



WHERE BUSINESS AND MANUFACTURING MEET STRATEGY

5TH CERAMIC LEADERSHIP SUMMIT

Held in conjunction with the 2nd Ceramics Expo

APRIL 24–26, 2016 | CLEVELAND, OHIO

REGISTER NOW!



ceramics.org/cls2016

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The **Ceramic Leadership Summit (CLS)**, held in conjunction with the second Ceramics Expo, in Cleveland, Ohio is a unique, first-class business meeting designed for ceramics and glass industry executives. CLS explores “where business and manufacturing meets strategy” along with opportunities, emerging technologies, and critical issues that challenge the ceramics and glass materials community. CLS attendees enjoy the intimate setting, discussing business challenges, and networking without distraction. On the last day of CLS, attendees switch venues, joining the enthusiastic second annual Ceramics Expo at the IX Center.



SCHEDULE AT A GLANCE

SUNDAY, APRIL 24, 2016 – CLEVELAND AIRPORT MARRIOTT

5:00 – 7:00 p.m. Welcome Reception

MONDAY, APRIL 25, 2016 – CLEVELAND AIRPORT MARRIOTT

8:30 – 8:45 a.m. **CLS 2016 WELCOME**

Setting the Stage for the 5th Ceramic Leadership Summit – David W. Johnson Jr., CLS Moderator, editor, *Journal of the American Ceramic Society*

8:45 – 10:15 a.m. **BUSINESS INNOVATION**

8:45 – 9:30 a.m. **Vertical Innovation Process for Product and Business Development** – John and Bill Nottingham, Nottingham Spirk

9:30 – 10:15 a.m. **Creating an Innovative Manufacturing Company** – Executive from Morgan Advanced Materials, TBA

10:30 a.m. – Noon **MANUFACTURING CHALLENGES AND OPPORTUNITIES**

10:30 – 11:15 a.m. **Scaling up for the Production of CMCs for Gas Turbine Engines**
Matthew O’Connell, industrialization leader, Ceramic Matrix Composites, GE Aviation – Supply Chain Division, Composites Value Stream

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11:15 a.m. – Noon

Supply Chain for Innovation – Timothy Major, supply management director of science & technology, Emerging Innovations Group, Corning Inc.

Noon – 1:00 p.m.

Networking Lunch

1:00 – 2:45 p.m.

BUSINESS CLIMATE OVERVIEW

1:00 – 1:45 p.m.

Overview of Global Economy and Supply Chain Economics – Susan Helper, special advisor to the undersecretary for economic affairs of the US Department of Commerce; former chief economist, US Department of Commerce; Carlton Professor of Economics at the Weatherhead School of Management, Case Western Reserve University

1:45 – 2:15 p.m.

How Will Changing Demographics Impact Our Business? – Everton H. Callum, SPHR, HR manager, Corporate Research & European Labs Science & Technology Division, Corning Inc.

2:15 – 2:45 p.m.

Panel Discussion: Demographics – Everton H. Callum, Dana Goski; moderator: David W. Johnson Jr., editor, *Journal of the American Ceramic Society*

3:00 – 5:30 p.m.

COMMERCIALIZATION OF TECHNOLOGY/BUSINESS DEVELOPMENT

3:00 – 3:25 p.m.

Building a Team Capable of Executing a Commercialization Business Plan – Keith Blakely, chairman, InVentures Group, Inc.

3:25 – 3:50 p.m.

Customers: The Importance of Market Validation and Sales Channels – Vladimir Ban, CEO, PD-LD, Inc.

3:50 – 4:15 p.m.

Financing the Venture – Bill Payne, angel investor

4:15 – 5:00 p.m.

Business Acquisition Strategy – David Gunderson, global business development director, Advance Ceramics Platform, 3M

5:00 – 5:30 p.m.

Panel Discussion: Business Development – Keith Blakely, Vladimir Ban, Bill Payne, David Gunderson; moderator: David W. Johnson Jr.

