD, PECVD- II

Room: Flagler C

Session Chair: Muhammet Toprak, KTH Royal Institute of Technology

1:30 PM

(ICACC-S7-032-2025) Beyond conventional lithography: ongoing efforts in the projects REMAP, e-APP, and TRANSMIT (Invited)

D. Colombara^{*1}; P. Anacleto²

1. Università degli Studi di Genova, Italy
2. International Iberian Nanotechnology Laboratory, Portugal

2:00 PM

(ICACC-S7-033-2025) Nanocrystalline Diamond: Synthesis, Characterization and Applications

A. Kumar^{*1}

1. University of South Florida, Mechanical Engineering, USA

2:20 PM

Poster Preview Pitch- Enhancing the Structural Stability of Layered Lithium-Rich Manganese-Based Cathode Materials through Anionic and Cationic Co-Doping

2:22 PM

Poster Preview Pitch- Dual-Functional Pre-lithiation for Optimized High-Performance SiOx Anodes in Lithium-Ion Batteries

2:24 PM

Poster Preview Pitch- Smart Interlayer Construction for Improving NASICON-type Solid Electrolyte/Li Interface Compatibility in Solid-state Lithium Metal Batteries

2:26 PM

Poster Preview Pitch- Mechanisms Governing the Influence of Solvation Structures on Amorphous Solid Electrolyte Interphase Formation in Aqueous Zinc-Ion Batteries

2:28 PM

Poster Preview Pitch- Designing the Crystal Structure of Silicon Oxide Anodes to Enhance Their Phase Stability in Lithium-Ion Batteries

S8 19th Intl Symp on APMT for Structural & Multifunctional Materials & Systems

S8- Rapid prototyping, 3D printing, patterning, templates and self-assembly

Room: Flagler A

Session Chairs: Katalin Balazsi, Centre for Energy Research HAS; Hirokazu Katsui, National Institute of Advanced Industrial Science and Technology (AIST)

1:30 PM

(ICACC-S8-037-2025) Monolithic zirconia with quasi-composite properties

P. Makurunge^{*1}; J. Callaghan¹; S. Middleburgh¹

1. Nuclear Futures Institute, Bangor University, United Kingdom

1:50 PM

(ICACC-S8-038-2025) Sustainability in Additive Manufacturing: Recycling and other strategies

H. A. Colorado L.^{*1}

1. Universidad de Antioquia, Colombia

2:10 PM

Poster Preview Pitch- Processing of Nb-Ta-Al₂O₃ composites by FAST/SPS and investigation of 3D-microstructure

2:12 PM

Poster Preview Pitch- Fabrication and Laser-Assisted Machining (LAM) of Fused Silica-Based Ceramic Composites Reinforced with Nanoparticles

2:14 PM

Poster Preview Pitch- Usage of 3D Optical Microscopy for Understanding Defects in Composites

2:16 PM

Poster Preview Pitch- Investigating a simplified dip-coating technique for the development of C_f/hBN/SiC composites

S8- Novel forming/sintering technologies, near-net shaping

Room: Flagler A

Session Chairs: Junichi Tatami, Yokohama National University; Hisayuki Suematsu, Nagaoka University of Technology

2:20 PM

(ICACC-S8-033-2025) Fabrication of transparent YVO₄ by orientation control and SPS (Invited)

T. S. Suzuki^{*1}; L. Liu¹; J. Li²; K. Morita²

1. National Institute for Materials Science, Optical Ceramics Group, Japan
2. National Institute for Materials Science (NIMS), Japan

2:50 PM

(ICACC-S8-034-2025) Improved Densification of SiC Ceramics by Three-Step Sintering (Invited)

Y. Kim^{*1}

1. WORLDEX Industry & Trading Co., Ltd., Republic of Korea

3:20 PM

Break

3:40 PM

(ICACC-S8-035-2025) Innovative approaches to debind and sinter alumina (Al₂O₃) ceramics fabricated using direct ink writing

S. Bhandari^{*1}; O. Hanzel²; M. kermani³; V. M. Sglavo³; M. Biesuz³; G. Franchin¹

1. Università degli Studi di Padova Dipartimento di Ingegneria Industriale, Italy
2. Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia
3. Università degli Studi di Trento, Ingegneria industriale, Italy

S10 Integrated computational-experimental modeling and design of ceramics and composites

S10- Molecular modeling of advanced materials structure and properties

Room: Coquina G

Session Chair: Jiamian Hu, University of Wisconsin-Madison

1:30 PM

(ICACC-S10-001-2025) Ab-Initio Molecular Dynamic Simulations of the Conversion of Preceramic Polymers into Ceramics (Invited)

P. Kroll^{*1}

1. University of Texas, Arlington, USA

2:00 PM

(ICACC-S10-002-2025) Understanding Pyrolysis of Polysiloxane into Silicon Oxycarbide Using ReaxFF Molecular Dynamics

W. Li^{*1}; K. Lu¹; M. Shaik¹

1. University of Alabama at Birmingham, USA

2:20 PM

(ICACC-S10-003-2025) Polymer Derived Ceramics Modeling: An Evolutionary Algorithm Driven Classical Molecular Dynamics Approach

M. Belhadj Larbi^{*1}

1. University of Missouri, Kansas City, Physics and Astronomy, USA

2:40 PM

(ICACC-S10-004-2025) A Combined Experimental and Theoretical Study on Benzyl (2-hydroxyethyl)(methyl)carbamate Synthesis for Analyzing Chemical Selectivity

J. M. Liu^{*1}; T. Shen²; L. Li²

1. Lambert High School, USA
2. Georgia State University College of Arts & Sciences, Chemistry, USA

S10- Insights into advanced materials structures and transitions

Room: Coquina G

Session Chair: Peter Kroll, University of Texas, Arlington

3:00 PM

Break

3:20 PM

(ICACC-S10-005-2025) Polycrystal Microstructure Informatics (Invited)

J. Hu^{*1}

1. University of Wisconsin-Madison, Materials Science and Engineering, USA

3:50 PM

(ICACC-S10-006-2025) AI-Enabled Upscaling of Ab Initio Thermodynamics for SiC-3C(001) Surface Reconstructions

M. P. MacIsaac^{*1}; S. Bavdekar²; R. G. Hennig²; D. Spearot¹; G. Subhash¹

1. University of Florida, Mechanical & Aerospace Engineering, USA
2. University of Florida, Materials Science and Engineering, USA
3. Illinois State University, Mechanical Engineering, USA

4:10 PM

(ICACC-S10-007-2025) Understanding the Role of Entropy and Enthalpy Creating Mixed Carbide and Diborid Ceramics

X. Tang¹; G. Thompson²; C. R. Weinberger^{*1}

1. Colorado State University, Department of Mechanical Engineering, USA
2. University of Alabama, Metallurgical & Materials Engineering, USA

4:30 PM

Poster Preview Pitch- Classification and Interpretation of Intermediate Feature Representations of Silicon Nitride Microstructures using t-SNE

S13 Development & Applications of Adv Ceramics & Composites for Nuclear Fission/ Fusion Energy Sys

S13- Fuel, cladding, assembly, and core evolutions and performance modeling

Room: Coquina D

Session Chair: Gyanender Singh, Idaho National Laboratory

1:30 PM

(ICACC-S13-010-2025) Fracture modeling of TRISO Coating Layers (Invited)

W. Jiang^{*1}

1. NC State University, Nuclear Engineering, USA

2:00 PM

(ICACC-S13-011-2025) Modelling TRISO Nuclear Fuel Using Peridynamics (Invited)

T. A. Haynes^{*1}

1. University of East Anglia, Engineering, Mathematics & Physics, United Kingdom

2:30 PM

(ICACC-S13-012-2025) Simulating irradiation-enhanced diffusion in advanced ceramic nuclear fission fuels (Invited)

M. W. Cooper^{*1}; C. Matthews¹; A. Schneider¹; J. Rizk¹; A. D. Andersson¹

1. Los Alamos National Laboratory, USA

3:00 PM

Break

S13- Material technologies for advanced reactors

Room: Coquina D

Session Chair: Michael Cooper, Los Alamos National Lab

3:20 PM

(ICACC-S13-014-2025) Low temperature and pressure synthesis of novel inert matrix or microencapsulated fuel forms

N. Rani¹; D. Bhardwaj¹; L. Snead¹; D. Sprouster^{*1}

1. Stony Brook University, Material Science and Chemical Engineering, USA

3:40 PM

(ICACC-S13-015-2025) Evolution of radiation damage and 3D porosity in a proton irradiated nuclear graphite material

M. Jiang¹; C. Densham²; F. Pellemoine²; D. Liu^{*1}

1. University of Oxford, Engineering Science, United Kingdom
2. Rutherford Appleton Laboratory, United Kingdom
3. Fermi National Accelerator Laboratory, USA

4:00 PM

(ICACC-S13-016-2025) Multimodal characterization of neutron irradiation effects in glassy carbon

J. D. Arregui-Mena^{*1}; T. Koyanagi²; D. Cullen²; M. Zachman²; Y. Lin²; Y. Katoh²

1. Oak Ridge National Lab, Nuclear Materials Science & Technology Group, USA
2. Oak Ridge National Laboratory, USA

4:20 PM

(ICACC-S13-017-2025) SiC-SiC CMCs & Graphite in Nuclear Reactors: Design & Construction Rules in ASME BPV Code Sec. III, Div. 5 for Nonmetallics - 2025 Edition Revisions

M. G. Jenkins^{*1}; S. T. Gonczy²; J. W. Geringer³; Y. Katoh⁴

1. Bothell Engineering and Science Technologies, USA
2. Gateway Materials Technology, USA
3. Oak Ridge National Lab, Materials Science and Technology, USA
4. Oak Ridge National Laboratory, USA

4:40 PM

(ICACC-S13-018-2025) Thermal Expansion of Nuclear Graphite Materials at High Temperatures with In-situ Neutron Diffraction

H. Ling^{*1}; E. Obbard¹; D. Liu²; A. Paradowska³; M. Jiang²

1. University of New South Wales, Australia
2. University of Oxford, United Kingdom
3. Australian Nuclear Science and Technology Organisation, Australia

5:00 PM

Poster Preview Pitch- Post-oxygenation under high pressure of superconducting EuBCO and GdBCO coated conductors

5:02 PM

Poster Preview Pitch- Effects of Oxide Formation on Corrosion Resistance of Structural Materials in Chlorine-Based Salt Environments

5:04 PM

Poster Preview Pitch- Innovative Swaging-Drawing ATF Tube with Zr Nitride Formation for Enhanced Thermal Stability Evaluation under LOCA Conditions in PWR

S15 9th International Symposium on Additive Manufacturing and 3-D Printing Technologies

S15- 9th International Sym on Additive Manufacturing and 3D Printing Technologies- Vat Photopolymerization 2

Room: Coquina A

Session Chairs: Michael Stuer, Empa; Martin Schwentenwein, Lithoz GmbH

1:30 PM

(ICACC-S15-010-2025) Fabrication of highly transparent yttria 3D structures by DLP-based additive manufacturing (Invited)

H. Yun^{*1}

1. Korea Institute of Materials Science, Republic of Korea

2:00 PM

(ICACC-S15-011-2025) 3D printing of bio-based photocurable ceramic slurries prepared with second-life glass-based materials

M. Porcarello^{*1}; M. Salvo¹; F. Smeacetto¹; S. Anelli¹; M. Sangermano¹

1. Politecnico di Torino, Department of Applied Science and Technology, Italy

2:20 PM

(ICACC-S15-012-2025) Effect of filler particles on the composition and properties of 3D printed polymer-derived ceramics

A. Kulkarni^{*1}; H. Yazdani Sarvestani¹; A. Sohrabi³; T. Lacelle²; V. Karamzadeh³; A. Shashoua³; Y. Martinez-Rubi²; M. Jakubinek²; B. Ashrafi¹

1. National Research Council Canada, Aerospace, Canada
2. National Research Council Canada, Quantum and Nanomaterials, Canada
3. McGill University, Canada

2:40 PM

(ICACC-S15-013-2025) Additive Manufacturing of Vibration Absorbing Ceramics for Rotating Detonation Engines

B. Lam^{*1}; B. Pajo¹; C. Martinez¹; R. Trice¹

1. Purdue University, MSE, USA

S15- 9th International Sym on Additive Manufacturing and 3D Printing Technologies- Vat Photopolymerization 3

Room: Coquina A

Session Chairs: Hui-Suk Yun, Korea Institute of Materials Science; Fiona Spirrett, Osaka University

3:00 PM

Break

3:20 PM

(ICACC-S15-014-2025) Refined powders in additive manufacturing: Challenges and opportunities (Invited)

E. Rosado²; R. Moreno²; T. Graule³; M. Stuer^{*1}

1. Empa, Advanced Materials and Surfaces, Switzerland
2. Instituto de Ceramica y Vidrio, Spain
3. Empa, Laboratory for High Performance Ceramics, Switzerland

3:50 PM

(ICACC-S15-015-2025) Multi-material ceramic/ceramic and metal/ceramic components through vat photopolymerization

M. Schwentenwein^{*1}; S. Geier¹; J. Schlacher²; S. Nohut¹; R. Bermejo²

1. Lithoz GmbH, Austria
2. Montanuniversitaet Leoben, Institut fuer Struktur- und Funktionskeramik, Austria
3. Montanuniversitaet Leoben, Austria

4:10 PM

(ICACC-S15-016-2025) Challenges of printing of large ceramic parts by SLA 3D printing

E. Louradour^{*1}; C. Manière²

1. 3DCERAM SINTO, Process, France
2. ENSI CAEN, CNRS, France

4:30 PM

(ICACC-S15-017-2025) Additive Manufacturing of Novel Ceramic Armour Structures using Vat-Photopolymerization: A comparative study on Alumina, ZTA, and ATZ

B. Ozkan^{*1}; A. Goulas¹; A. Ketharam¹; A. Kanna¹; P. Vasudevan¹; B. Vaidhyanathan¹

1. Loughborough University, Department of Materials, United Kingdom

4:50 PM

(ICACC-S15-018-2025) High Temperature Ceramic Heat Exchanger for Re-Entry Systems through Additive Manufacturing

N. Zheng^{*1}; J. Gou¹

1. University of Central Florida, Mechanical and Aerospace Engineering, USA

5:10 PM

(ICACC-S15-019-2025) Exploring the Potential: Wireless Embedded Ceramic Sensors using Additive Manufacturing

N. Reed^{*1}; J. B. Shivakumar²; R. Srinivasaraghavan Govindarajan¹; S. C. Perry²; K. Coote¹; E. Rojas-Nastrucci³; D. Kim¹

1. Embry-Riddle Aeronautical University, Aerospace Engineering, USA
2. Embry-Riddle Aeronautical University, Mechanical Engineering, USA
3. Embry-Riddle Aeronautical University, Electrical Computer Science and Systems Engineering, USA

S16 Geopolymers Inorganic Polymers and Sustainable Construction Materials

S16- Novel applications of geopolymers I

Room: Ballroom 1-2

Session Chair: Enrico Bernardo, University of Padova

1:30 PM

(ICACC-S16-008-2025) Organic-based synthesis of geopolymers and conversion to ceramics (Invited)

D. Samuel²; D. do Carmo Silva²; W. M. Kriven^{*1}

1. University of Illinois at Urbana-Champaign, USA
2. University of Illinois at Urbana-Champaign, Materials Science and Engineering, USA

2:00 PM

(ICACC-S16-010-2025) Elimination of malachite green from aqueous and saline water by laterite-derived Na-polyferrosialate and polyferrophosphosialate geopolymers (Invited)

S. Tome^{*1}; C. Rüscher¹

1. Leibniz University Hannover, Mineralogy, Germany

2:30 PM

Break

S16- Novel applications of geopolymers II

Room: Ballroom 1-2

Session Chair: Pozhhan Mokhtari, University of Illinois at Urbana-Champaign

3:20 PM

(ICACC-S16-011-2025) Development of Electro Chemical Bonding For Refractory Castables

R. A. Pattillo*¹

1. Reno Refractories, Inc., Research, USA

3:40 PM

(ICACC-S16-012-2025) Development of an intumescent inorganic coating on steel substrates

W. Ncho*¹

1. UNIVERSITE, IRCER, France

4:00 PM

(ICACC-S16-013-2025) Feasibility of using geopolymer technology in SiC powder synthesis process (Invited)

W. Lee*¹; Z. Yang¹; Y. Tsai²; Y. Lin²

1. National Taipei University of Technology, Institute of Mineral Resources Engineering, Taiwan
2. National Taipei University of Technology, Department of Materials and Mineral Resources Engineering, Taiwan
3. National Yang Ming Chiao Tung University, Department of Civil Engineering, Taiwan

