



Conference on Glass Problems

October 1-3, 2012 • Hilton Cincinnati Netherland Plaza • Cincinnati, Oh

Welcome to the 73rd Conference on Glass Problems (GPC). This year's program brings some fresh changes, while continuing to provide high-value technical content to the glass manufacturing industry. Last year, the Ohio State University ended its history of organizing the conference. The Glass Manufacturing Industry Council (GMIC), as the trade association representing the industry, stepped in to provide its resources and ensure the continuing success of the conference. Together with the GPC advisory board, GMIC invited Alfred University to co-organize the conference going forward. This combination of leadership from the glass industry's leading all-segment trade association and a leading US university in glass science, education, research, and outreach, provides a solid foundation for the future of this important conference.

We extend our gratitude to the GPC advisory board members, who have tirelessly worked this past year to assemble an impressive faculty and program. We are pleased to offer a diverse program covering topics in the areas of glass melting, furnace design, refractories, raw materials, energy efficiency, and many other topics material to the business of manufacturing glass products. For the first time, the conference has grown to offer split sessions to accommodate limited contributed papers, in addition to largely invited papers from experts, a historic precedence of this conference. We are also experiencing growth in the number of short courses offered and industry participation, as the attendance has continued to increase each year.

We recognize that the value of a good conference does not come from lectures and courses alone. The real value comes from providing a forum for the exchange of ideas, enabling networking, and expanding potential collaborations among the participants. While other glass shows offer exhibiting opportunities or delve into research topics, we believe the 73rd GPC offers the best balance of trade show and technical content of any North American conference. Our tabletop exhibition has grown considerably. In addition, we continue to offer over 11 hours of hospitality suite networking time. We appreciate the participation of the industry's leading solutions providers in these events. Also new this year, we have moved to a venue that permits all events to take place in one location, enhancing the networking opportunities.

*The 73rd GPC is a historic, yet dynamic and exciting conference, taking place in a vibrant American city, representing a vigorous and resilient glass industry. The conference provides knowledge and tools you can use throughout the year, serving as an indispensable resource to the glass manufacturing industry. We believe you will find The 73rd GPC a valuable and rewarding experience. **Register by August 31st to save!***



Robert Weisenburger Lipetz, MBA
Conference Director
Glass Manufacturing Industry Council



S. K. Sundaram, PhD
Program Director
Alfred University

REGISTRATION

Visit www.glassproblemsconference.org to sign up for the 73rd GPC. To register by phone, contact Customer Service at 866-721-3322 or +1 240-646-7054 (outside the US). You may add a short course to your registration, or you may sign up for only a short course. **Register by August 31st to save!**

	On or Before August 31, 2012	After August 31, 2012
General	\$475	\$500
GMIC Member	\$425	\$450
Retired	\$275	\$275
Student	\$0	\$0

HOTEL

Hilton Cincinnati Netherland Plaza
35 West Fifth St., Cincinnati, OH 45202
513-421-9100

Visit www.glassproblemsconference.org to reserve your room online. To make reservations by phone, mention The 73rd GPC room block.

Rate: \$147 – Single/double/triple/quad

Student Rate – \$110 (Must reserve by phone and present valid ID at check-in)

Cut-off Date – September 4, 2012



SHORT COURSES

Design of Experiments Simplified

Monday, October 1, 2012 | 8 to 11 a.m.

Instructor: **Mark J. Anderson**, Principal, Stat-Ease, Inc.

This presentation, based on the popular two-part book series by Mark Anderson and Pat Whitcomb, provides a fast-paced overview of statistical tools for screening and optimization of process factors and product ingredients. Participants will learn how these multifactor methods can quickly lead to sweet spots—ideal settings for process factors and/or recipes for mixture components.

Regenerator Design, Application and Solutions

Monday, October 1, 2012 | 8 to 11:30 a.m.

Instructors: **Goetz Heilemann**, Sales Director, Glass Americas;

Matthew Wheeler, Technical Marketing Manager- Glass, RHI US Ltd.

This short course is intended to give glass furnace engineers, operators, and designers a broad understanding behind the theory of glass furnace regenerator efficiency and design practices. Temperature and chemical reactions that can occur within the regenerator will be explained with a discussion of refractory material solutions available to glass manufacturing companies. Included in the discussion will be material and design solutions to construct the regenerator walls and superstructure as well as an overview of checker selection and design.