7:00 – 9:30 p.m.

CLS DINNER EVENT – offsite location to be determined

8:15 – 9:00 p.m.

A New Device for a New Era: An Early Telescopic View of Innovation – Marvin Bolt, Ph.D, curator of science and technology, Corning Museum of Glass

TUESDAY, APRIL 26 – IX CENTER

8:30 – 10:15 a.m.

CLS EXECUTIVE FORUM

8:30 – 8:45 a.m.

Topic Review – David W. Johnson Jr., editor, *Journal of the American Ceramic Society*

8:45 – 9:00 a.m.

Overview of White House Supply Chain Innovation Initiative – Susan Helper, special advisor to the undersecretary for economic affairs of the US Department of Commerce

9:00 – 10:15 a.m.

Interactive Discussion Forum – All CLS participants

10:30 – 11:30 a.m.

CERAMICS EXPO LEADERS DEBATE

Main Stage in Ceramics Expo

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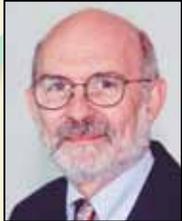
SUNDAY, April 24, 2016 | Marriot

WELCOME RECEPTION | 5:00 – 7:00 P.M.

MONDAY, April 25, 2016 | Marriott

CLS 2016 WELCOME | 8:30 – 8:45 A.M.

Setting the Stage for the 5th Ceramic Leadership Summit



David W. Johnson

Moderator: **David W. Johnson Jr.**, *Journal of the American Ceramic Society*

The Ceramic Leadership Summit is “Where Business and Manufacturing Meet Strategy.” CLS 2016 includes a talented line-up of presenters who will discuss Business Innovation, Manufacturing Challenges and Opportunities, the Business Climate, and Business Development and Commercialization of Technology. While the topics covered are important, a key benefit of CLS is providing the audience a chance to interact with the speakers and with each other to explore business challenges and solutions. David W. Johnson, Jr., the 5th CLS moderator, will set the stage for this interaction during the first fifteen minutes of the Summit.

BUSINESS INNOVATION | 8:45 – 10:15 A.M.

Vertical Innovation Process for Product and Business Development

John and Bill Nottingham, Nottingham Spirk
8:45 – 9:30 A.M.

The Nottinghams will discuss “Vertical Innovation” and how to greatly minimize risk in the innovation process. They will discuss how to set up an innovation culture within your organization and to establish an environment that encourages innovation throughout. Further, they will discuss how innovation is often the “creative collision” of unrelated ideas and how to harness those concepts from initial insights, design, engineering, prototyping, branding, manufacturing, soft launch and full commercialization. The Nottinghams will discuss case studies of successful innovations and the economic impact that they provided all stakeholders.



John Nottingham



Bill Nottingham

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MONDAY, April 25, 2016 | Marriott (continued)

BUSINESS INNOVATION

Creating an Innovative Manufacturing Company

Executive, Morgan Advanced Materials, TBA

9:30 – 10:15 A.M.

While product innovation and differentiation is always important, operational innovations lead to a more productive and profitable manufacturing company. Innovation in the manufacturing sector has a dramatic impact not just on the bottom line of individual companies, but also on the productivity of the entire supply chain. Some of the biggest challenges for industrial manufacturing companies include finding the right partners and suppliers and getting the right metrics in place to measure innovation progress. In this presentation, a top executive from Morgan Advanced Materials will discuss the importance of creating a company culture that focuses on innovating in all aspects of the business enterprise.



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MANUFACTURING CHALLENGES AND OPPORTUNITIES

10:30 A.M. – NOON

Scaling up for the Production of CMCs for Gas Turbine Engines



Matthew O'Connell

Matthew O'Connell, industrialization leader, Ceramic Matrix Composites, GE Aviation – Supply Chain Division, Composites Value Stream

10:30 – 11:15 A.M.