4:30 PM

(ICACC-S16-014-2025) Comparative Testing of the Wear Resistance of Na-Based Geopolymer Composites Filled with Basalt Glass and Glass-Ceramic Microspheres

Y. Zubko*¹; Y. Zubko²; W. M. Kriven²

1. University of Illinois Urbana-Champaign, Materials Science and Engineering, USA
2. University of Illinois at Urbana-Champaign, USA
3. Micro Basalt Innovations - Canada Corp., Canada

5:00 PM

(ICACC-S16-015-2025) Design of alumino-silicate refractory matrices in the context of climate change: sustainability approach (Invited)

E. Kamseu*¹

1. MIPROMALO, Research, Cameroon

S17 Advanced Ceramic Materials and Processing for Photonics and Energy

S17- Advanced Ceramic Materials and Processing for Photonics and Energy IV

Room: Coquina H

Session Chairs: Giovanni Fanchini, University of Western Ontario; Fiorenzo Vetrone, INRS, Université du Québec

1:30 PM

(ICACC-S17-022-2025) Developments in Tubular Oxide Nanomaterials for Sensing Applications (Invited)

O. K. Varghese*¹; D. Waligo¹; M. Paulose²

1. University of Houston, Department of Physics & Texas Center for Superconductivity, USA
2. University of Houston, Department of Physics, USA

2:00 PM

(ICACC-S17-023-2025) Development of a Silicon Nitride Platform for Next-Generation Photonic Devices (Invited)

B. Ahammou*¹; N. Dalvand¹; Y. Ouldhnini¹; A. Radi¹; B. Le Drogoff¹; K. K. Ghuman¹; J. Margot²; M. Ménard²; M. Chaker¹

1. INRS, Energie matériaux télécommunications, Canada
2. Ecole de technologie supérieure, Canada
3. Université de Montréal, Physics, Canada

2:30 PM

(ICACC-S17-024-2025) Using Organic Conjugated Polymers to Recycle Waste Heat (Invited)

E. Orgiu*¹

1. Institut National de la Recherche Scientifique (INRS), EMT Centre, Canada

3:00 PM

Break

3:20 PM

(ICACC-S17-025-2025) Advances in Catalyst Design for Efficient Hydrogen Production: From Electrocatalytic Membranes to Solar-Driven Systems (Invited)

M. Siao*¹

1. Université de Sherbrooke Faculté de Génie, Chemical engineering, Canada

3:50 PM

(ICACC-S17-026-2025) Specialty glass materials and fibers for biophotonics and sensing (Invited)

S. Russo¹; M. Nagar¹; J. T. Panday¹; N. Boetti²; D. Janner*¹

1. Politecnico di Torino, DISAT, Italy
2. Fondazione LINKS, Italy

4:20 PM

(ICACC-S17-027-2025) Casimir nanoparticle levitation with broadband perfect magnetic conductor metamaterials (Invited)

V. Giannini*¹

1. TIL, Advanced Materials, United Arab Emirates

4:50 PM

(ICACC-S17-028-2025) Silicon nitride substrates for power electronics

E. Zschippang*²; A. Wolfrum²; L. Schmidtner²; J. Hoerig¹; M. Herrmann²

1. Fraunhofer-Center für Silizium-Photovoltaik CSP (ISE), Germany
2. Fraunhofer IKTS, Germany

S18 Ultra-High Temperature Ceramics

S18- Response in Extreme Environments

Room: Coquina F

Session Chairs: Lisa Rueschhoff, Air Force Research Lab; Sea-Hoon Lee, Korea Institute of Materials Science

1:30 PM

(ICACC-S18-033-2025) Mechanical performance, oxidation behavior, and thermal shock resistance of additively manufactured short carbon fiber-reinforced zirconium diboride (Invited)

L. M. Rueschhoff*¹; C. Wyckoff²; J. Kaufman²

1. Air Force Research Laboratory, USA
2. UES, Inc., USA

2:00 PM

(ICACC-S18-034-2025) Universal trends in spectral emittance of oxides and carbide at ultrahigh temperatures (Invited)

P. E. Hopkins*¹

1. University of Virginia, USA

2:30 PM

(ICACC-S18-035-2025) Polymer Derived Ultra-High Temperature Ceramics Matrix Composites Prepared from Air Force Preceramics

J. Ponder*¹; J. Deijkers¹; A. Advincula¹; J. Delcamp²; M. B. Dickerson²; T. Pruyn²

1. UES, A BlueHalo Company/Air Force Research Laboratory, USA
2. Air Force Research Laboratory, Materials and Manufacturing Directorate, USA

2:50 PM

(ICACC-S18-036-2025) Internal stress and hydrogen permeability in carbon-doped TiZrN coatings fabricated by laser carburization

S. Kim^{*1}; E. Hong²; S. Lee³; J. So¹; H. Lee³

1. Korea Institute of Materials Science, Republic of Korea
2. Korea Testing Laboratory, Republic of Korea
3. Pusan National University, Republic of Korea

3:10 PM

Break

3:30 PM

(ICACC-S18-037-2025) UHTC Research Activities in South Korea (Invited)

S. Lee^{*1}; J. So¹

1. Korea Institute of Materials Science, Republic of Korea

4:00 PM

(ICACC-S18-038-2025) Influence of Al₂O₃ coatings on the oxidation behavior of ZrB₂

J. E. Förster^{*1}; W. Fahrenholtz²; G. Hilmas²; P. Mechnich¹; R. Naraparaju¹

1. DLR - German Aerospace Center, Institute of Materials Research, Germany
2. Missouri University of Science & Technology, Dept. of Materials Science and Engineering, USA

4:20 PM

(ICACC-S18-039-2025) Oxidation of Hafnium Diboride - Silicon Carbide at 1500°C in Air; Effect of Compressive Stress

A. DeGregoria¹; M. Ruggles-Wrenn^{*1}; G. Pry¹

1. Air Force Institute of Technology, Aeronautics & Astronautics, USA

4:40 PM

Poster Preview Pitch - Microstructure and properties of ZrB₂-SiC composites fabricated by pressure-less sintering of gel-cast green bodies

Poster Session B

Room: Ocean Center

5:00 PM

(ICACC-PB001-2025) Carbon Reinforced Boron sub-Oxide Nanocomposite- Abridged visual poster summary

J. Kenny^{*1}

1. AWE plc, Non Nuclear Components, United Kingdom

(ICACC-PB002-2025) Mechanisms of Oxide Film Formation for Enhanced Corrosion Resistance on FeCrAl Alloy Surfaces in Aggressive Environments

H. Kang^{*1}; K. Park²; D. Kim³; Y. Yoon¹

1. Gachon University, Materials Science and Engineering, Republic of Korea
2. Kongju National University, Division of Advanced Materials Engineering, Republic of Korea
3. Auburn University, USA

(ICACC-PB003-2025) Effect of cellulose nanofiber addition on powder injection molding process

S. Kobayashi^{*1}; T. Osada²

1. Tokyo Metropolitan University, Mechanical Systems Engineering, Japan
2. Tokyo Metropolitan University, Japan

(ICACC-PB004-2025) A machine learning-driven approach to predict mechanical degradation in fiber-reinforced composite laminates associated with matrix cracks

M. Fikry²; F. Mirza⁴; J. Mack³; N. Martono¹; K. TAN⁴; V. Vinogradov³; S. Ogihara^{*1}

1. Tokyo University of Science, Japan
2. Tokyo University of Science, Mechanical Engineering, Japan
3. Newcastle University, United Kingdom
4. University of Akron, USA

(ICACC-PB005-2025) Phthalonitrile Functionalized Resoles: High Char Yield Resins for Carbon/Carbon Composites

N. Chaussoy¹; D. Brandt^{*1}; J. Gerard²

1. CEA, DAM, Le Ripault, F-37260, France
2. IMP, INSA Lyon, France

(ICACC-PB006-2025) Experimental and numerical investigation of damage process in adhesively bonded composite scarf joints

S. Oshima^{*1}; S. Kobayashi²

1. Tokyo Metropolitan University, Department of Aeronautics and Astronautics, Japan
2. Tokyo Metropolitan University, Mechanical Engineering, Japan

(ICACC-PB007-2025) Application of AE Measurement to Crack Tip Location and Damage Mode Evaluation on Mode-I and Mode-II Tests for CFRP

T. Sakai^{*1}; K. Miura¹

1. Saitama University, Japan

(ICACC-PB008-2025) Improvement of Deep Drawability of Carbon Fiber Reinforced Thermoplastics in Dome Shape

S. Kobayashi^{*1}

1. Tokyo Metropolitan University, Mechanical Engineering, Japan

(ICACC-PB009-2025) Quantitative evaluation of fiber straighten effect on axial compressive strength of unidirectional carbon fiber reinforced plastic

M. Ueda^{*1}; R. Nishi¹; N. Ichihara¹

1. Nihon University, Japan

(ICACC-PB010-2025) Characterization of mode I fracture behavior in aging-treated A7075/CFRP adhesive-bonded joints using acoustic emission method

Y. Zusho^{*1}; S. Kobayashi²

1. Tokyo Daigaku, Department of Aeronautics and Astronautics, Japan
2. Tokyo Metropolitan University, Mechanical Engineering, Japan

(ICACC-PB011-2025) Development of a densification process for metal BJT compacts with fine grains

K. Kariya^{*1}; T. Osada¹; S. Kobayashi¹

1. Tokyo Metropolitan University, Mechanical Engineering, Japan

(ICACC-PB012-2025) Effect of Surface Textures on Mechanical and Osteogenic Properties of Alumina Toughened Zirconia Composites

M. Kinoshita^{*1}; S. Kobayashi¹

1. Tokyo Toritsu Daigaku, Mechanical Engineering, Japan

(ICACC-PB013-2025) Development and Evaluation of Low Environment Impact Fabrication Methods for Zirconia CIM Parts

K. Tsuda^{*1}; S. Kobayashi¹

1. Tokyo Toritsu Daigaku, Mechanical Systems Engineering, Japan

(ICACC-PB014-2025) Ceramic coating of fibre reinforced polymers using separate powder injected laser application

N. Grigat^{*1}; B. Vollbrecht¹; F. Jung¹; M. Bode¹

1. Rheinisch-Westfälische Technische Hochschule Aachen, Germany

(ICACC-PB015-2025) Fabrication and Characterization of Lightweight Composite Conductors

C. Hernandez^{*1}; A. S. Almansour²; M. Lizcano³

1. University of Puerto Rico-Mayaguez, Engineering Sciences and Materials, Puerto Rico
2. NASA Glenn Research Center, Mechanical Engineering, USA
3. NASA Glenn Research Center, USA

(ICACC-PB016-2025) Design and characterization of promising SOC electrolytes with mixed H⁺/O²⁻ conductivity for co-electrolysis

J. Basbus¹; D. Clematis¹; M. Viviani¹; M. Boaro^{*2}; A. Barbucci¹

1. UniGe, DICCA, Italy
2. Università degli Studi di Udine, Polytechnic Department of Engineering and Architecture, Italy
3. Institut de Recerca en Energia de Catalunya, Spain

(ICACC-PB017-2025) Characterization of Sm(Ba,Ca)Co₂O₅ as possible air and fuel electrodes for IT-SOCs

J. Basbus¹; M. Boaro^{*2}; A. Maria Asensio³; D. Clematis¹; A. Barbucci¹

1. UniGe, DICCA, Italy
2. Università degli Studi di Udine, Polytechnic Department of Engineering and Architecture, Italy
3. Institut de Recerca en Energia de Catalunya, Spain

(ICACC-PB018-2025) Impact of Accelerated Degradation on CO₂ Separation Performance of Zeolite Adsorbents

T. Makino^{*1}; Y. Kohno¹; T. Fujii¹

1. National Institute of Advanced Industrial Science and Technology, Japan

(ICACC-PB019-2025) Advancing Standards-Transforming Markets: ASTM International Standards for Properties & Performance of Advanced Ceramics

M. G. Jenkins^{*1}; S. T. Gonczy²; J. Salem³; J. Westbrook⁴; G. D. Quinn⁴

1. Bothell Engineering and Science Technologies, USA
2. Gateway Materials Technology, USA
3. NASA Glenn Research Center, Materials and Structures, USA
4. National Institute of Standards and Technology, Materials Measurement Sciences Division, USA
5. Corning Incorporated, USA

(ICACC-PB020-2025) Phenolic- and PEEK-derived C/C-SiC – Tensile and flexural strength after low-cycle fatigue at temperature up to 350 °C

N. Langhof^{*1}; S. Flauder²; S. Schafföner²

1. University of Bayreuth, Ceramic Materials Engineering, Germany
2. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany

(ICACC-PB021-2025) Graphene effect on the mechanical properties of the ceramic matrix composites

C. R. Foschini^{*1}; C. G. Pereira¹; F. D. Faglioni¹; S. A. Pucci Junior¹; A. Z. Simões¹

1. UNESP, Mechanical Engineering, Brazil

(ICACC-PB022-2025) Composites Materials Handbook 17

M. Man^{*1}; C. Ashforth²

1. Wichita State University, Secretariat Team, USA
2. Federal Aviation Administration, USA

(ICACC-PB023-2025) Silicon Nitride-Invar Joining

D. Alidoost^{*1}; M. Ferraris¹

1. Politecnico di Torino, DISAT-Dipartimento di Scienza Applicata e Tecnologia, Italy

(ICACC-PB024-2025) Advanced Joining Technologies at J-Tech@PoliTO

M. Ferraris¹; M. De Maddis²; D. Alidoost^{*1}; A. Benelli³; K. Aliev²; A. Pagnoncelli⁴

1. Politecnico di Torino, DISAT-Dipartimento di Scienza Applicata e Tecnologia, Italy
2. Politecnico di Torino, DIGEP-Department of Management and Production Engineering, Italy
3. Politecnico di Torino, DISAT, Italy
4. Politecnico di Torino, SAIL-Sostenibilità di Ateneo, Infrastrutture di ricerca e Laboratori, Italy

(ICACC-PB025-2025) Machinable SiC composites for elevated temperature tribological applications: A promising alternative to traditional SiC ceramics

S. Chodisetti^{*1}; B. Kumar¹

1. Indian Institute of Technology Roorkee, Metallurgical and Materials Engineering, India

(ICACC-PB027-2025) Development of Aramid-Fabric Composite Hinges for Origami Structures

J. Schuler^{*1}; D. Kim¹; T. Billette²; J. Shuster¹

1. Embry-Riddle Aeronautical University, Aerospace Engineering, USA
2. Embry-Riddle Aeronautical University, Aviation Maintenance Science, USA

(ICACC-PB028-2025) Enhanced CMAS Resistance and Thermal Properties of Rare Earth-Doped Gadolinium Zirconate for Advanced Thermal Barrier Coatings

J. Lee^{*1}; J. Pyeon¹; S. Baek¹; B. Yang²; S. Yang¹; Y. Jung¹

1. Changwon National University, Republic of Korea
2. Changwon National University College of Mechatronics, Mechatronics Research Center, Republic of Korea

(ICACC-PB029-2025) Joining and Coating of Oxide-CMC by Pre-ceramic Polymers

A. Pizzinat^{*1}; M. Ferraris¹

1. Politecnico di Torino, Department of Applied Science and Technology (DISAT), Italy

(ICACC-PB030-2025) A Multi-Scale Hierarchical PHFGMC Framework for Predicting Mechanical Properties of C/C-SiC CMCs

R. Padan^{*1}; C. Dahan-Sharhabani¹; O. Regev²; R. Haj-Ali¹

1. Tel Aviv University, Israel
2. Rafael LTD, Israel

(ICACC-PB031-2025) Borate bioactive glasses modified by Co ions

K. Kozubal^{*1}; P. Gaćkowska-Gondek¹; M. Dziadek¹; K. Cholewa-Kowalska¹

1. Akademia Gorniczo-Hutnicza im Stanisława Staszica w Krakowie, Poland

(ICACC-PB032-2025) Co-sputtered antibacterial and antiviral composite coatings with Ag nanoparticles for air filters

C. Balagna^{*1}; A. Luceri¹; S. Perero¹; M. Donalizio²; D. Lembo²; M. Ferraris¹

1. Politecnico di Torino, Department of Applied Science and Technology, Italy
2. Università di Torino, Department of Clinical and Biological Sciences, Italy

(ICACC-PB033-2025) Advanced freeze-dried chitosan hydrogel scaffolds enhanced with strontium-doped bioactive glass and resveratrol