PROGRAM SCHEDULE

Monday, October 1, 2012

- 4 to 5 p.m. GMIC Member Meeting
5 to 6 p.m. Advisory Board Meeting
5 to 11 p.m. Hospitality Suites
6 to 7:30 p.m. Advisory Board Dinner

Tuesday, October 2, 2012

- 8 to 9 a.m. Exhibiting
9 to 12 p.m. Plenary Session—Glass Melting, Session Chairs: **Glenn Neff**, Glass Service and **Martin Goller**, Corning Incorporated
9 to 9:30 a.m. **Hans van Limpt**, CelSian Glass and Solar B.V., The Netherlands, *Energy Recovery from Waste Heat in the Glass Industry and Thermo Chemical Recuperator*
9:30 to 10 a.m. **Monny Sklov**, Chief Executive Officer, Aegina GlassWorks, *Melting and Manufacturing Glass Using Microwave Energy*
10 to 10:30 a.m. Exhibiting
10:30 to 11 a.m. **William M. Carty**, CSL Materials, LLC, *Controlling the Raw Material Reaction Paths During Melting of Commercial Glass Compositions*
11 to 11:30 a.m. **Takayuki Fujimoto**, Deputy Manager, Taiyo Nippon Sanso Corporation, *Development of DFC (Direct Fusion Combustion) using Oxy-Fuel Burner*
11:30 a.m. to 12 p.m. **Oleg A. Prokhorenko**, Chief Scientist and Director, L. G. P. International, LLC, *Search for New High-Performance Glasses*
12 to 1:30 p.m. Lunch
12 to 1:30 p.m. Exhibiting
Split Session
1:30 to 4 p.m. Melting, Raw Materials, Batch Reactions, and Recycling, Session Chairs: **Phil Tucker**, Johns Manville and **Elanor Steffee**, Rio Tinto Materials
1:30 to 2 p.m. **Igor Piore**, Director of Graduate Program, Professor, Faculty of Energy Systems and Nuclear Science University of Ontario Institute of Technology, *Advanced Melting Technologies with Submerged Combustion*
2 to 2:30 p.m. **Peter Wray**, Director of Communications, The American Ceramic Society, *Critical and Strategic Materials: An Update and Survey of Developments in Last Biennium*

- 2:30 to 3 p.m. **Andrew Zamurs**, Development Specialist, Rio Tinto Minerals, *The Influence of Borate Raw Material Choice on the Glass Manufacturing Process*
3 to 3:30 p.m. **Lazaro Alejandro Lopez Ramirez**, Senior Principal Industry Engineer-Glass Segment, Cryoinfra, S.A. de C.V., *A Review of Oxygen Application Technologies for Melting Glass*
3:30 to 4 p.m. **David Boothe**, President, Allstates Refractory Contractors, LLC (also representing Bock Energietechnik, Germany), *Electrical Heating Systems for Melting Tanks, Forehearths and Feeders*
Split Session
1:30 to 4 p.m. Coatings, Strengthening, and Other Topics, Session Chairs: **Jack Miles**, H.C. Stark and **Martin Goller**, Corning Incorporated
1:30 to 2 p.m. **David Haskins**, Research Associate PPG Industries, Inc., *Color Control of Glass and Multi-Layer Sputtered Coatings on Glass*
2 to 2:30 p.m. **H. P. H. Muijsenberg**, Vice President, Glass Service Inc., *A Furnace Combustion System Conversion During Operation Shows How Flame Geometry Improvement and Excess Air Control Contributes to Fuel Savings*
2:30 to 3 p.m. **Steven Brown**, Principal Mechanical Engineer, Emhart Glass Manufacturing, Inc., *Hard Glass: Thermal Strengthening of Container Glass*
3 to 3:30 p.m. **Charles J. Cocagne**, Recent Additions, Inc., *Effects of Glass Coatings On the Glass Tempering Process*
3:30 p.m. to 4 p.m. **Robert Weisenburger Lipetz**, Executive Director, GMIC, *The Usable Glass Strength Coalition Initiative to Provide Industry Funding for Fundamental Research in Glass Strength*
4 p.m. to 5:30 p.m. Exhibiting
6 p.m. to 11 p.m. Hospitality Suites



Fundamentals of Batch and Furnace Operation

Monday, October 1, 2012 | Noon to 4 p.m.

