



International Materials
Institute for
New Functionality in Glass



International Workshop on Glass for Harvesting, Storage & Efficient Usage of Solar

identify and discuss scientific and
engineering challenges for future
glass,

*Sheraton Station Square Hotel,
Pittsburgh, PA*

Workshop Website:

www.lehigh.edu/imi/SolarWorkshop.htm

Monday, November 17

- 7:00 am - 8:00 am **Breakfast - Reflections**
- 8:00 am - 8:30 am Welcome and Opening Remarks – *Grand Station I*
- Welcome: Bruce Koel, VP Research, Lehigh University
 Remarks: Maureen Guttmann – State of Pennsylvania, DEP
- 8:30 am - 10:00 am Technical Session I – **Steve Martin, Iowa State, Session Chair**
- “Solar Market Impact on the Glass Industry”**, Jim West, Energy Products Marketing Director, Guardian Industries
 “Challenges for the Glass Industry to Enable Solar PV”, Romain Beau de Lomenie, Director of Module Materials Management, Thin Film Products, Solar Business Group, Applied Materials
 “Needs and Opportunities for Glass in the US DOE Solar Technology Program”, John Lushetsky, Program Manager, Solar Energy Technologies, U.S. Department of Energy
- 10:00 am - 10:30 am **Coffee Break – Grand Station I**
- 10.30 am – 11.00 am Technical Session I – contd. – *Grand Station I*
- “Requirements on Glass for PV and the Potential of Specialty Glasses”**, Jochen Alkemper, Senior Manager, Material Development, Schott Glass, Germany
- 11.00 am – noon **Breakout Hour I: Group 1 and 2 - Grand Station I**
 Group 3 and 4 - Grand Station III
- Group Photo**
- Noon - 1:30 pm Special Lecture & **Buffet Luncheon - Reflections**
- “Materials Research and Education at DMR: Looking Back, Racing Forward”**, Carmen Huber, National Science Foundation, Executive Officer, Division of Materials Research

Mission

Int'l Network - Advisory

Boards:

- US
- International
- Industry**

Focus, coordinate and promote educational and research activities across the globe to introduce new functionality in glass

Education:

- Internet courses
- Video modules
- Int'l school**
- Hands-on
- Demos

Research:

- Int'l exchanges
- Int'l Conf Travel Scholarship**
- Faculty sabbatical

Functionality driven symposia & workshops:

- Key scientific issues**
- Strength
- Optical
- Cross-disciplinary



NSF's International Materials Institute (IMI) for *New Functionality in Glasses*

A world map with a blue grid background. Six colored rectangular callouts are overlaid on the map, each containing text. The callouts are: a yellow one over North America, a green one over South America, an orange one over Europe, a purple one over Asia, a cyan one over Australia, and a brown one over Africa.