S. Salagierski^{*1}; W. Gura¹; M. Dziadek¹; K. Cholewa-Kowalska¹

1. Akademia Gorniczo-Hutnicza im Stanisława Staszica w Krakowie, Department of Glass Technology and Amorphous Coatings, Poland

(ICACC-PB034-2025) Innovative injectable chitosan-based hydrogels enriched with strontium-doped bioactive glass and retinol

W. Gura^{*1}; S. Salagierski¹; M. Dziadek¹; K. Cholewa-Kowalska¹

1. Akademia Gorniczo-Hutnicza im Stanisława Staszica w Krakowie Wydział Inżynierii Materiałowej i Ceramiki, Department of Glass Technology and Amorphous Coatings, Poland

(ICACC-PB035-2025) CuO as a modifier of bioactive borate glasses

P. Gaćkowska-Gondek^{*1}; K. Kozubal¹; M. Dziadek¹; K. Cholewa-Kowalska¹

1. Akademia Gorniczo-Hutnicza im Stanisława Staszica w Krakowie, Department of Glass Technology and Amorphous Coatings, Poland

(ICACC-PB036-2025) Bioactive polymer - ceramic composites for rapid osteoinduction of human adipose-derived stem cell

K. Truchan¹; B. Zagajczuk¹; A. Osyczka²; K. Cholewa-Kowalska^{*1}

1. Akademia Gorniczo-Hutnicza im Stanisława Staszica w Krakowie, Glass Technology and Amorphous Coatings, Poland
2. Uniwersytet Jagielloński w Krakowie, Department of Cell Biology and Imaging, Poland

(ICACC-PB037-2025) Phosphate Functionalized Graphene Oxide for Bone Regenerative Engineering

F. Hosseini^{*1}; L. Nair¹; C. T. Laurencin¹

1. The Cato T. Laurencin Institute for Regenerative Engineering, University of Connecticut, USA

(ICACC-PB038-2025) Advanced performances of fibre optic sensors by combination of nanostructured metal oxides and polymeric electrospun nanofibers

G. Montalbano^{*1}; S. Fiorilli¹; D. Janner¹; C. Vitale-Brovarone¹; M. Estevez-Amado¹; B. Adinolfi²; F. Chiavaioli²

1. Politecnico di Torino, Department of Applied Science and Technology (DISAT), Italy
2. Consiglio Nazionale delle Ricerche - Area di Ricerche di Firenze, Italy

(ICACC-PB039-2025) Magnesium Phosphate Functionalized Graphene Oxide and PLGA Composite Matrices for Enhanced Bone Regenerative Engineering

T. Whitfield^{*1}; C. T. Laurencin¹

1. The Cato T. Laurencin Institute for Regenerative Engineering, University of Connecticut, USA

(ICACC-PB040-2025) Classification and Interpretation of Intermediate Feature Representations of Silicon Nitride Microstructures using t-SNE

R. Furushima^{*1}; Y. Nakashima¹; Y. Maruyama¹; Y. Zhou¹; K. Hirao¹; T. Ohji¹; M. Fukushima¹

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

(ICACC-PB041-2025) Prediction of size dependency of strength scatter in ceramics using extreme value statistics for defect distribution

T. Maeda^{*3}; T. Osada¹; S. Ozaki²

1. Busshitsu Zairyo Kenkyu Kiko Kozo Zairyo Kenkyu Kyoten, Research Center for Structural Materials, Japan
2. Yokohama Kokuritsu Daigaku, Faculty of Engineering, Japan
3. Yokohama Kokuritsu Daigaku, Graduate School of Engineering Science, Japan

(ICACC-PB042-2025) Dispersion Stabilization of Magnetorheological Slurries for Applications in Chemical Mechanical Planarization

C. Li^{*1}

1. National Tsing Hua University, Materials Science and Engineering, Taiwan

(ICACC-PB043-2025) Nanocomposite-Typed Energy Harvesters Assisted by Relaxor Ferroelectric Polymer Matrix

H. Kim¹; S. Im¹; C. Jeong^{*1}

1. Jeonbuk National University, Division of Advanced Materials Engineering, Republic of Korea

(ICACC-PB044-2025) Enhanced Piezoelectricity of Piezo-ceramic/composite and Its Applications to Flexible Energy Harvesters

H. Jang^{*1}; K. Park¹

1. Kyungpook National University, Department of Materials Science and Metallurgical Engineering, Republic of Korea

(ICACC-PB045-2025) Development of Direct Plasma Treatment Process to Enhance the Powder Density of Ceramic Slurry

C. Ahn^{*1}

1. Korea Institute of Industrial Technology, Customized Manufacturing R&D Department, Republic of Korea

(ICACC-PB046-2025) Utilization of Silt from gold mine waste for Silt-Polyester composite (SPC)

J. Cahigao¹; F. A. Echavez¹; C. Saladaga¹; E. U. Aligno¹; B. L. Bato¹; A. R. Simplicio¹; L. R. Lumasag¹; R. V. Virtudazo¹; I. B. Arugay^{*1}

1. Mindanao State University-Iligan Institute of Technology, Department of Materials and Resources Engineering and Technology, Philippines

(ICACC-PB047-2025) Unlocking the Potential of Agricultural Waste: Novel Micro-Mesoporous Silicates from Agricultural Residues

G. F. Maujon¹; H. D. Melendrez¹; M. Refugio¹; S. Manlupig¹; E. Limbaga¹; C. Cahimong¹; L. M. Jabile¹; I. B. Arugay²; R. V. Virtudazo^{*1}; M. Fuji³

1. Mindanao State University-Iligan Institute of Technology, Department of Materials and Resources Engineering and Technology, Philippines
2. MSU-Iligan Institute of Technology, Materials and Resources Engineering and Technology, Philippines
3. Nagoya Institute of Technology, Japan

(ICACC-PB048-2025) Hydrophobic Surface Modification of MgO for thermal management interfaces in Electric Vehicle Batteries

S. Park^{*1}; S. Mhin²

1. Kyonggi University, Department of Advanced Materials Engineering, Republic of Korea
2. Kyonggi University, Advanced Materials Engineering, Republic of Korea

(ICACC-PB050-2025) Post-oxygenation under high pressure of superconducting EuBCO and GdBCO coated conductors

T. Prikhna^{*1}; A. Kethamkuzhi²; R. Vlad²; M. Karpets³; S. Ponomryov⁴; R. Kluge²; V. Moshchil¹; X. Obradors²; B. Büchner²; S. Wurmhilf²; J. Gutierrez²; T. Puig²

1. Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Ukraine
2. Institut de Ciència de Materials de Barcelona, CSIC, Spain
3. National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine
4. V.E. Lashkaryov Institute of Semiconductor Physics of the National Academy of Sciences of Ukraine, Ukraine
5. Leibniz-Institut für Festkörper- und Werkstoffforschung Dresden e. V., Germany

(ICACC-PB051-2025) Combined Effects of Displacement Damage and Transmutation on the Thermal Diffusivity of CVD-SiC

K. Vasudeva^{*1}; A. Wylie²; K. Woller²; M. P. Short¹; S. E. Ferry²

1. Massachusetts Institute of Technology, Nuclear Science and Engineering, USA
2. Massachusetts Institute of Technology Plasma Science and Fusion Center, USA

(ICACC-PB052-2025) Effects of Oxide Formation on Corrosion Resistance of Structural Materials in Chlorine-Based Salt Environments

B. Park^{*1}; M. Kim¹; D. Kim²; Y. Yoon¹

1. Gachon University, Material Science and Engineering, Republic of Korea
2. Auburn University, USA

(ICACC-PB053-2025) Innovative Swaging-Drawing ATF Tube with Zr Nitride Formation for Enhanced Thermal Stability Evaluation under LOCA Conditions in PWR

J. Lee^{*1}; H. Kang¹; K. Lee²; D. Kim³; Y. Yoon¹

1. Gachon University, Materials Science and Engineering, Republic of Korea
2. Kongju National University College of Engineering, Advanced Materials Engineering, Republic of Korea
3. Auburn University, Mechanical Engineering, USA

(ICACC-PB054-2025) Interlaboratory Study of Flexural Strength in Additively Manufactured Alumina

R. Maier²; A. J. Allen²; B. Cox^{*1}; I. Levin²

1. Honeywell Federal Manufacturing and Technologies LLC, Science & Engineering Labs, USA
2. NIST, Materials Measurement Science Division, USA

(ICACC-PB055-2025) Binder Jetting of Glass Grinding Waste

M. Wahab^{*1}; S. Fuhrmann¹; T. F. Degu¹; M. Denker²; H. Zeidler²

1. Technische Universität Bergakademie Freiberg, Institute of Glass Science and Technology, Germany
2. Technische Universität Bergakademie Freiberg, Institute for Machine Elements, Engineering Design and Manufacturing, Germany

(ICACC-PB056-2025) Fused Filament Fabrication of Silicon Carbide: Effects of Printing and Sintering Parameters on Material Properties

G. Basler^{*1}; M. Ranaiefar¹; M. C. Halbig¹; M. Singh²; D. Gorcian³

1. NASA Glenn Research Center, USA
2. Ohio Aerospace Institute, USA
3. HXS, USA

(ICACC-PB057-2025) Exploring the limits of rapid sintering: The impact of nozzle diameter and sintering atmosphere on fused filament fabricated Al₂O₃ ceramics

S. Bhandari^{*1}; T. Heim¹; E. Bona²; V. M. Sglavo²; W. Rheinheimer³; M. Biesuz²; G. Franchin¹

1. University of Padova, Italy, Industrial Engineering, Italy
2. Department of Industrial Engineering, University of Trento, Italy
3. Institute for Manufacturing Technologies of Ceramic Components and Composites (IFKB), University of Stuttgart, Germany

(ICACC-PB058-2025) Microstructural evolution and phase analysis of SS410-Al₂O₃-SiC multilayered functionally graded composite fabricated through laser cladding

A. Murugesan^{*1}

1. Indian Institute of Technology Kharagpur, School of Nanoscience and Technology, India

(ICACC-PB059-2025) Design and Development of 3D Printed PEEK and Nylon Composites

A. Thorne¹; A. Elhassan^{*1}; S. Gupta¹

1. University of North Dakota, USA

(ICACC-PB060-2025) Utilization of Robotic Arms in Non-Planar 3D Printing

M. G. Hardiman^{*1}; C. Dewey¹; D. Kim¹

1. Embry-Riddle Aeronautical University, Aerospace Engineering, USA

(ICACC-PB061-2025) Sustainable Construction: An Innovative Geopolymer-Pozzolan Hybrid Binder

S. S. Hossain^{*1}

1. Texas A&M University, Department of Civil and Environmental Engineering, USA

(ICACC-PB062-2025) Effect of curing temperature on mixtures of clayey waste with hydraulic cement for geothermal pavements

L. C. Hernández García^{*1}; H. A. Colorado L.²

1. Universidad de Antioquia, Antioquia, Colombia
2. Universidad de Antioquia, Colombia

(ICACC-PB063-2025) Physical-Mechanical Properties of Permeable Concrete in Hardened State made with recycled aggregates

E. Murillo Mosquera^{*1}

1. Universidad de Antioquia, Universidad de Antioquia, Medellín, Medellín, CO, academic, Antioquia, Colombia

(ICACC-PB064-2025) Glass-Enhanced Bricks: An Additive Manufacturing Approach

C. Revelo Huertas^{*2}; H. A. Colorado L.¹; C. F. Vieira²

1. Universidad de Antioquia, Colombia
2. State University of the North Fluminense, Advanced Materials Laboratory, Brazil

(ICACC-PB065-2025) Crystallographic changes due to sintering temperature of calcium phosphates synthesized by products

S. M. Restrepo Arcila^{*1}; H. A. Colorado L.²; M. Márquez¹

1. Universidad Nacional de Colombia, Materials and nanotechnology, Colombia
2. Universidad de Antioquia, Colombia

(ICACC-PB066-2025) Anti-oxidation UHTC coatings obtained by plasma spraying

A. Charrue*¹

1. Commissariat à l'énergie atomique et aux énergies alternatives Siege administratif, France

(ICACC-PB067-2025) Effects of WC addition on the microstructure and mechanical properties of (Hf,Nb,Ta,Ti,Zr)B₂-(Hf,Nb,Ta,Ti,Zr)C dual phase high entropy ceramic

R. Hassan*¹; W. Fahrenholtz¹; G. Hilmas¹

1. Missouri University of Science & Technology, Dept. of Materials Science and Engineering, USA

(ICACC-PB068-2025) Rare-Earth Doping of Zirconium Diboride for Extreme Environments

C. Wyckoff*¹; J. Kaufman¹; L. M. Rueschhoff²

1. UES, A BlueHalo Company, USA
2. Air Force Research Lab, Materials and Manufacturing Directorate, USA

(ICACC-PB069-2025) Friction and wear of carbon fiber reinforced ZrB₂ based UHTCMC-materials on steel, C/C-SiC and C/C

N. Langhof*¹; M. Mor²; M. Meiser¹; A. Vinci³; S. Schafföner⁴; D. Sciti⁵

1. University of Bayreuth, Ceramic Materials Engineering, Germany
2. CNR-ISSMC, Institute of Science, Technology and Sustainability for Ceramics, Italy
3. CNR - ISSMC, Italy
4. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany
5. National Research Council of Italy, ISSMC (former ISTEC), Italy

(ICACC-PB070-2025) The effect of compositional homogeneity on the thermomechanical properties of solid solution carbides for nuclear thermal propulsion

L. Hansen*¹; E. Payne¹; A. Nadermann¹; S. J. Zinkle²

1. The University of Tennessee Knoxville Tickle College of Engineering, Department of Nuclear Engineering, USA
2. University of Tennessee, USA

(ICACC-PB071-2025) Phase stability of transition metal carbides with rare-earth zirconates

R. P. Magdum*¹; G. Hilmas¹; W. Fahrenholtz¹; D. Lipke¹

1. Missouri University of Science and Technology, Materials Science and Engineering, USA

(ICACC-PB072-2025) Thermal Properties of (Hf, Mo, Nb, Ta, Zr)C Ceramics with Varying Zr Content

E. A. Pritchett*¹; S. M. Smith¹; G. Hilmas¹; W. Fahrenholtz¹

1. Missouri University of Science and Technology, Materials Science and Engineering, USA

(ICACC-PB073-2025) Synthesis of high entropy monoboride (Mo_{0.25}W_{0.25}Cr_{0.25}Ta_{0.25})B powders with abundant twins from oxide.

