



**AMERICAN CERAMIC SOCIETY**

**St. Louis Section**  
*and the*  
**Refractory Ceramics Division**

Fifty-third Annual Symposium

on

Refractories

**March 29-30, 2017**

**Hilton St. Louis Airport Hotel**

Theme:

**“Real World Applications of Refractory Testing”**

## PROGRAM

### “Real World Applications of Refractory Testing”

March 28<sup>th</sup>, 2017

5:00 P.M. Kickoff Event – Gateway Arch Riverboat Cruise of the Mississippi

March 29<sup>th</sup>, 2017

7:15 A.M. Registration and Coffee

8:00 Morning Technical Sessions  
Welcome and Introductions

#### **St. Louis Section Chairman**

*Bill Davis*

HarbisonWalker International

#### **Refractory Ceramics Division Chair**

*Josh Pelletier*

Kerneos, Inc.

#### **Co-Program Coordinators**

*Ashley Hampton*

Vesuvius

*Brian Rayner*

The Edward Orton Jr. Ceramic Foundation

8:15 Spinel: In-Situ versus Performed – Clearing the Myth  
*Dale Zacherl – Almatris, Inc.*  
*Marion Schnabel & Andreas Buhr – Almatris GmbH, Germany*  
*Reinhard Exenberger & Christian Rampitsch – voestalpine Stahl GmbH, Austria*

8:45 The Effect of Aluminosilicate Calcine Quality on Finished Monolithic Refractory Hot Properties  
*Scot Graddick, Dave Tucker, Chris Beiter & Danilo Frulli – Imerys Refractory Minerals*  
*Steffen Mohmel, CARRD*

9:15 Why do Industrial-Sized No-Cement Castables Sometimes Explode during Heatup? A Remedy to Ensure Safe and Fast Heatup of Microsilica-Gel Bond Castables  
*Bjørn Myhre & Hong Peng – Elkem Silicon Materials, Norway*

9:45 Coffee Break

10:15 Eradicating the Occurrence of Efflorescence, Carbonation and Alkali Hydrolysis (AH) on “Cured” Insulating Castables  
*Jason P. Street & Thomas R. Viverito – Morgan Thermal Ceramics*

10:45 Determining and Enhancing the Permeability of Dense Refractory Castables: Implications for Installation  
*Josh Pelletier, Christoph Wöhrmeyer & Carl Zetterström – Kerneos, Inc.*

11:15 The Application of Physical Properties to Refractory Design and Selection  
*Mike Alexander – Riverside Refractories, Inc.*

11:45-1:00 Luncheon Banquet

## **Afternoon Session**

- 1:00-1:45 Presentation of the T.J. Planje St. Louis Refractories Award to **Andus Buhr – Almatís GmbH**
- 2:00 ASTM Committee C08 on Refractories – An Overview of the Definitive Standard Tests for Refractories  
*Bill Headrick – Missouri Refractories Company (MORCO)*
- 2:30 Coffee Break
- 3:00 Possibilities and Opportunities for Determining the Thermal Conductivity of Different Refractory Products  
*Peter Quirnbach & Hartmut Koerber – Deutsches Institut fuer Feuerfest und Keramik, Germany*  
*Ralf Simmat & Christian Dannert – Forschungsgemeinschaft Feuerfest e.V., Germany*
- 3:30 Refractory Testing to Capture Real World Applications  
*Devdutt Shukla – Vesuvius USA*
- 4:00 Slag Corrosion Test Methods  
*Anna Mattione, Ronald O'Malley & Jeffrey D. Smith – Missouri University of Science & Technology*
- 4:30 Questions & Discussion  
Co-Program Coordinator
- 4:45 RCD Annual Members Meeting
- 5:00 Closing Remarks  
*Bill Davis*  
HarbisonWalker International  
*Josh Pelletier*  
Kerneos, Inc.
- 5:00-7:00 Exposition and Cocktail Hour
- |  |                          |
|--|--------------------------|
| Almatís                                    | Kerneos, Inc.            |
| Alteo-Alumina                              | Kyanite Mining Corp.     |
| AluChem                                    | Lancaster Products       |
| American Ceramic Society                   | Orton Ceramic Foundation |
| BassTech International                     | Possehl Erzkontor N.A.   |
| Blastcrete Equipment Company               | PQ Corporation           |
| Calucem, Inc.                              | RED Industrial Products  |
| Christy Minerals                           | Refractory Minerals      |
| Cilas Particle Size                        | TAM Ceramics             |
| Conitex Sonoco                             | Washington Mills         |
| DIFK GmbH, Germany                         | ZIRCAR Ceramics, Inc.    |
| Electro Abrasives/US Electrofused Minerals |                          |
| Elkem Materials, Inc.                      |                          |
| FX Minerals                                |                          |
| Great Lakes Minerals                       |                          |
| Imerys Refractory Minerals                 |                          |
- 7:00 Dinner Buffet

