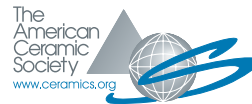




APRIL 7-9, 2014 | BALTIMORE, MD

Where Business and Manufacturing  
Meet Strategy

# 4<sup>TH</sup> CERAMIC LEADERSHIP SUMMIT



[www.ceramics.org/cls2014](http://www.ceramics.org/cls2014)

# Where Business and Manufacturing Meet Strategy

## MONDAY, APRIL 7, 2014

- 3 – 7 p.m. CLS Registration  
5 – 7 p.m. Welcome Reception and Networking Event

## TUESDAY, APRIL 8, 2014

- 7 a.m. – 6 p.m. CLS Registration  
8:30 – 9:30 a.m. Coffee  
9:30 – 10:55 a.m. **GENERAL SESSION: Business Climate Overview** – Jim Meil, Eaton; Katharine Frase, IBM Corporation  
11 – 11:45 a.m. **KEYNOTE ADDRESS: Strategic Open Innovation** – Andy Zynga, NineSigma  
11:45 a.m. – 1:15 p.m. Networking Lunch  
1:15 – 2 p.m. **GENERAL SESSION: Strategic Manufacturing: Sustainability** – Frank O'Brien-Bernini, Owens Corning  
2 – 3:30 p.m. **GENERAL SESSION: Strategic Manufacturing: Opportunities** – Al Lubrano, Materion Technical Materials and National Association of Manufacturers  
3:30 – 4 p.m. Coffee  
4 – 5:30 p.m. **GENERAL SESSION: Strategic Manufacturing: Workforce Development** – Eric H. Urruti, Schott North America; Lora Cooper Rothen, Du-Co Ceramics; R. Allen Kimel, Pennsylvania State University; and Wayne G. Butscher, Bio Technical Institute of Maryland, Inc.  
7 – 9 p.m. **CONFERENCE DINNER**

## WEDNESDAY, APRIL 9, 2014

- 7:30 a.m. – 4:30 pm. CLS Registration  
8:30 – 9:25 a.m. **GENERAL SESSION: Additive Manufacturing Technologies** – Greg Morris, GE Aviation

9:25 – 9:45 a.m.

9:45 – 11:40 a.m.

11:45 a.m. – 12:55 p.m.

1 – 2:55 p.m.

3:15 – 4:30 p.m.

## THURSDAY, APRIL 10, 2014

Optional Tour – **THE WALTERS ART MUSEUM**

Coffee

### CONCURRENT TRACKS

**Innovation Track** – Martin J. Curran, Corning Incorporated; Steven M. Ritchey, Thompson Coburn LLP

**Manufacturing and Workforce Sustainability Track** – Daniel E. Tipsord, Trans-Tech, Inc.; Bud Cass, Bud Cass Consulting LLC; Petra Mitchell, Catalyst Connection

Networking Lunch

### CONCURRENT TRACKS

**Innovation Track** – Anthony Nickens, Ceramtec, Inc.; Michael Silver, American Elements

**Manufacturing and Workforce Sustainability Track** – Richard Norment, National Council for Public-Private Partnerships; Richard K. Brow, Missouri University of Science & Technology

### WRAP-UP SESSION

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TUESDAY, APRIL 8, 2014

**BUSINESS CLIMATE OVERVIEW** | 9:30 – 10:55 A.M.

*CLS 2014 Introduction*

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



David W. Johnson

*Perspectives on Manufacturing: U.S. Competitiveness Today, and Prospects Ahead*

Speaker: **Jim Meil**, vice president, chief economist, Eaton

Commentary and opinions abound on an American manufacturing renaissance; the “reshoring” phenomenon; energy independence and what it implies for lowering domestic production costs; all suggesting the revival of a dormant U.S. manufacturing giant on the global stage. Amid claims and counter-claims, it’s hard to discern fact from hyperbole. Over the course of this presentation, we will examine the current competitive state of U.S. manufacturing, attempting an even-handed review of strengths and weaknesses. We will also look a little more deeply into sub-sectors and try to identify potential winners and losers. We will then engage in a crystal ball exercise, attempting to discern what the future may hold, based on the trends we see taking place today.