L. Li*¹; J. Zou¹ **WITHDRAWN**

1. Wuhan University of Technology, Materials Science and Engineering, China

(ICACC-PB074-2025) Microstructure and properties of ZrB₂-SiC composites fabricated by pressure-less sintering of gel-cast green bodies

V. Sn*¹; A. Mishra¹; M. Patel³; S. Dhara²; R. Mitra¹

1. IIT Kharapur, Metallurgical and Materials Engineering, India
2. IIT KGP, School of Medical Science and Technology, India
3. DRDO Defence Metallurgical Research Laboratory, India

(ICACC-PB075-2025) MgNiAlVFe and MgNiAlVTi High Entropy Alloys For NiMH Batteries

G. Çakmak*¹; F. Piskin¹; B. Piskin¹; H. YÜCE¹

1. Mugla Sıtkı Kocman Üniversitesi Fen Fakültesi, Turkey

Thursday, January 30, 2025

FS1 Bioinspiration/Green Processing & Related Technologies of Advanced Materials

FS1 -Structure and properties of biological materials and advances in multiscale modeling

Room: Flagler C

Session Chair: Zhaoyong Zou, Wuhan University of Technology

8:30 AM

(ICACC-FS1-001-2025) Biological ceramic composites: Multiscale structure, mechanical properties, and multifunctionality (Invited)

L. Li*¹

1. University of Pennsylvania, Materials Science and Engineering, USA

9:00 AM

(ICACC-FS1-002-2025) Order induces toughness in anisotropic colloidal crystal composites (Invited)

F. Bouville*¹

1. Imperial College London, Department of Materials, United Kingdom

9:30 AM

(ICACC-FS1-003-2025) Unveiling Nature's Secrets: HYPAD-FEM for Advanced Materials Engineering (Invited)

D. Restrepo*¹

1. The University of Texas at San Antonio, Mechanical Engineering, USA

10:00 AM

Break

10:20 AM

(ICACC-FS1-004-2025) A Durable, High Strength Carbon-Negative Enzymatic Structural Materials (Invited)

N. Rahbar*¹

1. Worcester Polytechnic Institute, Civil Engineering, USA

10:50 AM

(ICACC-FS1-005-2025) Nature-inspired hierarchical tough and strong ceramic composites (Invited)

W. Zhai*¹

1. National University of Singapore, Mechanical Engineering, Singapore

11:20 AM

(ICACC-FS1-006-2025) Design of Animal-Skin-Patterns-Inspired Composites by Artificial Intelligence for Multifunctional Materials (Invited)

Z. Qin*¹; M. Masroui¹

1. Syracuse University, Civil and Environmental Engineering, USA

FS7 Ceramics for global decarbonization

FS7- Alternative Fuels Production

Room: Ballroom 5

Session Chairs: Lyndsey McMillon-Brown, NASA Glenn Research Center; Takashi Makino, National Institute of Advanced Industrial Science and Technology

8:30 AM

(ICACC-FS7009-2025) Japan's Fine Ceramics Industry and JFCA Carbon Neutral Vision

S. Tsuchiya*¹; Y. Osugi¹

1. Japan Fine Ceramics Association, Japan

8:50 AM

(ICACC-FS7010-2025) Concepts for Thermal Energy Storage Using Metal Oxide Redox Primary Heat Exchangers

C. Lewinsohn*¹

1. Rational Solutions, LLC, USA

9:10 AM

(ICACC-FS7011-2025) Freeze-casting of polysiloxane-derived ceramics for CO₂ utilization

K. Rauchenwald*¹; P. Mikovsky²; K. Bica-Schröder²; T. Edtmaier¹; R. Shirvani³; M. Steiger³; K. Föttinger⁴; T. Konegger¹

1. Technische Universität Wien, Institute of Chemical Technologies and Analytics, Austria
2. Technische Universität Wien, Institute of Applied Synthetic Chemistry, Austria
3. Technische Universität Wien, Institute of Chemical, Environmental and Bioscience Engineering, Austria
4. Technische Universität Wien, Institute of Materials Chemistry, Austria

9:30 AM

(ICACC-FS7012-2025) Application of CO₂-free Alternatives for Sustainable Glass Production

M. Al Hamdan*¹; S. Wiltzsch¹; M. Wahab¹; F. Gygas²

1. Technische Universität Bergakademie Freiberg, Institute of Glass Science and Technology, Germany
2. Technische Hochschule Nürnberg, Fakultät Werkstofftechnik, Germany

S1 Mechanical Behavior and Performance of Ceramics & Composites

S1- Ceramic Matrix Composites (CMCs) Mechanical Behavior and In-situ Characterization

Room: Coquina E

Session Chairs: Stefan Schafföner, University of Bayreuth; Aly Badran, GE Research

8:30 AM

(ICACC-S1-048-2025) Proposition of a complete methodology to determine the onset of inter-yarn debonding in a 3D woven ceramic matrix composite material (Invited)

F. Laurin*¹; A. Mavel¹; B. Lacombe²; M. Gimat²

1. ONERA, DMAS, France
2. SAFRAN Ceramics, France

9:00 AM

(ICACC-S1-049-2025) In-situ CT-Scan Observation and Modeling of Damage in Oxide/Oxide Composites

T. Drouin*¹; F. Laurin²; F. Guillet¹; G. Couégnat³

1. Commissariat à l'énergie atomique et aux énergies alternatives Direction des applications militaires Le Ripault, France
2. Office National d'Etudes et de Recherches Aéronautiques, France
3. Laboratoire des Composites Thermostructuraux, France

9:20 AM

(ICACC-S1-050-2025) Effects of interfacial boron nitride layers on the mechanical behaviors of SiC/BN/SiC mini-composite reinforced by Tyranno Fiber®

M. Sumino*¹; T. Matsunaga¹

1. UBE Corporation, Specialty Products Division, Japan

9:40 AM

(ICACC-S1-051-2025) Effect of Ceramic Inclusions on Deformation Behavior and Energy Absorption Capacity of Composite Metal Foams Used for High Impact Load Mitigation

F. Z. Weldemariam*¹

1. Indian Institute of Technology Delhi, Mechanical Engineering, India

10:00 AM

Break

10:20 AM

(ICACC-S1-052-2025) Mechanical testing of ceramic matrix composites: Size effect of strength and the role of sample alignment (Invited)

S. Flauder¹; N. Langhof¹; S. Schafföner*¹

1. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany

10:50 AM

(ICACC-S1-053-2025) In-situ observation, characterization and control of the crack formation during manufacturing of non-oxide Ceramic Matrix Composites (CMC) (Invited)

N. Langhof*¹; F. Wich¹; M. Moos¹; W. Krenkel¹; S. Schafföner²

1. University of Bayreuth, Ceramic Materials Engineering, Germany
2. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany

11:20 AM

(ICACC-S1-054-2025) Mechanical behaviour of towpreg-based oxide-oxide ceramic matrix composites visualised by in-situ X-ray computed microtomography (Invited)

T. Nelson*¹; J. Binner²; I. M. Edmonds³

1. University of Birmingham, School of Metallurgy and Materials, United Kingdom
2. University of Birmingham, Ceramic Science & Engineering, United Kingdom
3. Rolls-Royce plc, United Kingdom

11:50 AM

(ICACC-S1-055-2025) Observation of Temporal Cracking Behavior in SiC/BN/SiC Ceramic Matrix Composites via Acoustic Emission and Digital Image Correlation

H. Gross*¹; T. Jackson²; J. Pierce²; N. Klingbeil¹; K. Detwiler³

1. Wright State University, Mechanical and Materials Engineering, USA
2. University of Dayton Research Institute, USA
3. Air Force Research Lab, Materials & Manufacturing Directorate, USA

S3 22th Intl Symp on Solid Oxide Cells Materials Science & Technology

S3- Interconnects and coatings

Room: Ballroom 4

Session Chair: Sebastian Molin, Gdansk University of Technology

8:30 AM

(ICACC-S3-044-2025) Low-cost Cobalt-free Approach for the Interconnects in Solid Oxide Cells Stacks (Invited)

Y. Naumovich*¹; L. Ajdys¹; M. Lazor¹; A. Zurawska¹; A. Niemczyk¹

1. Institute of Power Engineering - National Research Institute, Department of High Temperature Electrochemical Processes, Poland

9:00 AM

(ICACC-S3-045-2025) Evaluation of Electrical Conductivity in Oxide Scale of Ferritic Heat-Resistant Alloy for Solid Oxide Cell Interconnects

T. Mitani*¹; R. A. Budiman²; M. Yamaguchi¹; K. Yashiro¹; T. Kawada²

1. Shimane Daigaku, Faculty of materials for energy, Japan
2. Tohoku Daigaku, Graduate School of Environmental Studies, Japan

9:20 AM

(ICACC-S3-046-2025) Enhancing protective performance of MnCo₂O₄ spinel coating on solid oxide cells interconnects through partial substitution of Mn, Co with Mg, Al, Y

J. Ignaczak*¹; P. Jasinski¹; S. Molin²

1. Politechnika Gdanska, Department of Functional Materials Engineering, Poland
2. Gdansk University of Technology, Department of Functional Materials Engineering, Poland

9:40 AM

(ICACC-S3-047-2025) Enhanced Densification of GDC Barrier Layers in Solid Oxide Cells via Physical Vapor Deposition Process

S. Ryu*¹; E. Polikarpov¹; T. Liu¹; T. Kaspar¹; L. M. Seymour¹; S. B. Karki¹; R. Springer¹; D. Kim¹; O. A. Marina¹

1. Pacific Northwest National Laboratory, USA

S3- Novel processing

Room: Ballroom 4

Session Chair: Harry Abernathy, National Energy Technology Laboratory

10:00 AM

Break

10:20 AM

(ICACC-S3-048-2025) 3D printing of Monolithic Solid Oxide Cells (Invited)

V. Esposito^{*1}; Z. Zhou¹; V. K. Nadimpalli²

1. Danmarks Tekniske Universitet, Department of Energy Conversion and Storage, Denmark
2. Danmarks Tekniske Universitet, Department of Civil and Mechanical Engineering, Denmark

10:50 AM

(ICACC-S3-049-2025) New horizons in shaping and sintering of solid oxide cells (Invited)

A. Sabato^{*1}; S. Marquez¹; A. Martos¹; A. Maria Asensio¹; N. Kostretsova¹; I. Babeli¹; M. Torrelli¹; A. Tarancón²

1. IREC, Nanoionics and Fuel Cells, Spain
2. IREC/ICREA, Spain

11:20 AM

(ICACC-S3-050-2025) Impact of Rapid Sintering Methods on Microstructure and Electrochemical Performance of Solid Oxide Fuel Cells (SOFCs) Materials

J. A. Mena^{*1}; E. M. Sabolsky¹; K. Sabolsky¹; S. Waseem¹; T. Yumak¹; M. Cavalier¹; T. Musho¹

1. West Virginia University, Mechanical, Materials and Aerospace Engineering, USA

11:40 AM

(ICACC-S3-051-2025) Managing Residual Stresses in Co-Sintered Multi-Layer Electrolytes for Solid Oxide Cells

D. J. Ramler^{*1}; Y. Sohn¹; C. Lenser¹; O. Guillon¹; N. H. Menzler¹

1. Forschungszentrum Jülich GmbH, Institute of Energy Materials and Devices IMD-2, Germany

S5 Next-Generation Bioceramics and Biocomposites

S5- Porous, nanostructured and hybrid bioceramics and composites I

Room: Ponce de Leon

Session Chair: Thomas Webster, Brown University

8:50 AM

(ICACC-S5-012-2025) Additive manufacturing of porous melilite bioceramics from engineered emulsions based on silicone polymers (Invited)

V. Diamanti¹; A. Zilio¹; H. Elsayed¹; E. Bernardo^{*1}

1. University of Padova, Department of Industrial Engineering, Italy

9:20 AM

(ICACC-S5-013-2025) Novel Geopolymer-based Scaffolds for Bone Tissue Regenerative Engineering

G. Dal Poggetto^{*1}; A. Akono¹

1. North Carolina State University, USA

9:40 AM

(ICACC-S5-014-2025) Polysilazane-based antimicrobial composite coating incorporating AgNPs-decorated SiO₂ nanospheres

F. Gattucci^{*1}; M. Miola¹; C. Balagna¹

1. Politecnico di Torino, DISAT, Italy

10:00 AM

Break

S5- Porous, nanostructured and hybrid bioceramics and composites II

Room: Ponce de Leon

Session Chair: Francesca Tallia, Imperial College London

10:20 AM

(ICACC-S5-015-2025) Exploring Biopolymers as Capping Agents for Lanthanide-Based Nanoparticles (Invited)

E. Hemmer^{*1}

1. University of Ottawa, Chemistry and Biomolecular Sciences, Canada

10:50 AM

(ICACC-S5-016-2025) Self-assembling, antibacterial hybrid calcium phosphate-based composites

J. P. Czechowska^{*1}; P. Pantak¹; A. Belcarz²; K. Kowalska¹; A. Zima¹

1. Akademia Gorniczo-Hutnicza im Stanisława Staszica w Krakowie, Department of Ceramics and Refractories, Poland
2. Uniwersytet Medyczny w Lublinie, Chair and Department of Biochemistry and Biotechnology, Poland

S6 Advanced Materials and Technologies for Rechargeable Energy Storage

S6- Solid Electrolytes for Batteries II

Room: Coquina B

Session Chairs: Palani Balaya, National University of Singapore; Donald Dornbusch, NASA Glenn Research Center

8:30 AM

(ICACC-S6-037-2025) Ti-Doped Na₃Zr₂Si₂PO₁₂ Ceramic Electrolytes for Seawater Batteries and Insights into Failure Mechanisms during Na Plating and Stripping (Invited)

M. Li^{*1}

1. Oak Ridge National Laboratory, USA

9:00 AM

(ICACC-S6-038-2025) Nanoscale ion transport enhances conductivity in solid polymer-ceramic lithium electrolytes (Invited)

J. Li^{*1}; G. Polizos²

1. Argonne National Laboratory, Applied Materials Division, USA
2. Oak Ridge National Laboratory, USA

9:30 AM

(ICACC-S6-039-2025) Sodium-Ion Conducting Chlorides with Tantalum as Central Cation (Invited)

K. Motohashi^{*1}; A. Sakuda¹; A. Hayashi¹

1. Osaka Metropolitan University, Graduate School of Engineering, Department of Applied Chemistry, Japan

10:00 AM

Break

S6- Solid Electrolytes for Batteries III

Room: Coquina B

Session Chairs: Eric Wachsman, University of Maryland; Olivier Guillon, Forschungszentrum Jülich

10:20 AM

(ICACC-S6-040-2025) Pyrochlore-to-garnet: A versatile approach for garnet solid electrolytes with improved microstructure and cycling behavior (Invited)

J. Guo¹; C. K. Chan^{*1}

1. Arizona State University, Materials Science and Engineering; School for Engineering of Matter, Transport and Energy, USA

10:50 AM

(ICACC-S6-041-2025) Toward suppression of crystal structure changes upon electrochemical ion intercalation (Invited)

K. Kawai*¹

1. Waseda University, Japan

11:20 AM

(ICACC-S6-042-2025) Strategies for the Low-Temperature Synthesis of Garnet-Type Lithium-Ion Conductor

K. Onoue*¹; S. Mori²; A. Nasu¹; H. Kobayashi¹; M. Matsui¹

1. Hokkaido Daigaku, Faculty of Science, Japan
2. Osaka Koritsu Daigaku, Japan

11:40 AM

(ICACC-S6-043-2025) Investigating Multi-Cation Doping in Garnet Solid-State Electrolytes - Insights into Ionic-Electronic Conductivity

A. Cuper³; K. Pachulska¹; P. Michalski¹; M. Winkowska-Struzik²; M. Struzik*¹

1. Politechnika Warszawska, Faculty of Physics, Poland
2. Uniwersytet Warszawski, Faculty of Chemistry, Poland
3. Politechnika Warszawska, Centre for Advanced Materials and Technologies, Poland

S10 Integrated computational-experimental modeling and design of ceramics and composites

S10- Modeling mechanical performance of advanced ceramics

Room: Coquina G

Session Chair: Gerard Vignoles, University Bordeaux

8:30 AM

(ICACC-S10-008-2025) Biphasic modeling of Ceramic Matrix Composites: applications, effectiveness, and perspectives (Invited)

A. Airolidi*¹; A. Caporale¹; E. Novembre¹; M. Riva¹; M. De Stefano Fumo²; L. Cavalli³; D. Sciti⁴

1. Politecnico di Milano, Dept. of Aerospace Science and Technology, Italy
2. Centro Italiano Ricerche Aerospaziali, Italy
3. Petroceramics S.p.A., Italy
4. Consiglio Nazionale delle Ricerche, ISSMC, Italy

9:00 AM

(ICACC-S10-009-2025) Multiscale Modeling of Ceramic Matrix Composites: Progress and Challenges (Invited)

G. Couégnat*¹

1. Laboratoire des Composites Thermostructuraux, France

9:30 AM

(ICACC-S10-010-2025) New image segmentation strategy to characterize failure modes of struts in uniaxial compression of ceramic foam (Invited)

V. Deshpande*¹; R. Piat¹

1. University of Applied Sciences, Darmstadt, Mathematics and Natural Sciences, Germany

S10- Modeling mechanical and thermal performance of advanced ceramics

Room: Coquina G

Session Chair: Alessandro Airolidi, Politecnico di Milano

10:00 AM

Break

10:20 AM

(ICACC-S10-011-2025) Mechanical Stability of Bonded Dissimilar Materials (Invited)

E. Hernandez*¹; S. G. Hirsch¹; B. Butler¹; P. Moy¹

1. US Army Combat Capabilities Development Command, Army Research Laboratory, USA

10:50 AM

(ICACC-S10-012-2025) 3D fiber reinforcements for CMCs: Modelling of mechanical characteristics using NASA's Multiscale Analysis Tool (NASMAT) and Finite Element Analysis

M. R. Welsh*¹; F. Jung¹; T. Gries¹

1. RWTH Aachen University, Institut für Textiltechnik, Germany

11:10 AM

(ICACC-S10-013-2025) An image-based technique to compute effective properties of ceramic matrix composites preforms and its impact on modeling their infiltration by TG-CVI

R. Bechara*¹; G. L. Vignoles¹; G. Mangeon¹; B. Dubroca¹; T. Nguyen-Bui¹; C. Descamps¹

1. Laboratoire des Composites Thermostructuraux, France

11:30 AM

(ICACC-S10-014-2025) Insights from Molecular Dynamics, Finite Elements and Machine Learning into the elastic behavior of pyrolytic carbons (Invited)

F. Polewczyk²; J. Leyssale⁴; P. Lafourcade³; C. Denoual³; N. Pineau³; P. Aurel⁴; S. Jouannigot⁴; G. Couégnat²; G. L. Vignoles*¹