Scaling new technology for production is challenging. For all the planning and preparation to abate every risk, there are inevitable surprises and unknowns that can derail progress. GE's Ceramic Matrix Composite (CMC) scale-up is shaping up differently.

For their CMC raw material and products, GE is building a supply chain that is fully vertically integrated – a lot to create in a short period of time for an engineered, composite material.

GE is introducing their new LEAP propulsion systems at unprecedented rates. They will be delivering more than 1,500 engines per year by 2018. As CMC capacity is built to meet this demand, the key to their success will be to stabilize the recipe while scaling the technology. Their ability to incorporate critical learnings without jeopardizing safety, quality, delivery, cost and performance will enable a successful scale of CMC manufacturing.

The LEAP engine includes a host of new technologies, one of which is the CMC Shroud. Currently GE manufactures both the raw material and the products. This requires coordination between the Design, Materials and Manufacturing disciplines to ensure producibility and performance of the components. GE utilizes a "4 bump" model to enable acceler-

ated introduction of revolutionary changes as we design and build these products. Their FastWorks approach to learning and implementing change allows them to pivot early and accelerate our industrialization plans. This presentation will include a GE Aviation and CMC overview, and a discussion of their "4 Bump" approach to technology industrialization as they work to achieve their CMC scale-up goals.

Supply Chain for Innovation



Timothy Major

Timothy Major, supply management director of science & technology, Emerging Innovations Group, Corning Inc.

11:15 A.M – NOON

Corning Incorporated is one of the world's leading innovators in materials science. For more than 160 years, Corning has applied its unparalleled expertise in specialty glass, ceramics, and optical physics to develop products that have created new industries and transformed people's lives. Enabling those innovations is a

series of supply chains that have been developed and deployed in order to manage the required flows of product, money and information. In this presentation, Major will provide insights into the processes and tools used in supply chain design, development and operation in the innovation process at Corning. In addition, Major will share his experiences from 25+ years of providing supply chain leadership & support to new product innovations in the glass and ceramics industries.

NETWORKING LUNCH | NOON – 1:00 P.M.

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MONDAY, April 25, 2016 | Marriott (continued)

BUSINESS CLIMATE OVERVIEW | 1:00 – 2:45 P.M.

Overview of Global Economy and Supply Chain Economics



Susan Helper

Susan Helper, special advisor to the undersecretary for economic affairs of the US Department of Commerce; former chief economist, US Department of Commerce; Carlton Professor of Economics at the Weatherhead School of Management, Case Western Reserve University

1:00 – 1:45 P.M.

Helper will explore macro trends impacting the global economy and discuss important factors such as reshoring, energy independence, and other trends impacting production costs. She will look at the current competitive state of US manufacturing, reviewing the strengths and weaknesses. In addition, she will explore economic factors within the supply chain that may impact your businesses, including technological and performance gaps, continuous improvement processes, and innovation.



Everton H. Callum

How Will Changing Demographics Impact Our Businesses?

Everton H. Callum, SPHR, HR manager – Corporate Research & European Labs Science & Technology Division, Corning, Inc.

1:45 – 2:15 P.M.

The greying of baby boomers, the emergence of millennials, and increased diversity in the workforce will have a profound impact on your businesses and the markets that you serve. Callum will provide an overview of demographic trends that have and will change our businesses and our workforce. He will explore diversity-related trends and issues and focus on how generational differences have impacted and will further influence the way we manage our human resources in such areas as recruiting, training and development, as well as how we approach such processes as knowledge transfer. He will provide real-world examples of how Corning is working to attract, retrain and integrate millennials into the organization and provide insight into how the thinking of a new generation may transform the thinking of our companies. Callum's presentation will be followed by a panel discussion that will include the perspective of an executive from a smaller manufacturer.



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MONDAY, April 25, 2016 | Marriott (continued)

BUSINESS CLIMATE OVERVIEW

Panel Discussion: Demographics

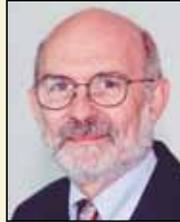
2:15 – 2:45 P.M.