Glassy meta-materials

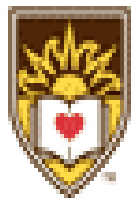
Ionic functionality

Optical functionality

Biofunctionality

Functional coatings

Glasses engineered for strength



LEHIGH
UNIVERSITY



華東理工大學
East China University
of Science & Technology

Global Connections



Glass Frits for Use in Ag Thick-film Pastes for Si Solar Cells

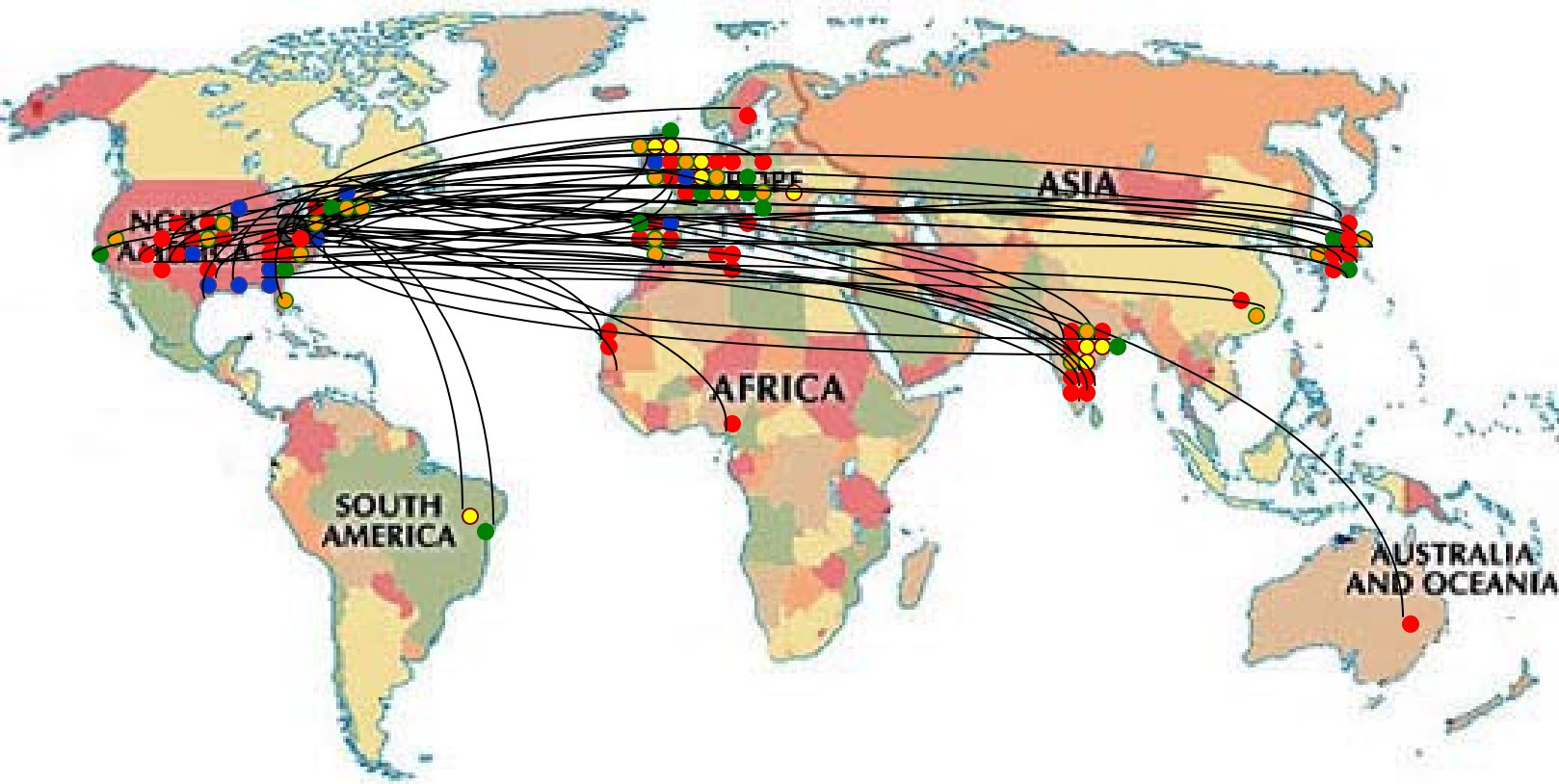
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IMI-NFG's global network



- Research Exchanges
- International Conference Travel Scholarships
- Research Experience for Undergraduates
- Board of Advisors
- Tutorial Lecturers
- Lehigh University and Penn State University

USA+29 Countries

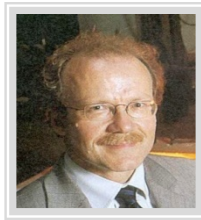


New Functionality thru Partnership with Industry

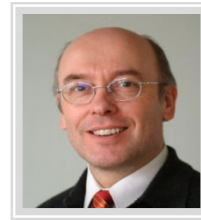
- ❖ Industry Advisory Board: Leaders of Glass Industry
- ❖ Support for international exchange of scholars



David Morse
Vice President, Corporate R & D
Corning Incorporated, USA



Herve Arribart
Scientific Director
Saint Gobain, France



Roland Langfeld
Vice President, Corporate R & D
Schott, Germany



Setsuro Ito
Senior Fellow
Asahi Glass Company,
Japan



Michael Greenman
Executive Director
Glass Manufacturing Industry Council,
USA



Mehran Arbab
Director, Glass R & D
PPG Industries, USA



Shigeru Yamamoto
Director & Senior Vice President
Nippon Electric Glass, Japan