1. Université de Bordeaux, LCTS - Lab. for ThermoStructural Composites, France
2. Université de Bordeaux, ISM - Inst. for Molecular Sciences, France
3. Commissariat à l'énergie atomique et aux énergies alternatives Siege administratif, DIF, France
4. Centre National de la Recherche Scientifique, ISM - Institute for Molecular Sciences, France
5. Centre National de la Recherche Scientifique, LCTS - Lab. des Composites ThermoStructuraux, France

S11 Advanced Materials and Innovative Processing Ideas for Production Root Technologies

S11- Future-oriented techniques for coating, forming, and shaping materials

Room: Coquina C

Session Chair: Chisung Ahn, Korea Institute of Industrial Technology

8:30 AM

(ICACC-S11-001-2025) Ultra-fast Boriding as a Green and Efficient Surface Treatment Process for Harsh Service Conditions (Invited)

A. Erdemir*¹

1. Texas A&M University, Department of Mechanical Engineering, USA

9:00 AM

(ICACC-S11-002-2025) A study on the development of Zr-Cu based multi-component alloys for the nanocomposite coatings and their properties

H. Yoon¹; B. Choi¹; K. An¹; K. Moon*¹

1. KITECH, Republic of Korea

9:20 AM

(ICACC-S11-003-2025) Development of MXene-reinforced ceramic matrix composite with low temperature self-healing property by cold sintering process (Invited) **WITHDRAWN**

S. T. Nguyen*¹; A. Okawa²; T. Nakayama³; H. Suematsu⁴

1. National Institute of Technology, Kushiro College, Department of Creative Engineering, Japan
2. Tohoku University, Institute of Multidisciplinary Research for Advanced Materials, Japan
3. Nagaoka University of Technology, Japan
4. Nagaoka University of Technology, Extreme Energy-Density Research Institute, Japan

9:50 AM

Break

S11- Fundamental materials: mining, particles, bulk, and functional materials and precursors I

Room: Coquina C

Session Chair: Ayahisa Okawa, Tohoku University

10:20 AM

(ICACC-S11-004-2025) Synthesis of novel oxides and their oxygen content tuning under high oxygen partial pressures (Invited)

H. Suematsu^{*1}; Y. Noa¹; Z. Feng¹; T. Do¹; T. Nakayama¹

1. Nagaoka University of Technology, Extreme Energy-Density Research Institute, Japan

10:50 AM

(ICACC-S11-005-2025) Carbon fiber-reinforced thermoplastic synthesized by the hypercrosslinking polyether ether ketone with laminated structures (Invited)

T. Yamamoto^{*1}; T. Nakamoto¹; Y. Ota¹

1. Nagoya Daigaku, Chemical Systems Engineering, Japan

11:20 AM

(ICACC-S11-006-2025) Characterization of Philippine Clay and Diatomite for Potential Ceramic Robocasting Applications

P. Labandero¹; J. Talondong¹; R. V. Virtudazo¹; L. I. Cabalo¹; E. d. Magdaluyo^{*2}

1. Mindanao State University-Iligan Institute of Technology, Department of Materials and Resources Engineering & Technology (DMRET), Philippines
2. University of the Philippines Diliman, Department of Mining, Metallurgical and Materials Engineering, Philippines

11:40 AM

(ICACC-S11-007-2025) Influence of Al ions eluted from coal ash particles in chemical structures controlling of silicate network during solidification process

T. Sangu^{*1}; Y. Xin¹; K. Kato¹; Y. Xu¹; T. Shirai¹

1. Nagoya Institute of Technology, Advanced Ceramics Research Center, Japan

S13 Development & Applications of Adv Ceramics & Composites for Nuclear Fission/ Fusion Energy Sys

S13- SiC material technologies for core structures of light water reactors and advanced reactors III

Room: Coquina D

Session Chair: Dong Liu, University of Oxford

8:30 AM

(ICACC-S13-019-2025) Development of a Multilayer Silicon Carbide Composite for Accident-Tolerant Fuel Cladding (Invited)

F. Mohammadi^{*1}; J. Halfinger¹; J. Neiderer¹; T. Daspit²; X. Li²; Q. Zhang³; D. Liu⁴

1. Ceramic Tubular Products, LLC, USA
2. University of Virginia, USA
3. University of Bristol, United Kingdom
4. University of Oxford, United Kingdom

9:00 AM

(ICACC-S13-020-2025) Advancements in Joining SiC/SiC Ceramic Matrix Composites via Embedded Wire CVD

S. Harrison^{*1}; J. Vervlied¹; J. Pegna¹

1. Free Form Fibers, USA

9:20 AM

(ICACC-S13-021-2025) Multiscale Modeling of Silicon Carbide Cladding

G. Singh^{*1}; F. Xu¹; T. Yao¹; J. Yu¹; P. Xu¹

1. Idaho National Laboratory, USA

9:40 AM

(ICACC-S13-022-2025) Fabrication Uniformity and Length Scaling of SiC/SiC Cladding for Commercial Nuclear Reactors

S. Oswald^{*1}; R. Haefelfinger¹; D. Kuebler¹; S. Gonderman¹; C. Deck¹; L. Borowski¹; A. Giles¹; C. Jones¹; J. Unangst¹; D. Frazer¹; J. Quan¹; J. Gazza¹

1. General Atomics Electromagnetic Systems Group, USA

S13- Ceramics and composites in nuclear fusion, blanket structural and functional materials

Room: Coquina D

Session Chair: David Sprouster, Brookhaven National Laboratory

10:00 AM

Break

10:20 AM

(ICACC-S13-023-2025) Fabrication of accident-tolerant hybrid ceramic breeder for fusion applications (Invited)

K. Mukai^{*1}; M. Kusaba¹

1. Kaku Yugo Kagaku Kenkyujo, Japan

10:50 AM

(ICACC-S13-024-2025) Compositionally-complex rare earth oxides for fusion applications (Invited)

T. Davey^{*1}; H. M. Gardner²; D. M. Nguyen²; J. Wade-Zhu²; S. Middleburgh¹

1. Bangor University, Nuclear Futures Institute, United Kingdom
2. UKAEA, Materials Division, United Kingdom

11:20 AM

(ICACC-S13-025-2025) Lithium-Based Tritium Breeder Pellets by Volume-controlled Spark Plasma Sintering with Promising Microstructure

S. K. Sharma^{*1}; C. N. Taylor²; K. Yan¹; J. Lian²

1. Rensselaer Polytechnic Institute, Department Of Mechanical, Aerospace, And Nuclear Engineering, USA
2. Rensselaer Polytechnic Institute, USA
3. Idaho National Laboratory, USA

11:40 AM

(ICACC-S13-026-2025) Laser assisted joining of SiC/SiC for nuclear applications

M. Ferraris^{*2}; M. De Maddis²; C. Lorrette¹

1. Commissariat a l'energie atomique et aux energies alternatives Siege administratif, France
2. Politecnico di Torino, DIGEP, Italy
3. Politecnico di Torino, DISAT, Italy

S15 9th International Symposium on Additive Manufacturing and 3-D Printing Technologies

S15- 9th International Sym on Additive Manufacturing and 3D Printing Technologies- Emerging Applications

Room: Coquina A

Session Chairs: Marcelo Farfan, University of South Florida;

Lisa Biasetto, University of Padova

8:30 AM

(ICACC-S15-020-2025) Design and Thermal Characterization of 3D-Printed Hybrid Cooling System for Battery Thermal Management Systems (Invited)

Y. Zheng^{*1}; A. S. Almansour²; M. C. Halbig²; M. Singh¹; M. Ranaiefar²; Z. J. Tuchfeld³

1. Northeastern University, Mechanical and Industrial Engineering, USA
2. NASA Glenn Research Center, USA
3. NASA, LMC, USA
4. Ohio Aerospace Institute, USA

9:00 AM

(ICACC-S15-021-2025) Revolutionizing Inductors, Transformers, and Power Modules: Additive Manufacturing of Alumina Ceramics for Enhanced Performance and Design Flexibility

N. Leak^{*1}

1. Stony Brook University College of Engineering and Applied Sciences, Electrical Engineering, USA

9:20 AM

(ICACC-S15-022-2025) Polysiloxane-BaTiO₃ Piezoelectric Composite with Advanced Structural and Thermal Performance

H. Zhao^{*1}; Y. Li¹

1. Dartmouth College, Engineering, USA

S15- 9th International Sym on Additive Manufacturing and 3D Printing Technologies- Direct Writing

Room: Coquina A

Session Chairs: Yi Zheng, Northeastern University; Nicholas Leak, Stony Brook University College of Engineering and Applied Sciences

10:00 AM

Break

10:20 AM

(ICACC-S15-024-2025) Ti₃C₂T_x MXenes as Multifunctional Additive for Direct Ink Writing

M. Scholl^{*1}; S. Barg¹

1. Universität Augsburg Mathematisch-Naturwissenschaftlich-Technische Fakultät, Institute of Materials Research Management, Germany

10:40 AM

(ICACC-S15-025-2025) Direct Ink Write of Porous Carbon Fiber-Loaded Silicon Nitride

A. Bai^{*1}; J. P. Youngblood²; R. Trice²

1. Purdue University, MSE, USA
2. Purdue University, Department of Materials Engineering, USA

11:00 AM

(ICACC-S15-026-2025) Development of tunable porous alumina monolith using hollow microspheres via extrusion-based 3D printing

S. Hossein¹; M. Jonsson²; F. Akhtar^{*1}

1. Lulea University of Technology, Division of Materials Science, Sweden
2. Nouryon Pulp and Performance AB, Sweden

11:20 AM

(ICACC-S15-027-2025) Corona-Enabled Electrostatic Printing (CEP) for Manufacturing of Printable Electronics

M. Farfan^{*1}; D. Murphy¹; W. Mao¹; A. Kumar¹; Z. Weng¹; A. Thor¹

1. University of South Florida, Mechanical Engineering, USA

11:40 AM

(ICACC-S15-028-2025) Multi-material component fabrication via co-extrusion additive manufacturing for various applications

L. Biasetto^{*1}; V. Gastaldi²; H. Elsayed²; G. Franchin²

1. Università degli Studi di Padova Dipartimento di Ingegneria Industriale, Industrial Engineering, Italy
2. University of Padova, Industrial Engineering, Italy

S16 Geopolymers Inorganic Polymers and Sustainable Construction Materials

S16- Sustainable construction materials and waste materials

Room: Ballroom 1-2

Session Chair: Isabella Lancellotti, University of Modena and Reggio Emilia

8:30 AM

(ICACC-S16-016-2025) Revalorization of Coal Mine Tailings for the Development of Geopolymer Composites (Invited)

P. Mokhtari^{*1}; J. Lin¹; P. Numkiatsakul¹; W. M. Kriven²

1. University of Illinois at Urbana-Champaign, Materials Science and Engineering, USA
2. University of Illinois at Urbana-Champaign, USA

9:00 AM

(ICACC-S16-017-2025) Environmental aspect of alkali activated products and geotechnical materials (Invited)

M. Pavlin^{*1}; K. Fifer Bizjak¹; V. Ducman¹

1. Zavod za Gradbeništvo Slovenije, Slovenia

9:30 AM

(ICACC-S16-018-2025) Durability of geopolymer mortars from feldspar waste: Nitric and sulfuric acids resistance, phase evolution and microstructure (Invited)

A. Nana¹; S. Tome^{*4}; E. Kamseu²; C. Leonelli³

1. Université de Dschang, Chemistry, Cameroon
2. MIPROMALO, Research, Cameroon
3. University of Modena and Reggio Emilia, Department of Engineering Enzo Ferrari, Italy
4. Leibniz University of Hannover, Institute of Mineralogy, Germany

10:00 AM

Break

10:20 AM

(ICACC-S16-019-2025) Evaluation of the pozzolanic reactivity of two clays from Côte d'Ivoire for the substitution of clinker in cement

A. N. Kouame^{*3}; W. M. Manouan¹; L. P. Kouakou³; B. H. Goure Doubi²; N. Meite³

1. University of Man, Faculty of Science and Technology, Côte d'Ivoire
2. Université Peleforo Gon Coulibaly, Mathematics, Physics and Chemistry, Côte d'Ivoire
3. Université Felix Houphouët-Boigny, Laboratory of Constitution and Reaction of Matter, Côte d'Ivoire

S16- Use of waste materials to make geopolymers

Room: Ballroom 1-2

Session Chair: Cengiz Bagci, Hitit University

10:40 AM

(ICACC-S16-020-2025) Egg derived porous plasma modified clay composite for wastewater remediation

G. Mbafou Fondjo^{*1}; E. Acayanka¹; F. T. Boyom¹; J. Tarkwa¹; G. Y. Kamgang¹; S. Laminsi¹

1. Université de Yaounde I, Département of Inorganic Chemistry, Cameroon

11:00 AM

(ICACC-S16-021-2025) Enhancing the Value of Spent Zn-C Batteries, steel slag, and Construction & Demolition Waste via Geopolymer Composites

H. A. Colorado L.^{*1}

1. Universidad de Antioquia, Colombia

11:30 AM

(ICACC-S16-022-2025) Mild alkali activation employed for sustainable upcycling of glassy and volcanic residues

E. De Rienzo¹; F. Carollo³; A. D'Angelo²; L. Barbieri¹; E. Bernardo³; M. Catauro³; C. Leonelli¹; I. Lancellotti^{*1}

1. University of Modena and Reggio Emilia, Department of Engineering Enzo Ferrari, Italy
2. Università degli Studi della Campania Luigi Vanvitelli, Department of Engineering, Italy
3. Università degli Studi di Padova, Department of Industrial Engineering, Italy

S18 Ultra-High Temperature Ceramics

S18- Compositionally Complex UHTCs II

Room: Coquina H

Session Chairs: Zhe Cheng, Colorado State University; Yue Zhou, Missouri University of Science & Technology

8:30 AM

(ICACC-S18-040-2025) Synthesis, Processing, and Characterization of Multi-component High-Temperature Ceramics (Invited)

Z. Cheng^{*1}

1. Colorado State University, Mechanical Engineering, USA

9:00 AM

(ICACC-S18-041-2025) Accelerated discovery of oxidation-resistant ultra-high temperature ceramics via data driven methodology

K. Wang^{*1}; M. Sevim¹; Y. Yan¹; S. T. Misure²

1. Alfred University, USA
2. Alfred University, MSE, USA

9:20 AM

(ICACC-S18-042-2025) Interdiffusion in the ZrB₂ – HfB₂ system

Y. Zhou^{*1}; W. Fahrenholtz¹; G. Hilmas¹

1. Missouri University of Science & Technology, Materials Science and Engineering, USA

9:40 AM

(ICACC-S18-043-2025) Thermodynamics, Phase Equilibria, Microstructure and Properties of Arc-melted Ternary Borides

I. Savkliydiz¹; A. Celik¹; Z. Ayguzer¹; J. Ligda²; D. J. Magagnosc²; K. D. Behler²; R. Haber¹; E. Akdogan^{*1}

1. Rutgers The State University of New Jersey, Materials Science & Engineering, USA
2. DEVCOM-Army Research Lab, Ceramics and Transparent Materials Branch, USA

10:00 AM

Break

10:20 AM

(ICACC-S18-044-2025) Effect of the transition metal segregation on the properties of (Hf,Ti,Zr)B₂–(Hf,Ti,Zr)C Dual Phase Ceramics

S. Filipovic^{*1}; W. Fahrenholtz²; G. Hilmas²; N. Obradovic²; S. Curtarolo⁴

1. Missouri University of Science & Technology, Materials Research Center, USA
2. Missouri University of Science & Technology, Dept. of Materials Science and Engineering, USA
3. Institute of technical sciences of SASA, Materials, Serbia
4. Duke University, Materials Science, Electrical Engineering and Physics, USA

FS1 Bioinspiration/Green Processing & Related Technologies of Advanced Materials

FS1- Aqueous synthesis and green processing of advanced materials

Room: Flagler C

Session Chair: Florian Bouville, ETH Zürich

1:30 PM

(ICACC-FS1-007-2025) Nanocluster induced crystallization: in situ visualization and 3D reconstruction (Invited)

Z. Zou^{*1}; Z. Fu²

1. Wuhan University of Technology, China
2. Wuhan University of Technology, State Key Lab of Advanced Technology for Materials Synthesis and Processing, China

2:00 PM

(ICACC-FS1-008-2025) Creating biomorphic strontium sulfate ceramics through polysaccharide incorporation (Invited)

V. Merk^{*1}; C. Detwiler Gray²; A. Coronel-Zegarra¹; D. Raja Somu¹; A. Martin¹; J. Walker³

1. Florida Atlantic University, Chemistry & Biochemistry, Ocean & Mechanical Engineering, USA
2. Florida Atlantic University, Chemistry and Biochemistry, USA
3. Diamond Light Source Ltd, I14 Hard X-ray Nanoprobe, United Kingdom