Jim Meil

*Technology Trends*

Speaker: **Katharine Frase**, vice president, CTO, Global Public Sector, IBM Corporation

It is difficult to remember a world in which our daily tasks and businesses were not dominated by technology, particularly communications and information technology. The rate and pace of change seems to accelerate, and we are bombarded by new sources of “data” and new gadgets every day. In this session we will explore how these technology trends can create new insights and intelligence, while managing operational risk, to transform how we conduct our business and make decisions every day.



Katharine Frase

KEYNOTE | 11 – 11:45 A.M.



Andy Zynga

*Strategic Open Innovation – Connecting with the Outside World to Advance Your Company’s Technology and Product Innovation*

Speaker: **Andy Zynga**, CEO, NineSigma

Open Innovation, also known as external or networked innovation, is focused on quickly finding technology solutions, reducing risk, and shortening time to market by leveraging resources that others have invested in developing. With a better understanding of “what is out there,” a company is able to combine external capabilities and solutions with internal innovation resources and become more effective and efficient at innovating. Zynga will share relevant examples of how companies have been able to use Open Innovation to create tangible value and will highlight the key learnings from thousands of projects done over the past 14 years.



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## STRATEGIC MANUFACTURING: SUSTAINABILITY, MANUFACTURING OPPORTUNITIES AND WORKFORCE DEVELOPMENT | 1:15 – 5:30 P.M.

1:15 – 2 p.m. | *Sustainability – The Path to Wealth Creation*

Speaker: **Frank O'Brien-Bernini**, vice president, chief sustainability officer, Owens Corning

The path to corporate success has always been about solving problems and developing new opportunities. In all cases, these solutions must create specific value for a particular customer. Similarly, in all cases, there is a social, environmental, and economic consequence beyond the direct relationship with that particular customer...either positive or negative. Sustainability, which is about meeting the needs of the present without compromising the world that we leave to the future, seeks to understand, account for, and ultimately maximize the net-positive impact of these complex relationships. As any product or process developer will confirm, it is a gift when a problem or opportunity is so well defined that creativity and innovation can emerge from a foundation of what's known. This is clearly the case for the global macro challenges of sustainability, whether considering climate, energy, emissions, solid waste, clean water, population, natural resource depletion, land use, food...these are clear and urgent challenges and, therefore, innovation opportunities that only corporations can solve at the scale needed...and that's why the world needs you/us to be successful. This discussion will include a look at how a commitment to sustainability will enhance product innovation and marketability, increase manufacturing efficiencies, reduce energy/resource consumption and environmental impact, increase profitability, and engage employees. Learnings will be shared in a practical synopsis of the four key sustainability business strategies of Owens Corning: (1) *Operations Sustainability*, (2) *Product and Supply Chain Sustainability*, (3) *Innovation and Collaboration to Deliver Energy Efficiency and Durable Material Solutions at Scale*, and (4) *Employee Safety, Health and Engagement and Community Vitality*.



Frank O'Brien-Bernini

2 – 3:30 p.m. | *Manufacturing in the United States of America...A Vehicle for National Economic Prosperity*

Speaker: **Al Lubrano**, president, Materion Technical Materials and chairman, National Association of Manufacturers's Small to Medium Manufacturers

Mr. Lubrano will highlight facts and figures on the manufacturing economy, jobs and what has transpired over the last 15 years. The effects of the "Great Recession" on manufacturing will be discussed. Structural costs and other related manufacturing encumbrances will also be addressed, as well as the roadmap for increasing manufacturing competitiveness in the United States.