March 30<sup>th</sup>, 2017

6:30 A.M. Refractory Ceramics Division (RCD) Breakfast Meeting

8:15 Morning Technical Sessions  
Welcome and Introductions

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HarbisonWalker International

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8:30 **Invited Paper – 2016 Alfred W. Allen Award Winner**  
Reflections on Refractory Materials and Their Evaluation  
*Victor C. Pandolfelli – Federal University of São Carlos, Brazil*

9:30 Turning Reheat Furnace into Science  
*Yong Lee & Kurt Johnson – ArcelorMittal Steel Global R&D*

10:00 The Use of Heat Flow Analysis and Infrared Thermography for the Identification of Alternative Insulation Strategies  
*James G. Hemrick – Reno Refractories, Inc.*

10:30 Coffee Break

11:00 Refractories for Coal Boilers  
*Jeff Yakulis, Jeff Bogan, Josh Sayre & Corey Forster – HarbisonWalker International*

11:30 High Definition Imaging of Hot Refractory during Operating Conditions  
*Bill Porter – Bet-Ker America LLC*  
*Saku Kaukonen & Juha Roininen – Sapotech Oy, Finland*

12:00 Questions & Discussion  
Co-Program Coordinator

*Bill Davis*

HarbisonWalker International

*Josh Pelletier*

Kerneos, Inc.

12:30 St. Louis Section Officer Business Meeting

## REGISTRATION FORM

**Please select:**

- Pre-Registration Fee (Deadline March 25)     \$225.00
- On-Site Registration Fee     \$275.00
- Emeritus/Senior Fee     \$125.00
- Student Fee     \$50.00
- Exhibitor for Exposition (Table Top)     \$300.00  
**(Exhibitor cost does not include registration fee)**
- Lunch -  Chicken  Fish  Pasta/Vegetarian
- Dinner Buffet
- Guest for Dinner     \$40.00

*(Fill in below)*

NAME:
NAME ON BADGE:
COMPANY:
ADDRESS:
CITY/STATE/ZIP:
EMAIL:
TEL/FAX:

**METHOD OF PAYMENT**

CHARGE MY CARD: \$			
MC: <input type="checkbox"/>	VISA: <input type="checkbox"/>	AMEX: <input type="checkbox"/>	DISCOVER: <input type="checkbox"/>
CC#:			
EXP:		CVV:	
NAME ON CARD:			
SIGNATURE:			
ADDRESS:			
ZIP CODE for CC:			

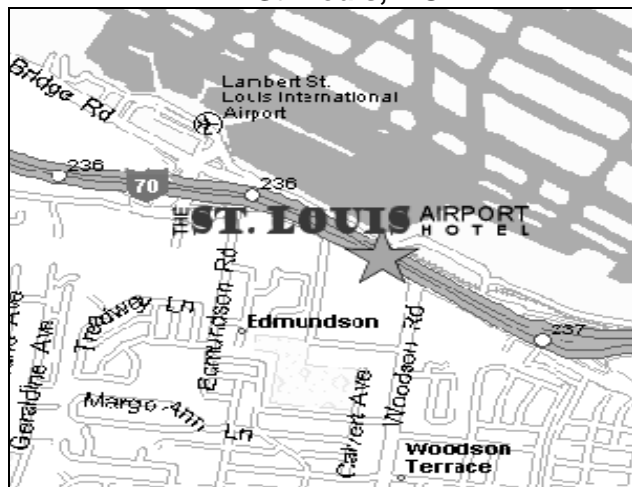
Company or Personal Check in U.S. Dollars  
**(Make checks payable to: St. Louis Section)**

Send To: Patty Smith  
 Missouri S&T  
 105 Straumanis-James Hall  
 401 W. 16<sup>th</sup> St.  
 Rolla, MO 65401  
 Tel (573) 341-6265  
 Fax (573) 341-2071  
 Email: psmith@mst.edu

**NOTE: Dress Attire – Semi Casual (Tie Optional)**

**LOCATION**

**Hilton St. Louis Airport Hotel**  
 10330 Natural Bridge Road  
 St. Louis, MO



A block of rooms has been set aside at the Hilton St. Louis Airport Hotel in St. Louis, MO for this meeting. Please refer to **Group Code SLC** at the Hilton when reserving a room for which the rate is \$110.00 single/double per night or you can reserve online. **Reservations must be made before March 8<sup>th</sup> 2017**

**HOTEL ACCOMMODATIONS**

Hilton Hotel (**Mar 8, 2017**)     (314) 426-5500

The web page address is:  
<http://www.hilton.com/en/hi/groups/personalized/S/STL/HHF-SLC-20170327/index.jhtml>

Hampton Inn     (314) 429-2000  
 Drury Inn     (314) 423-7700  
 Marriott Airport     (314) 423-9700