2:30 PM

(ICACC-FS1-009-2025) Photocatalytic substrates by organic-free direct ink writing and cold consolidation of aqueous suspensions of waste glass (Invited)

S. Paolo²; A. Ourgessa²; J. Kraxner²; H. Elsayed¹; D. Galusek²; E. Bernardo^{*1}

1. University of Padova, Department of Industrial Engineering, Italy
2. Trencianska Univerzita Alexandra Dubceka v Trencine Centre for Functional and Surface Functionalized Glass, Slovakia

3:00 PM

Break

3:20 PM

(ICACC-FS1-010-2025) In situ photoluminescence spectroscopy for monitoring phase evolution under pressure at room temperature (Invited)

C. Packard^{*1}

1. University of Southern California, Mork Family Department of Chemical Engineering & Material Science, USA

3:50 PM

(ICACC-FS1-011-2025) Grain-refinement fabrication of ceramics by ultra-high-pressure low-temperature sintering

W. Ji^{*1}

1. Wuhan University of Technology, China

4:10 PM

(ICACC-FS1-012-2025) Microwave synthesis of nano-Hydroxyapatite from decarbonized eggshells: A sustainable and eco-friendly approach (Invited)

M. M. Mahmoud^{*1}

1. Abdullah Al Salem University, Materials Science and Engineering, Kuwait

FS5 High Voltage Materials for Advanced High Power Electrical Applications

FS5- High Voltage Materials for Advanced High Power Electrical Applications I

Room: Coquina H

Session Chairs: Maricela Lizcano, NASA Glenn Research Center; Kristina Vailonis, NASA Glenn Research Center

1:30 PM

(ICACC-FS5001-2025) Field Emission from 3D Graphene as a Cathode Prepared by Chemical Vapor Deposition and Cold Rolling (Invited)

N. Hernandez^{*1}; R. Piovesan Azumbuja¹; M. Cahay¹; J. Ludwick²; T. Back²; A. Raut³; M. Marzana³; V. Kondapalli³; Q. Fang⁴; V. Shanov⁴

1. University of Cincinnati, Electrical and Computer Engineering, USA
2. Air Force Research Laboratory, Materials and Manufacturing Directorate, USA
3. University of Cincinnati, Mechanical and Materials Engineering, USA
4. University of Cincinnati, Chemical and Environmental Engineering, USA

2:00 PM

(ICACC-FS5002-2025) Automated Materials Discovery with Machine Learning for the Optimization of Aerospace-grade Electrical Insulation

D. Santiago^{*1}; J. Stuckner¹; M. Lizcano¹; M. Kelly¹

1. NASA Glenn Research Center, USA

2:20 PM

(ICACC-FS5003-2025) Manufacturing and Characterization of Multilayer Graphene-Copper Wires

R. A. Paddock^{*1}; M. Tehani²; M. Cullinan¹

1. The University of Texas at Austin, Walker Department of Mechanical Engineering, USA
2. University of California San Diego, Structural and Materials Engineering, USA

2:40 PM

(ICACC-FS5004-2025) Graphene-Based Composite Conductors for Aerospace Applications

Y. Bekele^{*1}

1. University of Texas, Walker Department of Mechanical Engineering, USA

FS5- High Voltage Materials for Advanced High Power Electrical Applications II

Room: Coquina H

Session Chairs: Diana Santiago, NASA Glenn Research Center; Rachel Paddock, The University of Texas at Austin

3:00 PM

Break

3:20 PM

(ICACC-FS5005-2025) Novel Power Transmission Solutions for Megawatt Scale Electric Aircraft

M. Lizcano^{*1}; D. Santiago¹

1. NASA Glenn Research Center, USA

3:40 PM

(ICACC-FS5006-2025) Interfacial fracture toughness of GaN film on diamond substrate for application in ultra-high power RF devices

D. Liu^{*1}

1. University of Oxford, Engineering Science, United Kingdom

4:00 PM

(ICACC-FS5007-2025) Space Charge Analysis Capabilities for the Evaluation of High Voltage Insulation Materials (Invited)

K. Vaillonis^{*1}; T. Benyo¹

1. NASA Glenn Research Center, USA

4:30 PM

(ICACC-FS5008-2025) Reactive Exfoliation of Hexagonal Boron Nitride by Aluminum and Titanium Nitrides (Invited)

C. Brady^{*1}

1. NASA, USA

5:00 PM

(ICACC-FS5009-2025) Electrical insulation at high-temperatures: A case study for reactively grown AlN thin films

N. Salvadores Farran^{*2}; T. Wojcik¹; C. Jerg²; A. Gies²; J. Ramm²; S. Kolozsvári⁶; P. Polcik⁶; J. Fleig³; T. M. Huber³; H. Riedl⁴

1. Technische Universität Wien, Institute of Material Science and Technology/E308, Austria
2. OC Oerlikon Balzers AG, Liechtenstein
3. Technische Universität Wien, Chemical Technologies and Analytics, Austria
4. TU Wien, Institute of Materials Science and Technology, Austria
5. Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria, Austria
6. Plansee Composite Materials GmbH, Lechbruck am See, Germany, Germany

S1 Mechanical Behavior and Performance of Ceramics & Composites

S1- Ceramic Matrix Composites (CMCs) Thermomechanical Performance and Environmental Effects

Room: Coquina E

Session Chairs: Yuanxin Zhou, GE Aviation; Craig Smith, NASA Glenn Research Center

1:30 PM

(ICACC-S1-056-2025) Environmental effects on the interlaminar shear behavior and bearing failure of oxide/oxide ceramic matrix composites (Invited)

K. Sanghvi¹; J. Lambros^{*1}

1. University of Illinois Urbana-Champaign, Aerospace Engineering, USA

2:00 PM

(ICACC-S1-057-2025) High Temperature Mechanical Properties and Damage Mechanisms of Unidirectional SiC/SiC Composites under Tensile Loading

C. Brockman^{*2}; A. S. Almansour¹; R. K. Goldberg¹; J. D. Kiser¹; P. Sarin²

1. NASA Glenn Research Center, Ceramic and Polymer Composites Branch, USA
2. Oklahoma State University, Materials Science and Engineering, USA

2:20 PM

(ICACC-S1-058-2025) Stress evolution during oxidation of SiC fibers

I. Duan^{*1}; M. Begley¹; F. W. Zok¹

1. University of California Santa Barbara, Materials, USA

2:40 PM

(ICACC-S1-059-2025) Rupture behavior of an orthogonal 3-D woven amorphous SiC fiber/SiC/YSi₂-Si based matrix composite at elevated temperature in air

Y. Ikarashi^{*1}; S. Kanazawa²; S. Fukuhara¹; T. Watanabe¹; Y. Asakura¹; T. Aoki³; T. Matsumoto⁴; T. Ogasawara¹

1. IHI Corporation, Japan
2. IHI Americas Inc., USA
3. Japan Aerospace Exploration Agency, Advanced Composite Research Center, Institute of Aeronautical Technology, Japan
4. Tokyo University of Agriculture and Technology, Japan

3:00 PM

Break

3:20 PM

(ICACC-S1-060-2025) In situ measurement of elastic and total strains during ambient and high temperature deformation of a nuclear graphite composite (Invited)

D. Liu^{*1}

1. University of Oxford, Engineering Science, United Kingdom

3:50 PM

(ICACC-S1-061-2025) Testing and Evaluation of SiC/SiC Interlaminar Tensile Strength at Both Room Temperature and Elevated Temperature

Y. Zhou^{*1}; K. Maxwell¹

1. GE Aviation, Engineering Material System, USA

4:10 PM

(ICACC-S1-062-2025) Oxidation behavior of unidirectional ceramic minicomposites

S. Kanazawa^{*1}; P. Maxwell²; S. Fukuhara³; F. W. Zok²

1. IHI Americas Inc., USA
2. University of California Santa Barbara, USA
3. IHI Corporation, Japan

4:30 PM

(ICACC-S1-063-2025) Thermal strain measurement of an orthogonal 3D woven SiC fiber/SiC composite under rapid radiant heating using an infrared lamp

N. Sugawara^{*1}; y. sone¹; T. Ogasawara¹; R. Inoue²; T. Aoki³; Y. Kitamura⁴; H. Sato⁴

1. Tokyo University of Agriculture and Technology, Japan
2. Tokyo University of Science, Japan
3. Japan Aerospace Exploration Agency (JAXA), Japan
4. IHI Corporation, Japan

4:50 PM

(ICACC-S1-064-2025) Stress-Induced Erosion of Oxide/Oxide Ceramic Matrix Composites in Combustion Environments

F. Mirza^{*1}

1. University of Akron, Mechanical Engineering, USA

5:10 PM

(ICACC-S1-065-2025) Experimental Characterization and Modeling of Ablation Behavior of Ceramic Matrix Composites under Hydrogen Combustion Conditions

F. Faysal^{*1}; C. Varela¹; M. Tonarely¹; D. Barnhard²; C. Maitti¹; K. Ahmed¹; Q. Yang²; J. Gou¹

1. University of Central Florida, Mechanical and Aerospace Engineering, USA
2. University of Miami, Mechanical and Aerospace Engineering, USA

5:30 PM

(ICACC-S1-066-2025) SiC Ceramics in Extreme Conditions of Wear: Effect of Nitride Reinforcement

N. V. Dorkar¹; B. Kumar^{*1}

1. Indian Institute of Technology Roorkee, Metallurgical and Materials Engineering, India

S3 22th Intl Symp on Solid Oxide Cells Materials Science & Technology

S3- Proton conducting ceramic cells

Room: Ballroom 4

Session Chair: Remi Costa, German Aerospace Center, DLR,
Institute of Engineering Thermodynamics

1:30 PM

(ICACC-S3-052-2025) Protonic Ceramic Membranes: up-scaling and application to E-Fuels synthesis (Invited)

J. Dailly^{*1}; D. Schmider¹; P. Blanck²; O. Deutschmann²

1. European Institute for Energy Research, Germany
2. Karlsruher Institut für Technologie Institut für Technische Chemie und Polymerchemie, Germany

2:00 PM

(ICACC-S3-053-2025) Advancing P-SOEC Technology: Scientific Insights and Engineering Strategies for Enhanced 5x5 Cell Testing

S. Koomson^{*1}; Z. Zhao¹; J. Y. Gomez¹; W. Wu¹; D. Ding¹

1. Idaho National Lab, Hydrogen and electrochemistry, USA

2:20 PM

(ICACC-S3-054-2025) Advancing Intermediate-Temperature Protonic Ceramic Electrolysis Cells for Efficient Green Hydrogen Production at Idaho National Laboratory

F. Liu^{*1}; W. Wu¹; Z. Zhao¹; H. Li¹; W. Wang¹; Y. Zhang¹; Q. Sun¹; Z. Wang¹; D. Ding¹

1. Idaho National Laboratory, Energy & Environmental Science and Technology, USA

2:40 PM

(ICACC-S3-055-2025) Robust and Highly Conductive Protonic Ceramics against High Concentration of Steam & CO₂

S. Chen¹; H. Tian¹; W. Li¹; Q. Li¹; X. Liu^{*1}

1. West Virginia University, Mechanical & Aerospace Engineering, USA

3:00 PM

Break

3:20 PM

(ICACC-S3-056-2025) Advanced Ceramic Oxides for Proton Conducting Cells

A. D. Dyrli^{*1}; L. Jøsang¹

1. Ceramic Powder Technology AS, Norway

3:40 PM

(ICACC-S3-057-2025) Assembly of proton ceramic electrolysis cell (PCECs) single repeating unit for ultrapure hydrogen production

F. Da Prato^{*1}; S. Anelli²; A. Moranti²; D. Ferrero¹; M. Marasi²; A. Donazzi²; G. Massobrio⁴; M. Laudi²; M. Santarelli²; F. Smeacetto⁶

1. Politecnico di Torino, Energy Department - DENERG, Italy
2. Politecnico di Torino, DISAT, Italy
3. Politecnico di Milano, Department of Energy, Italy
4. Hydrogen Team of HyAccelerator - SNAM, Italy
5. Politecnico di Torino, Italy
6. Politecnico di Torino, Applied Science and Technology, Italy

4:00 PM

(ICACC-S3-058-2025) High-performance PCFCs with dense BZYb20 electrolytes fabricated through Ba-diffusion sintering

A. Sharma^{*1}; K. Watanabe¹; H. Shimada¹; Y. Yamaguchi¹; K. Nomura¹; Y. Mizutani¹; M. Momai¹; H. Sumi¹; M. Fujioka¹

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

4:20 PM

(ICACC-S3-059-2025) Experimental and model investigation of BaZr_{0.625}Ce_{0.2}Y_{0.175}O_{3-δ} based proton conductive ceramic cells

M. Marasi^{*1}; A. Cammarata¹; P. Colbertaldo¹; G. Massobrio²; M. Laudi²; S. Campanari¹; A. Donazzi¹

1. Politecnico di Milano, Department of Energy, Italy
2. SNAM, Italy

4:40 PM

(ICACC-S3-060-2025) Additive manufacturing and integration of protonic ceramic electrolysis cells

S. Anelli^{*1}; D. Ferrero²; M. Santarelli²; F. Smeacetto¹

1. Politecnico di Torino, DISAT, Italy
2. Politecnico di Torino, DENERG, Italy

5:00 PM

Poster Preview Pitch- Electrophoretic deposition of MnCu based coating for reversible SOCs

5:02 PM

Poster Preview Pitch- Effects of CeO₂ nano-dispersion in LSM cathode on SOFC electrode properties

5:04 PM

Poster Preview Pitch- High temperature gas sealing properties of sericite-based self-expansion compression seals

5:06 PM

Poster Preview Pitch- La_{0.5}Sr_{0.5}Co_{0.2}Fe_{0.2}Ni_{0.2}Cu_{0.2}A_{0.2}O₃ (A=V,Al,Mg) Perovskites For Medium Temperature Solid Oxide Fuel Cells

S5 Next-Generation Bioceramics and Biocomposites

S5- Bioceramics and composites for implants and medical devices I

Room: Ponce de Leon

Session Chairs: Eva Hemmer, University of Ottawa; Aneta Zima, Akademia Gorniczko-Hutnicza im Stanisława Staszica w Krakowie

1:30 PM

(ICACC-S5-017-2025) Eliminating Implant Infections: 30,000 Nanotextured Implants in Humans with No Failures and Still Counting (Invited)

T. Webster^{*1}

1. Brown University, USA

2:00 PM

(ICACC-S5-019-2025) Synthesis and Robocasting of Tri-calcium phosphate, hydroxyapatite and Wollastonite based bio ceramic composite

G. Rajan^{*1}; M. V. Sudandaradoss¹

1. Anna University, Ceramic Technology, India

2:20 PM

(ICACC-S5-020-2025) Machine Learning Guided Biohybrid Interfaces and Materials Design for Oral Health (Invited)

C. Tamerler^{*1}

1. University of Kansas, Mechanical Eng & BioEngineering, USA

2:50 PM

(ICACC-S5-021-2025) Zinc oxide-reinforced baghdadite-zirconia ceramic composite for dental applications

J. Jimenez¹; R. Raguindin¹; E. d. Magdaluyo^{*1}

1. University of the Philippines, Philippines

S6 Advanced Materials and Technologies for Rechargeable Energy Storage

S6- Sodium and Potassium Storage Systems

Room: Coquina B

Session Chairs: Chunmei Ban, University of Colorado, Boulder;
Palani Balaya, National University of Singapore

1:30 PM

(ICACC-S6-044-2025) Recent developments in Na-based pseudocapacitive materials (Invited)

A. Zambotti¹; B. Dunn^{*2}; Q. Nguyen¹; Q. Wei³; Y. Luo¹

1. University of California Los Angeles, Materials Science, USA
2. UCLA, Materials Science and Engineering, USA
3. Xiamen University College of Materials, China

2:00 PM

(ICACC-S6-046-2025) Improvements in the Electrochemical Performance of Magnesium Batteries through Advanced Membrane Materials and a Chloride-Free Electrolyte (Invited)

M. Ng^{*1}; W. Ren⁴; W. Tang²; J. Jeevarajan³; Y. Yao⁵

1. Underwriters Laboratories Inc, UL Research Institutes | Electrochemical Safety, USA
2. Underwriters Laboratories Inc, Electrochemical Safety Research Institute, USA
3. UL Research Institutes, Electrochemical Safety Research Institute (ESRI), USA
4. University of Houston System, Department of Chemical and Biomolecular Engineering, USA
5. University of Houston, Department of Electrical and Computer Engineering and Texas Center for Superconductivity at the University of Houston (TcSUH), USA