Instructor: **C. Philip Ross**, President, Glass Industry Consulting International (GICI)

The course is an introduction to the principles of commercial glass production employed in Batch & Furnace operations in US Glass producers. Suggested attendees could be vendors or newer individuals to glass manufacturing seeking an introduction to the issues faced in glass production.

Fining Processes & Oxidation-Reduction Reactions in Glass Melts

Monday, October 1, 2012 | 1 to 5 p.m.

Instructor: **Ruud Beerkens**, General Advisor, CelSian Glass and Solar B.V., Eindhoven, The Netherlands

The course explains the mechanism of the different stages of gas bubble removal from molten glass. The bubble growth, bubble ascension and stripping of dissolved gases from molten glass will be discussed. Fining processes are governed by diffusion of gases in melt, but also production/absorption of gas species by redox reactions in molten glass play an important roles.

Register now at www.glassproblemsconference.org

Wednesday, October 3, 2012

- 8 to 9 a.m. Exhibiting
- 9 a.m. to 10 a.m. Plenary Session—Refractories, Session Chairs: **Matthew Wheeler**, RHI US LTD and **Thomas Dankert**, O-I
- 9 a.m. 9:30 a.m. **Amul Gupta**, Research and Development Manager, Fused Cast Products, RHI Monofrax, *Performance of Fusion-cast and Bonded Refractories in Glass Contact Application*
- 9:30 to 10 a.m. **Matthias Lindig**, Research and Development Manager, Nikolaus Sorg GmbH & Co. KG, *Energy Savings and Furnace Design*
- 10 to 10:30 a.m. Exhibiting
- 10:30 to 12 p.m. Plenary Session—Refractories, Session Chairs: **Warren Curtis**, PPG Industries and **Elmer Sperry**, Libbey
- 10:30 to 11 a.m. **Julien P. Fourcade**, Saint-Gobain NWRDC, *New Tin Oxide Electrodes for Glass Melting*
- 11 to 11:30 a.m. **Yakup Bayram**, Chief Executive Officer, PaneraTech, Inc., *Structural Health Monitoring of Furnace Walls*
- 11:30 a.m. to 12 p.m. **Cyril Linnot**, Development Manager, Saint-Gobain SEFPRO, *New Cast-In-Place SEFPRO Refractory Solution to Extend Sodalime Glass Furnace Life*
- 12 to 1:30 p.m. Lunch
- 12 to 1:30 p.m. Exhibiting
- 1:30 to 4 p.m. Plenary Session—Process Control and Modeling, Session Chairs: **Bruno Purnode** and **Larry McCloskey**
- 1:30 to 2 p.m. **Byron L. Bemis**, Senior Research Associate, Owens Corning Science and Technology, *Three Dimensional Non-isothermal Pendant Drops of Molten Glass, Part 1*
- 2 to 2:30 p.m. **H.P.H. Muijsenberg**, Vice President, Glass Service, *Modeling of the Glass Melting Processes An International Commission on Glass Presentation on How Reliable and Validated Simulation Tools Can Help to Improve the Glass Melting Efficiency and Productivity*
- 2:30 to 3 p.m. **Andries Habraken**, B.Asc., CelSian Glass & Solar B.V., *Proper Modeling of Radiative Heat Transfer in Ultra-Clear Glass Melts*
- 3 to 3:30 p.m. **Sarath Tennakoon**, Principal Engineer, Emhart Glass Manufacturing Inc., *Novel Method for Stress Inspection of Tempered or Thermally Strengthened Glass*
- 3:30 to 4 p.m. **Manoj Choudhary**, Vice President, International Commission on Glass, Owens-Corning Science & Technology, *The International Commission on Glass (ICG)*

20 STUDENT TRAVEL GRANTS AVAILABLE

Graduate and undergraduate students are encouraged to apply for one of the 20 travel grants available for the 73rd GPC. Each grant consists of \$850 in travel funds, plus complimentary student registration. Applying is easy.

- Submit a 1-2 page CV
- Submit a statement describing how the conference will benefit you

Email Donna Banks at dbanks@gmic.org by September 21, 2012.

Awardees will be notified by September 28, 2012. Checks will be mailed directly to the awardee in October, upon verification of conference attendance.



register
now

Sign up by August 31st to save
www.glassproblemsconference.org