Al Lubrano

4 – 5:30 p.m. | *Finding and Developing Engineering Talent*

Over the past 10-15 years, a move away from United States-based manufacturing resulted in a significant decrease in workforce with production skills. As manufacturing returns to the United States, the shortage of qualified candidates is an increasing problem. This session will feature four speakers with perspectives from both large and mid-size businesses, a university, and a technical training organization. The discussion will focus on how to reinforce and reinvigorate the manufacturing workforce with appropriate skills and knowledge, particularly for current ceramics and glass manufacturing needs. Ideas for pre-employment training, recruitment and in-house skill development will be explored in a presentation, opening remarks, and a structured Q&A from the audience.

Panel Members:



Eric Urruti



Wayne G. Butscher



R. Allen Kimel



Lora Cooper Rothen

**Eric Urruti**, vice president, research & technology development, SCHOTT NA

**Wayne G. Butscher**, director, BioSTART and Lab Associates Program, BioTechnical Institute of Maryland, Inc.

**R. Allen Kimel**, assistant professor and associate head for Undergraduate Studies, Pennsylvania State University

**Lora Cooper Rothen**, CEO, Du-Co Ceramics Company

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WEDNESDAY, APRIL 9, 2014

## STRATEGIC MANUFACTURING: ADDITIVE MANUFACTURING TECHNOLOGIES

8:30 – 9:25 a.m. | *Additive Manufacturing Technologies*

Speaker: **Greg Morris**, lead, strategy and business development for additive technologies, GE Aviation

Over the course of the past few years, there has been an increasing amount of interest in additive manufacturing/3D printing with much press coverage. Although additive manufacturing can be considered a 'disruptive technology' in many ways, it is still a relatively young technology that is just beginning to demonstrate the promise of changing how we think about manufacturing certain components. In this session, a high-level overview of the various technologies will be discussed, applications of the technologies will be covered and a review of how GE is leveraging the technology to innovate and accelerate their product introductions will be covered and explored.



Greg Morris



## INNOVATION TRACK | 9:45 A.M. – 2:55 P.M.

Track Leader and Moderator: **Christine Heckle**, Corning Incorporated



Martin J. Curran

9:45 – 10:40 a.m. | *Innovation Strategies to Leverage Your Business*

Speaker: **Martin J. Curran**, executive vice president, innovation officer, Corning Incorporated

Innovation converts inventions into dollars. Successful innovation takes great inventions, rigorous processes, talented scientists, commercial leaders and the “right” customers. Many technology companies employ a gated approach to commercialize inventions while optimizing resource deployment. Corning Incorporated has been innovating for more than 160 years and is well known for inventions such as Thomas Edison’s light bulb, ceramic substrates for diesel engines, optical fiber for telecommunications and Corning® Gorilla® Glass for consumer electronics. While Corning uses a five stage innovation process for most of its programs, it also uses an “agile innovation process” for selected projects. Mr. Curran, executive vice president and innovation officer of Corning, will talk about “agile innovation” and how Corning uses it strategically to advance new innovations with key customers.



Steven M. Ritchey

10:45 – 11:40 a.m. | *Patent Law in 2014: Act fast or get left behind*

Speaker: **Steven M. Ritchey**, partner, Thompson Coburn LLP

The 2011 America Invents Act was arguably the most significant change to U.S. patent law in more than 200 years. Join Thompson Coburn intellectual property partner Steve Ritchey for a look at the changes wrought by the AIA and other recent patent law developments. He’ll explain how innovators are responding and detail the strategies you can employ to take advantage of the new patent landscape. How much do you have to disclose about your innovation? Why it more problematic than ever to discuss your invention publically before filing for a patent? This session will answer these questions, cover patent fundamentals and coach you on the roadblocks and shortcuts you may encounter on the post-AIA “race” to the patent office.

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1 – 1:55 p.m. | *Ecosystem Approach to Disruptive Innovation*

Speaker: **Anthony Nickens**, vice president, energy and new business, Ceramatec, Inc.

