



**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 26<sup>th</sup>, 2019

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

March 27<sup>th</sup>, 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
- |                           |                               |
|---------------------------|-------------------------------|
| 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 28<sup>th</sup>, 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