S6- Multivalent Redox Batteries

Room: Coquina B

Session Chair: Mahalingam Balasubramanian, Oak Ridge National Lab

3:00 PM

Break

3:20 PM

(ICACC-S6-047-2025) Computationally-guided design of aqueous electrolytes for rechargeable iron batteries (Invited)

B. Narayanan^{*1}

1. University of Louisville, Mechanical Engineering, USA

3:50 PM

(ICACC-S6-048-2025) Design Strategies for High Voltage Spinel Cathode Materials to Enable Reversible Mg-Ion Intercalation (Invited)

B. Key^{*1}

1. Argonne National Laboratory, Electrochemical Energy Storage, USA

S10 Integrated computational-experimental modeling and design of ceramics and composites

S10- Modeling ablation and impact of advanced ceramics

Room: Coquina G

Session Chair: Efrain Hernandez, University of Michigan

1:30 PM

(ICACC-S10-015-2025) Lifetime Prediction and Uncertainty Quantification in Self-healing Thermal Barrier Coatings

S. Anusuya Ponnusami^{*1}; A. Kumthekar²; J. Krishnasamy²; S. van der Zwaag²; S. Turteltaub²

1. City, University of London, Engineering, United Kingdom
2. Technische Universiteit Delft Faculteit Luchtvaart- en Ruimtevaarttechniek, Netherlands

2:00 PM

(ICACC-S10-016-2025) Deep Learning Approaches for Predicting the Ablation Performance of Ceramic Matrix Composites in the Hydrogen Torch Test

J. Deb^{*1}; F. Faysal¹; J. Gou¹

1. University of Central Florida, Mechanical and Aerospace Engineering, USA

2:20 PM

(ICACC-S10-017-2025) Shock Response of Boron Carbide Using a Machine Learned Interatomic Potential: Influence of Orientation and Polytype

K. Ghaffari^{*1}; S. Bavdekar²; D. Spearot²; G. Subhash²

1. University of Florida, Material Science and Engineering, USA
2. University of Florida, Mechanical and Aerospace Engineering, USA
3. Illinois State University, Mechanical Engineering, USA

S10- Modeling tribology and vibration performance of advanced ceramics

Room: Coquina G

Session Chair: Sathiskumar Anusuya Ponnusami, City, University of London

3:00 PM

Break

3:20 PM

(ICACC-S10-018-2025) CT based approach for the machining simulation of porous silicon carbide

S. Unsel^{*1}; R. Goller¹; D. Koch²

1. Technische Hochschule Augsburg, Mechanical Engineering, Germany
2. Universität Institut für Materials Resource Management, Germany

3:40 PM

(ICACC-S10-019-2025) Analysis of Wear Behavior of Cross-linked Polymer Brush via Coarse-grained Molecular Dynamics Simulations

Y. Hara^{*1}; C. Suzuki¹; Y. Su²; S. Fukushima¹; Y. Ootani¹; N. Ozawa²; M. Kubo¹

1. Institute for Materials Research, Tohoku University, Japan
2. Tohoku University, New Industry Creation Hatchery Center, Japan

4:00 PM

(ICACC-S10-020-2025) Tribochemical Reactions of Amorphous Films Derived from Molybdenum Dithiocarbamate Revealed by Neural Network Molecular Dynamics Simulation

C. Suzuki^{*1}; Y. Hara¹; Y. Su²; S. Fukushima¹; Y. Ootani¹; N. Ozawa²; M. Kubo¹

1. Tohoku University, Institute for Materials Research, Japan
2. Tohoku University, New Industry Creation Hatchery Center, Japan

4:20 PM

(ICACC-S10-021-2025) Physics-Informed Machine Learning for Defect Characterization of Isotropic and Anisotropic Materials

M. P. MacIsaac^{*1}; A. Beck²; W. Eum³; C. Tran³; M. Stormant³; G. Subhash¹; J. Harley³

1. University of Florida, Mechanical & Aerospace Engineering, USA
2. University of Florida, Physics, USA
3. University of Florida, Department of Electrical and Computer Engineering, USA

S10- Modeling advanced ceramics for electrical applications

Room: Coquina G

Session Chair: Stefan Adams, National University of Singapore

4:40 PM

(ICACC-S10-022-2025) Oxygen vacancy formation energetics in MgO-based high entropy oxides from DFT and experimental validation (Invited)

O. Opetubo¹; T. Shen¹; R. Bordia¹; D. Aidhy^{*1}

1. Clemson University, Materials Science and Engineering, USA

5:10 PM**(ICACC-S10-023-2025) AI-Driven Computational Design and Synthesis of Electrochemical Energy Storage Materials (Invited)**J. Liu^{*1}

1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

S11 Advanced Materials and Innovative Processing Ideas for Production Root Technologies

S11- Fundamental materials: mining, particles, bulk, and functional materials and precursors II

Room: Coquina C

Session Chair: Sungwook Mhin, Kyonggi University

1:30 PM**(ICACC-S11-008-2025) Development Transparent (Y, Ce)- α -SiAlON ceramics (Invited)**J. Tatami^{*1}; T. Ito¹; K. Aminaka¹; M. Iijima¹; T. Takahashi²

1. Yokohama National University, Japan
2. Kanagawa Institute of Industrial Science and Technology, Japan

2:00 PM**(ICACC-S11-009-2025) Crack Healing Behavior in Environmental Barrier Coatings via Heat Treatment (Invited)**A. Okawa^{*1}; S. T. Nguyen²; T. Nakayama²; T. Ishikawa²; R. Shimonishi²; C. Koyama²; H. Suematsu²; T. Hasegawa¹; S. Yin¹

1. Tohoku University, Institute of Multidisciplinary Research for Advanced Materials, Japan
2. Nagaoka University of Technology, Extreme Energy-Density Research Institute, Japan
3. National Institute of Technology Koshiro College, Department of Creative Engineering, Japan
4. Japan Aerospace Exploration Agency, Tsukuba Space Center, Japan

2:30 PM**(ICACC-S11-010-2025) Red clay and Black cinder of Lanao, Philippines: Indigenous minerals for low porous ceramic tiles (Invited)**I. B. Arugay^{*1}; F. A. Echavez¹; L. R. Lumasag¹; C. Saladaga¹; S. D. Dionio¹; J. Cahigao¹; E. U. Aligno¹; R. M. Dispo¹; B. L. Bato¹; A. R. Simplicio¹; R. V. Virtudazo¹

1. Mindanao State University-Iligan Institute of Technology, Department of Materials and Resources Engineering and Technology, Philippines

3:00 PM**Poster Preview Pitch- Utilization of Silt from gold mine waste for Silt-Polyester composite (SPC)****3:02 PM****(ICACC-S11-011-2025) Physicochemical Characterization of Nickel Mine Waste from Agusan Province, Philippines**M. G. Zozobrado^{*1}; J. Mutia¹; F. A. Echavez¹; C. Saladaga¹; R. Aquiatan¹; V. Resabal¹; I. B. Arugay¹

1. MSU-Iligan Institute of Technology, Department of Materials and Resources Engineering and Technology, Philippines

3:22 PM**Break**

S11- Innovative manufacturing processes for recycling, sustainable energy, or semiconductor industry

Room: Coquina C

Session Chair: Chisung Ahn, Korea Institute of Industrial Technology

3:40 PM**(ICACC-S11-012-2025) Analysis and optimization of the energy consumption of a CMC machining process via a data-based model approach (Invited)**R. Goller^{*1}; S. Unsel¹; S. Kleiner¹; P. von Russdorf¹

1. Technische Hochschule Augsburg, Mechanical Engineering, Germany

4:10 PM**(ICACC-S11-013-2025) Green and Sustainable Ceramic Materials: Developing Non-Firing Ceramic Materials from Industrial Byproducts (Invited)**R. V. Virtudazo^{*1}; E. Limbaga¹; H. D. Melendrez¹; S. Manlupig¹; G. F. Maujon¹; C. Cahimong¹; S. D. Kempis¹; L. I. Cabalo¹; L. M. Jabile¹; I. B. Arugay²; V. Resabal¹; M. Fuji³

1. Mindanao State University-Iligan Institute of Technology, Department of Materials and Resources Engineering and Technology, Philippines
2. MSU-Iligan Institute of Technology, Materials and Resources Engineering and Technology, Philippines
3. Nagoya Institute of Technology, Japan

4:40 PM**(ICACC-S11-014-2025) Current effects on microstructural evolution of spark plasma sintered Y_2O_3 ceramics**L. Ji-Hwoan^{*1}; K. Morita²; J. So¹

1. Korea Institute of Materials Science, Extreme Materials Institute, Republic of Korea
2. National Institute for Materials Science (NIMS), Japan

5:00 PM**(ICACC-S11-015-2025) Ultra-High Cycle Stability in AZIBs via Al_2O_3 -Coated Zinc Anode and AVNF Cathode**J. Lee^{*1}; Y. So¹; S. Lee¹; S. Mhin¹

1. Kyonggi University, Republic of Korea

5:20 PM**(ICACC-S11-016-2025) Understanding Degradation Mechanisms and Evaluation Electrochemical Performance of Aqueous Zinc-Ion Batteries**E. Lee^{*1}; Y. So¹; S. Lee¹; S. Mhin¹

1. Kyonggi University, Department of Advanced Materials Engineering, Republic of Korea

S13 Development & Applications of Adv Ceramics & Composites for Nuclear Fission/ Fusion Energy Sys

S13- CMC for fusion and fission energy systems

Room: Coquina D

Session Chair: Theresa Davey, Bangor University

1:30 PM**(ICACC-S13-027-2025) Tungsten fiber reinforced tungsten composite: A brittle matrix composite for fusion applications (Invited)**H. Gietl^{*1}; J. Riesch²; T. Höschen²; Y. Mao³; S. Schönen²; J. W. Coenen²; W. Pantleon⁴; R. Neu³

1. Idaho National Laboratory, USA
2. Forschungszentrum Jülich GmbH, Institut Technology and Engineering (ITE), Partner of the Trilateral Euregio Cluster (TEC), Germany
3. Max-Planck-Institut für Plasmaphysik, Germany
4. Department of Civil and Mechanical Engineering, Technical University of Denmark, Denmark
5. Forschungszentrum Jülich GmbH, Institute of Fusion Energy and Nuclear Waste Management - Plasma Physics, Partner of the Trilateral Euregio Cluster (TEC), Germany

2:00 PM**(ICACC-S13-028-2025) Dimensional Stability of SiC Fibers under Low Temperature and High Dose Irradiation**S. Kondo^{*1}; X. Yuan¹; D. Geng¹; K. Yabuuchi²; H. Yu¹; Y. Ogino¹; R. Kasada¹

1. Tohoku University, Institute for Materials Research, Japan
2. Kyoto Daigaku, Institute of Advanced Energy, Japan

2:20 PM**(ICACC-S13-029-2025) Irradiation Effect on Particle Dispersion SiC Composites Fabricated by Liquid Phase Sintering**T. Hinoki^{*1}; Y. Zhong¹; J. Lee¹; S. Kondo²

1. Kyoto University, Japan
2. Tohoku University, Japan

2:40 PM

(ICACC-S13-030-2025) Investigating the impact of neutron irradiation on SiC/SiC composites via X-ray computed tomography and finite element analysis modeling

J. D. Arregui-Mena^{*1}; T. Koyanagi²; Y. Katoh²

1. Oak Ridge National Lab, Nuclear Materials Science & Technology Group, USA
2. Oak Ridge National Laboratory, USA

3:00 PM

Break

S13- High temperature ceramics and environmental resistance I

Room: Coquina D

Session Chair: Hanns Gietl, Idaho National Laboratory

3:20 PM

(ICACC-S13-031-2025) Ultra High Temperature Ceramics for Fusion Energy applications (Invited)

D. Sprouster¹; L. Snead^{*1}; N. Cetiner²

1. Stony Brook University, USA
2. Massachusetts Institute of Technology, USA

3:50 PM

(ICACC-S13-032-2025) Responses of SiC fiber-reinforced SiC matrix composites to high-dose neutron irradiation

T. Koyanagi^{*1}; T. Nozawa²; Y. Katoh¹

1. Oak Ridge National Laboratory, USA
2. National Institutes for Quantum and Radiological Science and Technology, Japan

4:10 PM

(ICACC-S13-033-2025) Corrosion characteristics of SiC/SiC composites in 2LiF-BeF₂ molten salt

B. W. Lamm^{*1}; T. Koyanagi²; H. Gietl¹; J. Keiser¹; J. Lee¹; Y. Katoh¹

1. Oak Ridge National Laboratory, Materials Science & Technology Division, USA
2. Oak Ridge National Laboratory, USA

4:30 PM

(ICACC-S13-034-2025) Compatibility of SiC sintered with Al₂O₃/Y₂O₃ additives and molten FLiNaK at 650°C

W. Cairang^{*1}; W. Zhou¹; K. Vasudeva¹; K. Woller²; S. E. Ferry²; M. P. Short¹

1. Massachusetts Institute of Technology, Department of Nuclear Science and Engineering, USA
2. Massachusetts Institute of Technology, Plasma science and fusion center, USA

4:50 PM

(ICACC-S13-035-2025) Fabrication of Advanced SiC_x/SiC Composite with Improved Matrix Mechanical Properties by Particle Enhanced PIP

J. Lao^{*1}; C. Akaoglu¹; K. Wei¹; H. Liu¹; P. Xiao¹

1. Henry Royce Institute, University of Manchester, United Kingdom

5:10 PM

(ICACC-S13-036-2025) Investigating Irradiation-Induced Viscous Flow in Mullite Ceramics at Room Temperature

T. Miyagishi^{*1}; S. Kondo²; Y. Ogino²; H. Yu²; M. Park²; A. Hasegawa²; R. Kasada²

1. Tohoku Daigaku, Graduate School of Engineering, Japan
2. Tohoku University, Institute for Materials Research, Japan

S15 9th International Symposium on Additive Manufacturing and 3-D Printing Technologies

S15- 9th International Sym on Additive Manufacturing and 3D Printing Technologies- Design and Qualification

Room: Coquina A

Session Chairs: Meelad Ranaiefar, NASA Glenn Research Center; Michael Halbig, NASA Glenn Research Center

1:30 PM

(ICACC-S15-029-2025) Additive manufacturing of ceramics: How far can you go using computational design?