Disruptive innovation is an overused word in today's corporate America. Generating disruptive ideas and following through to ultimate commercialization of those is a daunting task to say the least. Since the challenge is so large and risks are high, many companies practice incremental innovation typically orchestrated in the stage gate or similar processes. But are these companies missing the opportunity to revolutionize their industries and significantly grow their businesses? Often times, core capabilities become core rigidities thereby preventing any out-of-the-box successes. Innovation challenges have become complex and disruptive solutions may exist only in the white space, generally considered outside of the sphere of influence of any given corporation. The talk will focus upon key ingredients and enablers to commercialize disruptive technologies. These enablers include the six "P"s: People, Passion, Persistence, Patience, Partners and Pesos. Nickens will "peel back the onion" on each of these "Ps" and highlight how Ceramatec generates innovative ideas and works with strategic partners to commercialize these ideas. The talk will include specific examples of past successes and lessons learned.



Anthony Nickens

2 – 2:55 p.m. | *Material Sourcing Challenges and Strategies*

Speaker: **Michael Silver**, CEO, American Elements

Today it is a constant refrain that the only way to rebuild middle class jobs in America is through new cutting edge innovation. It is said America simply needs to get back in the business of making things. While much of this is true, innovation is only the starting point. To manufacture the products flowing from great ideas, a nation must also have access to the critical materials on which the discoveries are based. The innovations of the 21st century will require massive amounts of advanced metals that are very different from those that mattered in the 20th century; metals often controlled by a single nation. Mr. Silver will explain how the growing power of these sovereign monopolies will impact high technology manufacturing in both developed and emerging nations in the 21st Century.



Michael Silver

## MANUFACTURING AND WORKFORCE SUSTAINABILITY TRACK | 9:45 – 11:40 A.M.

Track Leader and Moderator: **Lora Cooper Rothen**, Du-Co Ceramics Company

9:45 – 10:40 a.m. | *Global Manufacturing Panel Discussion*



Daniel E. Tipsord

Speaker: **Daniel E. Tipsord**, director of engineering, Trans-Tech, Inc, a subsidiary of Skyworks Solutions, Inc  
**Maximizing the Benefit of Manufacturing Outside the U.S. While Protecting Intellectual Property**

Today's ceramic manufacturing environment finds many companies employing manufacturing outside the U.S. to remain cost-competitive and to better serve their customers. However, the risk of losing valuable intellectual property is rarely acceptable and must be addressed by technology companies wishing to explore the possibilities afforded outside the U.S. This talk posits that manufacturing outside the U.S. is not an all or nothing proposition. Operations do not necessarily need to be moved outside the U.S. in their entirety to still benefit the company and its customers. A well constructed manufacturing plan can allow for high intellectual property processes and materials to remain protected while transferring low risk operations to others.



Bud Cass

Speaker: **Bud Cass**, managing member, Bud Cass Consulting LLC, and former president and chairman, Advanced Cerametrics (ACI)

**The Plusses and Minuses of Expanding Outside of the U.S. Where? Why? And When?**

Locating an off-shore operation is attractive for many reasons, such as lax laws, cheap labor or proximity to customers. Once the logistics of locating in a foreign locale are completely vetted and the plusses outweigh the minuses, the underlying issues need to be looked at thoroughly before making the decision. It's important to understand that if you are not in the U.S., you will not be covered by U.S. laws. You will not be able to locate employees with similar labor skills or ethics and the political/cultural environment generally has a significant influence on your profitability. I will relate first-hand experience and make suggestions of what to expect, where to look and who should take the risk.

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10:45 – 11:40 a.m. | *The Resurgence of Manufacturing, Including Four Trends You Should Not Ignore*

Speaker: **Petra Mitchell**, president, CEO, Catalyst Connection

Mitchell will provide an overview of the macro-economic metrics associated with manufacturing in the United States and in southwestern Pennsylvania, and an introduction to a national resource for manufacturing called the Manufacturing Extension Partnership (MEP). She will then cover four trends that anyone working in or supporting manufacturing should consider, including shale gas, innovation management, additive manufacturing and social media. While appearing to be random trends, they are actually highly inter-related, which Petra will discuss.