Everton H. Callum



Dana Goski



David W. Johnson

Everton H. Callum, SPHR, HR manager, Corning Inc.

Dana Goski, director, research & development, Allied Mineral Products, Inc.

Moderator: **David W. Johnson Jr.**, editor, *Journal of the American Ceramic Society*

COMMERCIALIZATION OF TECHNOLOGY/BUSINESS DEVELOPMENT | 3:00 – 5:30 P.M.

Building a Team Capable of Executing a Commercialization Business Plan

Keith Blakely, chairman, InVentures Group Inc.

3:00 – 3:25 P.M.

Building a successful advanced materials business is difficult. New materials and processes are technically challenging, scaling up manufacturing processes is expensive and risky, and getting customers to adopt new materials and push them into the marketplace in the form of new products is a long and arduous process. Add to that mix the challenges that inevitably come from managing very smart scientists and engineers in an environment that is almost always stressful already due to resource constraints, investor expectations, and egos and you have a recipe for thermonuclear events! Blakely will share some of his experiences and the lessons learned over the past three decades.



Keith Blakely

Customers: The Importance of Market Validation and Sales Channels



Vladimir Ban

Vladimir Ban, CEO, PD-LD, Inc.

3:25 – 3:50 P.M.

Founding and running a successful company based on high-tech materials is a complex and demanding work. It usually starts with shoe-string development of prototypes, followed by a lengthy process of ironing out the inevitable shortcomings and mistakes, and finally the organization of a production of an economical and reliable product. At this point the company is ready to bring these products to its customers and convince them to buy them. This might be the most critical point in the course of the life of the company, which determines its success, or stagnation or demise. Ban will address these various stages of the company life as he has experienced them in companies he has founded: Epitaxx Inc. and PD-LD Inc.

Financing the Venture



Bill Payne

Bill Payne, angel investor

3:50 – 4:15 P.M.

Once personal and government resources have been exhausted, where do entrepreneurs seek capital? What is a “fundable company”? Will venture capitalists finance your pre-revenue company? Payne will describe the “capital food chain” for startup ventures, give guidance on the critical financing issues facing technology ventures, and provide a brief overview of sources of investment capital, business planning and fundraising.

Business Acquisition Strategy



David Gunderson

David Gunderson, global business development director, Advance Ceramics Platform

4:15 – 5:00 P.M.

Almost all successful new ventures eventually are sold to larger public companies to convert the entrepreneurs’ (and investors’) illiquid asset into cash. What do large public companies look for? How do entrepreneurs, small companies, and potential buyers find one another? When does the relationship begin? Gunderson will share his experiences in acquiring technology companies and integrating them into 3M.

Panel Discussion: Business Development



Keith Blakely



Vladimir Ban



Bill Payne



David Gunderson

Moderator: **David W. Johnson Jr.**, *Journal of the American Ceramic Society*

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MONDAY, April 25, 2016 | Marriott (continued)

CLS DINNER EVENT | 7:00 – 9:30 P.M.

A New Device for a New Era: An Early Telescopic View of Innovation

8:15 – 9:00 P.M.



Marvin Bolt

Marvin Bolt, curator of science and technology, Corning Museum of Glass

What should a new device look like? Why? And for what reasons would you want to use one? It seems pretty straightforward for a telescope. Right? As we take a look at – and through – some of the very earliest examples, we'll see materials, shapes, and uses that will surprise us and give us reasons to rethink ideas that seemed obvious.

TUESDAY, April 26, 2016 | IX Center

CLS EXECUTIVE FORUM | 8:30 – 10:15 A.M.

Topic Review

David W. Johnson Jr., editor, *Journal of the American Ceramic Society*

8:30 – 8:45 A.M.

