



AMERICAN CERAMIC SOCIETY

St. Louis Section
and the
Refractory Ceramics Division

Fifty-fifth Annual Symposium

on

Refractories

March 27-28, 2019

Hilton St. Louis Airport Hotel

Theme:

“Shaped Refractories”

PROGRAM

“Shaped Refractories”

March 26th, 2019

5:00 P.M. Kickoff Event – Westport Social

March 27th, 2019

7:15 A.M. Registration and Coffee

8:00 Morning Technical Sessions
Welcome and Introductions

ACerS President

Sylvia Johnson

St. Louis Section Chairman

Chris Perry

Christy Refractories

Refractory Ceramics Division Chair

Simon Leiderman

Shinagawa Advanced Materials

Co-Program Coordinators

Beau Billet

Edward Orton Jr. Ceramic Foundation

Dawn Hill

Xertech Specialties, LLC

8:30 An Overview of Ceramic Forming Processes
William M. Carty – New York State College of Ceramics Alfred University

9:00 Engineering Resilience with Precast Monolithic Refractory Articles
Matthew Lambert and Dana Goski – Allied Mineral Products, Inc.

9:30 Ideal Casting Procedures for Optimal Precast Shape Properties
William L. Headrick Jr. – Missouri Refractories Company, Inc. (MORCO)
Dale Zacherl – Almatiss, Inc., USA; Andreas Buhr – Almatiss GmbH, Germany

10:00 Coffee Break

10:30 A Study of Controlled Drying of Refractory Castable Shapes
John Waters and James Hemrick – Reno Refractories, Inc.

11:00 Comparison of Cement- and Hydratable Alumina-Bonded Alumina-Spinel Materials for Steel Ladle Purging Plugs
Dale Zacherl – Almatiss, Inc. USA; Bin Long – Almatiss Qingdao China; Andreas Buhr – Almatiss GmbH, Germany; In-Ho Jung – McGill University Canada; Shengli Jin and Harald Harmuth – Chair of Ceramics, Austria; Jerry Dutton – United Kingdom

11:30 Fused Cast Refractories – Basic Blocks to Pre-Cast Shapes
Kevin Selkregg - Monofrax

12:00-1:15 Luncheon Banquet

Afternoon Session

- 1:15-2:00 Presentation of the T.J. Planje St. Louis Refractories Award to **Dr. Dana G. Goski, PhD., Vice President, Research and Development – Allied Mineral Products, Inc.**
- 2:15 Non-Destructive Testing to Determine Internal Defects in Shaped Refractories
Thomas R. Viverito – Morgan Advanced Materials
- 2:45 Coffee Break
- 3:15 The History of Refractory Bricks in Missouri
Shannon Jaeger, Kelley Wilkerson, Mary Reidmeyer and Jeffrey Smith – Missouri University of Science & Technology
- 3:45 Thermally Induced Distinct Materials Behavior of Andalusite Bricks
Hartmut Koerber, Yannick Hemberger and Peter Quirnbach – Deutsches Institut fuer Feuerfest und Keramik GmbH, Germany
- 4:15 ACerS PCSA Overview
Somnath Mandal – University of California, Irvine
- 4:30 Questions & Discussion
Co-Program Coordinator
- 4:45 RCD Annual Members Meeting
- 5:00 Closing Remarks
Chris Perry
Christy Refractories
Simon Leiderman
Shinagawa Advanced Materials
- 5:00-7:00 Exposition and Cocktail Hour
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|---------------------------|-------------------------------|
| Almatis, Inc. | IMERYS |
| Alteo NA, LLC | Ingredient Masters, Inc. |
| AluChem, Inc. | Kyanite Mining Corp. |
| American Ceramic Society | Monofrax |
| BassTech International | Norchem, Inc. - Ferroglobe |
| Bettersize Instruments | Orton Ceramic Foundation |
| Blastcrete Equipment, LLC | Possehl Erzkontor N.A. |
| Christy Minerals | PQ Corporation |
| DiFK GmbH, Germany | R-E-D Industrial Products |
| Electro Abrasives | Refractory Minerals Co., Inc. |
| Elkem Materials, Inc. | TAM Ceramics |
| FX Minerals | Thermo Fisher Scientific |
| Gorka Cement | Washington Mills |
| Great Lakes Minerals, LLC | ZIRCAR Ceramics, Inc. |
| Hindalco/GBL | |
- 7:00 Dinner Buffet

March 28th, 2019

- 6:30 A.M. Refractory Ceramics Division (RCD) Breakfast Meeting
- 8:15 Morning Technical Sessions
Welcome and Introductions
- St. Louis Section Chairman**
Chris Perry
Christy Refractories
- Refractory Ceramics Division Chair**
Simon Leiderman
Shinagawa Advanced Materials
- Co-Program Coordinators**
Beau Billet
Edward Orton Jr. Ceramic Foundation
Dawn Hill
Xertech Specialties, LLC
- 8:30 **Invited Paper – 2018 Alfred W. Allen Award Winner**
New Advances in the Laboratory Characterization of Refractories: Testing, Modelling and Industrial Applications
J. Poirier, E. de Bilbao, L. Hennet and M.R. Ammar – CNRS, France
- 9:30 Thermomechanical Behavior and Slag Corrosion Mechanism of Spinel-Periclase-Zirconia Refractories for Ruhrstahl Heraeus Degasser
Somnath Mandal and Martha L. Mecartney – University of California, Irvine; Devendra Kumar – Indian Institute of Technology, India; C.J. Dileep Kumar – TRL Krosaki Refractories Limited, India
- 10:00 Coffee Break
- 10:30 Phase Changes in Aluminum Phosphates Caused by Refractory Fabrication and Service
James Bennett – National Energy Technology Laboratory, USDOE
Anna Nakano and Jinichiro Nakano – National Energy Technology Lab, USDOE & Leidos Research Support Team
Jack Widmer – National Energy Technology Lab, USDOE & ORISE
- 11:00 Regional Influences in Aluminosilicate Refractory Raw Material Selection
Scot Graddick, Chris Parr, Phil Edwards, Nancy Bunt and Dave Tucker – IMERYS
- 11:30 Processing of Magnesia Ceramic Shapes via Slip Casting
Keith DeCarlo – Blasch Precision Ceramics
William M. Carty and Hyojin Lee – New York State College of Ceramics Alfred University
- 12:00 Questions & Discussion
Co-Program Coordinator
- Chris Perry*
Christy Refractories
Simon Leiderman
Shinagawa Advanced Materials
- 12:30 St. Louis Section Officer Business Meeting & Lunch