Petra Mitchell

### YOUNG PROFESSIONAL PROGRAM

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. YPs may qualify for a special rate.

Contact Megan Bricker at [mbricker@ceramics.org](mailto:mbricker@ceramics.org) for special pricing information and to nominate a young professional.

### THE WALTERS ART MUSEUM



(Courtesy of the Walters Art Museum, Baltimore)

CLS attendees will have the option of taking a tour of the Walters Art Museum, which is about 1 mile from the hotel. In addition to the museum's Science Lab, visitors may tour Ikebana, an exhibit of contemporary Japanese vases and flowers

## MANUFACTURING AND WORKFORCE SUSTAINABILITY | 1 – 2:55 P.M.

Track Leader and Moderator: **Richard Weber**, Materials Development, Inc.



Richard Norment

1 – 1:55 p.m. | *Public – Private Partnerships To Build a Competitive Workforce*

Speaker: **Richard Norment**, executive director, National Council for Public-Private Partnerships

Manufacturers face challenges in recruiting competent people for a wide range of positions, but particularly for skilled individuals for the production level of operations. Today's manufacturing technologies require people with the necessary math and language skills, often difficult to find in the current local labor pool. This presentation will discuss the use of partnerships with public and private educational institutions, beyond philanthropic contributions, to help develop those critical resources and relevant skills. Providing both 'in-kind' and 'shared resource' assistance will be outlined, with examples of how this has already worked for a number of companies.



Richard K. Brow

2 – 2:55 p.m. | *A New Role for The American Ceramic Society: Educating Engineers Before and After that First Job*

Speaker: **Richard K. Brow**, Curators' Professor of Ceramic Engineering, Missouri University of Science & Technology

The traditional ceramic engineering curriculum differs from a typical materials science and engineering curriculum in many ways, including the number of courses devoted to ceramic materials and the applications of traditional ceramic engineering tools, like phase diagrams. Ceramic-related industries that hire new engineers may prefer skills or experiences that are no longer offered in typical MSE programs. The American Ceramic Society has recently created the Ceramic and Glass Industry Foundation (CGIF) to work with universities to develop those skills in undergraduate programs and to help train engineers already in the workforce. The CGIF model will be described and discussions of the key roles played by industry, academia and ACerS will be encouraged.

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## MODERATORS PANEL – REVIEW AND NEXT STEPS | 3:15 – 4:30 P.M.

The Ceramic Leadership Summit moderator will provide a summary on main points from the first day general sessions. A moderator from each of the concurrent tracks (Innovation and Manufacturing and Workforce Sustainability) will provide a summary of major discussions and conclusions in these sessions. In addition, questions and comments from the audience will be considered, including what are next steps for ACerS to address some of the key points raised.

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



## REGISTRATION INFORMATION

	EARLY REG ON/BEFORE MARCH 7, 2014	AFTER MARCH 7, 2014
Member	\$525	\$675
Member plus 12 month membership renewal	\$645	\$795
Nonmember (includes one year of ACerS Membership)	\$645	\$795
Emeritus/ACerS Senior Member	\$425	\$575
Future Leaders Program Attendee (Invitation Only)*	\$425	\$575
Material Advantage Student Member	\$195	\$270
Student: Not in Material Advantage	\$235	\$310
Spouse/Companion**	\$75	\$75

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

\*ACerS member who is under 40 years old and in the first 10 years of professional career.

\*\*Spouse/Companion includes only welcome reception and conference dinner.

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## HOTEL INFORMATION

### Sheraton Inner Harbor

300 S Charles St, Baltimore, MD 21201  
(410) 962-8300

### Room Rates

\$179 plus tax - Single/Double/Triple/Quad  
\$147 plus tax - Government

Cut-off Date: February 28, 2014

Make reservations online at [www.ceramics.org/cls2014](http://www.ceramics.org/cls2014).

When making a reservation by phone, mention The American Ceramic Society room block to secure your reservation at the conference rate.