Johnson will recap highlights from Monday's talks and panel discussions. His remarks

will set the stage for the final morning of Ceramic Leadership Summit. After the Summit, all CLS attendees are invited to attend the Ceramics Expo opening event, a moderated "leaders debate" with industry executives on key business challenges.

Overview of White House Supply Chain Innovation Initiative



Susan Helper

Susan Helper, special advisor to the undersecretary for economic affairs of the US Department of Commerce

8:45 – 9:00 A.M.

Helper will provide a brief overview on the White House Supply Chain Innovation Initiative, which was launched by President Obama in spring 2015. The Initiative's focus is to identify ways—through private- and public- sector leadership—to strengthen the innovative capabilities of the small US manufacturers that anchor the nation's supply chains.

Interactive Discussion Forum | 9:00 – 10:15 A.M.

All CLS participants

CLS attendees will form into groups to address a series of questions regarding Ceramic Leadership Summit topics, including questions about the White House Supply Chain Innovation Initiative. The objective will be to capture the thinking of the high-powered group in attendance at the Summit and to prepare and publish a report to disseminate to the ceramics and glass industry.

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Ceramic Expo Leaders Debate | 10:30 – 11:30 A.M.
Main Stage Ceramics Expo – IX Center

Ceramic Expo is inviting CEOs/executives from leading companies within the ceramics and glass industry to participate in an opening session debate on key issues facing the industry.

FUTURE LEADERS PROGRAM AT CLS

Know individuals at your company, institution or university who are rising stars? Nominate them to be part of the **Future Leaders Program**. With input from executives, R&D leaders, researchers, engineers, and academicians, this program is designed to help high-performing young professionals gain a fuller understanding of their leadership abilities, including their strengths and development areas within the materials science world.

Contact Tricia Freshour at tfreshour@ceramics.org for special pricing information and to nominate a young professional.



April 26 – 28, 2016 | Cleveland, Ohio

North America's
largest marketplace
for technical ceramic,
glass & refractory materials

SQ FT
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95,000
SQ FT

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REGISTRATION INFORMATION

To register, go to ceramics.org/cls-2016-registration or contact customer service at 1-240-646-7054.

	EARLY REG ON/BEFORE MARCH 24, 2016	AFTER MARCH 24, 2016
ACerS Member	\$495	\$645
ACerS Member plus 12 month membership renewal ⁺	\$615	\$765
Nonmember ⁺	\$615	\$765
ACerS Emeritus/Senior/Associate Member	\$395	\$545
Future Leaders Program – ACerS Member	\$395	\$545
Future Leaders Program – ACerS Nonmember ⁺	\$515	\$665
GGRN or Material Advantage Student Member	\$225	\$300
Nonmember Student ⁺⁺	\$265	\$340
GGRN Registration & Membership Renewal ⁺	\$255	\$330
Guest/Companion [*]	\$75	\$75

Registration includes welcome reception, conference dinner, 2 lunches and breaks.

⁺Receives 1 year ACerS membership.

⁺⁺Graduate student receives 1 year Global Graduate Researcher Network (GGRN) membership.

^{*}Includes welcome reception and dinner.

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HOTEL INFORMATION

Cleveland Airport Marriott

4277 W. 150th St., Cleveland, OH 44135
(855) 467-7245

Room Rates

\$129 plus tax

Make reservations online at www.ceramics.org/cls2016.

When making a reservation by phone, mention **the ACerS room block** to secure your reservation at the conference rate.

Explore a recently-renovated hotel near the Cleveland Airport, which boasts a convenient location, guest rooms featuring upgraded Internet access, free airport shuttle, and premier accommodations, making it ideal for business. The Marriott, a spacious Cleveland Airport hotel, features modern guest rooms and suites with flat screen TVs, spacious bathrooms and innovative Plug-in Panels perfect for an invigorating night of rest and relaxation. Socialize with colleagues in the impressive Cleveland, Ohio Airport hotel lobby or enjoy the award winning AMP 150, boasting locally grown cuisine in an eclectic environment.



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