M. Pellanconi^{*2}; A. Ortona¹

1. SUPSI, MEMTi, Switzerland
2. Scuola universitaria professionale della Svizzera italiana, MEMTi, Switzerland

1:50 PM

(ICACC-S15-030-2025) Comprehensive investigation into Thermal Stability of AB-type Bio- Carbonate Hydroxyapatite synthesized via Heat-Treated Bovine Bone

H. Aeklah^{*1}

1. Obudai Egyetem Banki Donat Gepesz es Biztonsagtechnikai Mernoki Kar, Hungary

2:10 PM

(ICACC-S15-031-2025) Designing Metamaterial Thermoelectric Generators for Optimal Energy Harvesting Efficiency

Y. Tang^{*1}; Y. Li¹

1. Dartmouth College, Thayer School of Engineering, USA

2:30 PM

(ICACC-S15-032-2025) Detecting strength-limiting defects in sintered ceramics printed via vat polymerization

L. O. Grant^{*1}; R. Maier¹

1. National Institute of Standards and Technology, Materials Measurement Laboratory, USA

S15- 9th International Sym on Additive Manufacturing and 3D Printing Technologies- Design and Qualification- Materials Deposition

Room: Coquina A

Session Chairs: Lynnora Grant, Rice University; Michael Halbig, NASA Glenn Research Center

2:50 PM

Break

3:10 PM

(ICACC-S15-033-2025) Effect of 3-D Printing Parameters on the Microstructure and Mechanical Properties of Ceramic and Glass Reinforced Polymer Composite Materials

L. R. Alexander-Roy^{*1}; M. Ranaiefar²; M. C. Halbig²; M. Singh³

1. Case Western Reserve University, USA
2. NASA Glenn Research Center, USA
3. Ohio Aerospace Institute, USA

3:30 PM

(ICACC-S15-034-2025) 3D Printed Ceramic Reinforced Polymer Composites Microstructure and Mechanical Properties

A. P. Gyekenyesi^{*1}; M. Ranaiefar²; M. C. Halbig²; M. Singh³

1. Cleveland State University, USA
2. NASA Glenn Research Center, USA
3. Ohio Aerospace Institute, USA

3:50 PM

(ICACC-S15-035-2025) Thermal Processing of Ceramic and Glass Polymer Composites 3D Printed By Fused Filament Fabrication

M. Ranaiefar^{*}; L. R. Alexander-Roy²; A. P. Gyekenyesi³; M. Singh⁴; M. C. Halbig¹

1. NASA Glenn Research Center, USA
2. Case Western Reserve University, USA
3. Cleveland State University, USA
4. Ohio Aerospace Institute, USA

4:10 PM

(ICACC-S15-036-2025) Process Development for Ceramic Composite Synthesis using FFF Additive Manufacturing Techniques

E. Faierman^{*}; P. Collins¹

1. Iowa State University, USA

4:30 PM

(ICACC-S15-037-2025) Improving the degree of near-net-shape fabrication and the SiC content of 3D-printed C/C-SiC

N. Langhof^{*}; W. Freudenberg¹; J. Best¹; S. Schafföner²

1. University of Bayreuth, Ceramic Materials Engineering, Germany
2. University of Bayreuth, Chair of Ceramic Materials Engineering, Germany

4:50 PM

(ICACC-S15-038-2025) Solution- Based feedstock preparation for fused filament fabrication

O. Yucel^{*}; J. Binner¹

1. University of Birmingham, Ceramic Science & Engineering, United Kingdom

5:10 PM

(ICACC-S15-039-2025) Capillary rheometry to assess printability when extruding dense suspensions

L. O. Grant^{*}; R. Maier¹

1. National Institute of Standards and Technology, Materials Measurement Science Division, USA

5:30 PM

Poster Pitch Preview- Exploring the limits of rapid sintering: The impact of nozzle diameter and sintering atmosphere on fused filament fabricated Al₂O₃ ceramics

5:32 PM

Poster Pitch Preview- Binder Jetting of Glass Grinding Waste

5:34 PM

Poster Pitch Preview- Microstructural evolution and phase analysis of SS410-Al₂O₃-SiC multilayered functionally graded composite fabricated through laser cladding

5:36 PM

Poster Pitch Preview- Design and Development of 3D Printed PEEK and Nylon Composites

Friday, January 31, 2025

S1 Mechanical Behavior and Performance of Ceramics & Composites

S1- Ceramics Processing–Microstructure– Mechanical Properties Correlation

Room: Coquina E

Session Chairs: Tetiana Prikhna, Institute for Superhard Materials of the National Academy of Sciences of Ukraine

8:30 AM

(ICACC-S1-067-2025) Improving the uniformity and mechanical properties of flash sintered YSZ by doping with Ta and Nb

S. Ding^{*}; R. I. Todd¹

1. University of Oxford, Department of Materials, United Kingdom

8:50 AM

(ICACC-S1-068-2025) Improving damage tolerance of transparent ceramics using a multi-material design **WITHDRAWN**

A. Najafzadehkhoee^{*}; A. Talimian²; A. Jabr³; R. Papšik³; D. Drdlik⁴; K. Maca⁴; D. Galusek²; R. Bermejo³

1. Ústav Anorganické Chemie Slovenská Akadémia Vied, Slovakia
2. Trenčianska Univerzita Alexandra Dubčeka v Trenčíne Centre for Functional and Surface Functionalized Glass, Slovakia
3. Montanuniversität Leoben, Institut fuer Struktur- und Funktionskeramik, Austria
4. CEITEC - Central European Institute of Technology, Brno University of Technology, Czechia

9:10 AM

(ICACC-S1-069-2025) Design, Preparation and Application of nitride based Functionally Graded Materials

F. Chen^{*}; B. Xiang¹; M. Jia¹; Q. Shen¹

1. Wuhan University of Technology, China

9:30 AM

(ICACC-S1-070-2025) Thermal and Mechanical Characterization of Aluminum Fluoride Thin Films

M. Motezaker^{*}; S. G. Walton³; P. E. Hopkins²

1. University of Virginia, Mechanical Eng, USA
2. University of Virginia, USA
3. US Naval Research Laboratory, USA

9:50 AM

Break

10:10 AM

(ICACC-S1-071-2025) Experimental study of energy harvesting from mechanical load on lead zirconate titanate cement composite **WITHDRAWN**

V. Kumar^{*}; S. K. Mishra¹; A. Kumar¹

1. Birla Institute of Technology, Mechanical Engineering, India

S1- Ceramics for Aerospace and Other Transport Applications

Room: Coquina E

Session Chairs: B Venkata Manoj Kumar, Indian Institute of Technology Roorkee; Tetiana Prikhna, Institute for Superhard Materials of the National Academy of Sciences of Ukraine

10:30 AM

(ICACC-S1-073-2025) Sintering of TaB₂ modified by silicides: MoSi₂, ZrSi₂ and Si₃N₄

T. Prikhna^{*}; P. Barvitskyi¹; M. Karpets²; O. Borymskyi¹; V. Moshchil¹; D. Zagorac³; A. Lokatkina¹

1. Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Ukraine
2. National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine
3. Materials Science Laboratory, Vinča Institute of Nuclear Sciences, Belgrade University, Serbia

10:50 AM

(ICACC-S1-074-2025) Enhancing Mechanical Integrity in 3-YSZ Ceramic Cores for Aero-Engine Applications via Vat Photopolymerization 3D Printing: A Nanomechanical Analysis

P. P. Reddy^{*}; P. Gandhi¹; G. Singh¹

1. Indian Institute of Technology Bombay, India

11:10 AM

(ICACC-S1-075-2025) Fabrication of Silica Particles with Adjustable Properties for Advanced Propulsion Systems

B. Pajo^{*}; R. Trice¹; C. Martinez¹

1. Purdue University, Department of Materials Engineering, USA

11:30 AM

(ICACC-S1-076-2025) Boron Nitride-Nanotube - Silicon Nitride Composites for High Temperature Radome Applications

V. Mika*; C. Davis¹; J. P. Youngblood²; R. Trice²

1. Naval Surface Warfare Center Crane Division, USA
2. Purdue University, Department of Materials Engineering, USA

S6 Advanced Materials and Technologies for Rechargeable Energy Storage

S6- Electrodes and Electrolytes for Battery Systems

Room: Coquina B

Session Chairs: Derrick Fam, Institute of Materials Research and Engineering; Palani Balaya, National University of Singapore

8:35 AM

(ICACC-S6-035-2025) Analysis of cation-anion redox of Na_2MS_2 (M = Transition metal) for sodium secondary batteries (Invited)

A. Nasu*; R. Miyamoto¹; H. Kobayashi¹; M. Matsui¹

1. Hokkaido Daigaku, Faculty of Science, Japan

9:05 AM

(ICACC-S6-050-2025) Highly reversible anode for LIB and NIB based on oxidized $\text{Ti}_3\text{Al}_{(1-x)}\text{Sn}_x\text{C}_2$ MAX phases

S. Marchionna*; A. Gentile¹; N. Vallana²; C. Ferrara²; I. Ostroman²; R. Ruffo²

1. Ricerca sul Sistema Energetico RSE SpA, TGM- Materials and Generation Technologies for Energy, Italy
2. Università degli Studi di Milano, Material Science department, Italy

9:30 AM

(ICACC-S6-051-2025) Sodium solid electrolytes- design & technology aspects

D. Wagner*

1. Fraunhofer-Institut für Keramische Technologien und Systeme IKTS, Energy, Germany

S6- Recycling and Advanced Processes for Electrode Materials

Room: Coquina B

Session Chairs: Xiaonan Shan, University of Houston; Palani Balaya, National University of Singapore

10:00 AM

Break

10:20 AM

(ICACC-S6-053-2025) Electrode Delamination by Induction Heating for Direct Recycling Operations for Spent Li-Ion Batteries

B. Ma*; O. Kahvecioglu¹; B. Polzin¹

1. Argonne National Laboratory, USA

10:40 AM

(ICACC-S6-054-2025) Innovative method for strategic metals recovery from exhausted lithium-ion batteries based on microwave heating

A. Zanoletti¹; A. Cornelio¹; M. Scaglia¹; A. Bonometti¹; E. Galli¹; E. Bontempi²; F. Alptekin*

1. Università degli Studi di Brescia, Italy
2. Università degli Studi di Brescia, DIMI, Italy

11:00 AM

(ICACC-S6-055-2025) New composite material based on hydrogel and combined conductive fillers for energy storage applications

G. Malyszko*; P. Jasinski¹; S. Pawlowska¹

1. Politechnika Gdanska, Department of Functional Materials Engineering, Poland

S10 Integrated computational-experimental modeling and design of ceramics and composites

S10- Modeling physical properties of advanced ceramics

Room: Coquina G

Session Chair: Dillpuneet Aidhy, Clemson University

8:30 AM

(ICACC-S10-024-2025) Compressible Solid Electrolytes for Durable High Energy Density Batteries (Invited)

S. Adams*

1. National University of Singapore, Materials Science and Engineering, Singapore

9:00 AM

(ICACC-S10-025-2025) Photomechanical Effects in ZnS: Investigating Dislocation Nucleation and Behavior Under Stress and Light via Computational Simulations (Invited)

Q. An*

1. Iowa State University, Materials Science and Engineering, USA

9:30 AM

(ICACC-S10-026-2025) Electronic Band Structure Variations in Photocatalytic Materials

J. K. Vanderslice*

1. University of Missouri-Kansas City, Physics, USA

9:50 AM

(ICACC-S10-027-2025) A Systematic ab initio Study of Electronic Transport Properties of Ln_2NiO_4 (Ln=La, Nd, and Pr)

S. Yang¹; Y. Zhong*

1. Worcester Polytechnic Institute, Mechanical and Materials Engineering, USA

10:10 AM

(ICACC-S10-028-2025) Decipher the Materials Genome via Understanding Grain Boundary Phase-like Transitions (Invited)

J. Luo*

1. University of California, San Diego, USA

S13 Development & Applications of Advanced Ceramics & Composites for Nuclear Fission/Fusion Energy Systems

S13- High temperature ceramics and environmental resistance II

Room: Coquina D

Session Chair: Takaaki Koyanagi, Oak Ridge National Laboratory

8:30 AM

(ICACC-S13-037-2025) Joining and Coating of SiC/SiC for safe nuclear energy applications

A. Pizzinat*; M. Ferraris¹

1. Politecnico di Torino, Department of Applied Science and Technology (DISAT), Italy

8:50 AM

(ICACC-S13-038-2025) Liquid Migration of Fission Product Leakage in SiC layer of TRISO Fuel: Insights from In-situ and Ex-situ Ag-Pd/SiC and Ru-Pd/SiC Interaction Studies

J. Lao*; K. Wei¹; H. Liu¹; J. F. Martins¹; C. Lin²; Y. Lei²; Z. Kho²; A. Eggeman²; X. Liu²; M. Smith²; P. Withers¹; P. Xiao¹

1. Henry Royce Institute, The University of Manchester, United Kingdom
2. The University of Manchester, Materials, United Kingdom

9:10 AM

(ICACC-S13-039-2025) Aligned Boron Nitride Nanotube Reinforced Polyethylene Nanocomposite for Space Radiation Shielding

P. B. Patel^{*2}; N. Joseph²; C. Park¹; V. L. Wiesner¹; B. L. Wardle²

1. NASA Langley Research Center, Advanced Materials and Processing Branch, USA
2. Massachusetts Institute of Technology, USA

9:30 AM

(ICACC-S13-040-2025) Nano-porosity characterisation of TRISO coatings using small angle X-ray scattering

E. White^{*1}; A. Smith²; T. Snow²; D. Kazantsev²; M. Davies³; M. Moore⁴; D. Goddard⁴; N. Tzelepi²; A. Seddon¹; T. Martin¹; D. Liu⁶

1. University of Bristol, United Kingdom
2. Diamond Light Source Ltd, United Kingdom
3. Ultra Safe Nuclear Corporation, USA
4. National Nuclear Laboratory Preston Laboratory, United Kingdom
5. National Nuclear Laboratory Ltd, Central Laboratory, United Kingdom
6. University of Oxford, United Kingdom

9:50 AM

Break

S13- High temperature ceramics and environmental resistance III

Room: Coquina D

Session Chair: Takaaki Koyanagi, Oak Ridge National Laboratory

10:10 AM

(ICACC-S13-041-2025) Cermet waste forms for immobilizing advanced reactor waste streams

R. Saini^{*1}; A. Goel¹

1. Rutgers University, Materials Science and Engineering, USA

10:30 AM

(ICACC-S13-042-2025) First principles investigation into hydrogen solubility in defect-induced cubic silicon carbide

J. Evarts^{*1}

1. Pacific Northwest National Laboratory, National Security Directorate, USA

10:50 AM

(ICACC-S13-043-2025) Characterization of Rapid Laser Chemical Vapor Deposition (R-LCVD) SiC Fibers

L. Mazzocco^{*1}; P. Cervenka¹; A. Seshadri¹; K. L. Williams²; S. Harrison²; J. Pegna²; P. Xu³; K. Shirvan¹

1. Massachusetts Institute of Technology, Nuclear Science and Engineering, USA
2. Free Form Fibers, USA
3. Idaho National Lab, USA



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Sexual harassment does not refer to occasional compliments or other generally acceptable social behavior. Sexual harassment refers to verbal, physical, and visual conduct of a sexual nature that is unwelcome and offensive to the recipient. By way of example, sexual harassment may include such conduct as sexual flirtations, advances, or propositions; verbal comments or physical actions of a sexual nature; sexually degrading words used to describe an individual; an unwelcome display of sexually suggestive objects or pictures; sexually explicit jokes; and offensive, unwanted physical contact such as patting, pinching, grabbing, groping, or constant brushing against another's body. Attendees asked to stop any sexually harassing behavior are expected to comply immediately.

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NAMES(S) AND CONTACT INFORMATION ONSITE TO REPORT AN INCIDENT

- ACerS Executive Director, Mark Mecklenborg, ph 614-794-5829 / email: ExecDirector@ceramics.org
- ACerS President, Monica Ferraris / email: ACerSPresident@ceramics.org

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All reports of harassment will be directed immediately to the ACerS leadership team who may consult with and engage other ACerS staff, leaders and legal counsel as appropriate. Conference security and/or local law enforcement may be involved, as appropriate based on the specific circumstances. In response to a report of harassment, the ACerS leadership team or ACerS staff will take appropriate action. Such actions range from a verbal warning to ejection from the event without a refund. Repeat offenders may be subject to further disciplinary action, such as being banned from participating in future ACerS conferences or events and/or permanently expelled from ACerS membership.

The full policy can be viewed at:

<https://ceramics.org/wp-content/uploads/2018/12/Anti-Harassment-Policy.pdf>

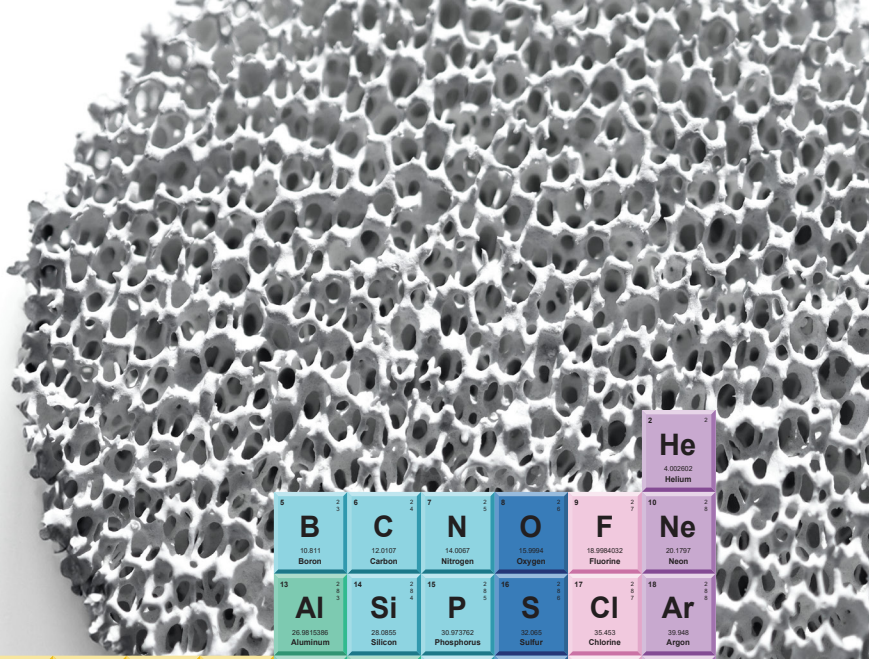


Photo: Ceramic sponge
(nanoscale morphology)
produced from American
Elements proprietary ultra
high surface area powder

Photo: Ceramic sponge (nanoscale morphology) produced from American Elements proprietary ultra high surface area powder

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