

8TH PACIFIC RIM CONFERENCE ON CERAMIC AND GLASS TECHNOLOGY

Includes the 2009 Annual Meeting of the International Commission on Glass (ICG)



May 31 – June 5, 2009
Hyatt Regency Vancouver
Vancouver, British Columbia, Canada

www.ceramics.org/pacrim8

Call for Papers!
Abstract Deadline: November 3, 2008

Make your plans to participate in this conference which explores the latest issues facing the ceramic and glass technology community. Present your work to colleagues and join the global discussion with leading PACRIM experts. Submit your 150-word abstract today at www.ceramics.org/pacrim8.

Endorsed by:

The Australian Ceramic Society
The Ceramic Society of Japan
The Chinese Ceramic Society
The Korean Ceramic Society

Organized and Sponsored by:





A World of Science and Technology

Introduction

The forthcoming Pacific Rim Conference on Ceramic and Glass Technology in Vancouver, is the eighth in a series of international conferences that provide a forum for the presentations and information exchange on emerging ceramic and glass technologies. The conference series began in 1993 and was last held in 2007 in Shanghai, China, under the organization of the Chinese Ceramic Society and the Shanghai Institute of Ceramics, Chinese Academy of Sciences. Prior to this, The American Ceramic Society (ACerS) organized PACRIM 6 in 2005 in Maui, Hawaii. Over the years, PACRIM conferences have established a strong reputation for state-of-the-art presentations, information exchange on the latest emerging technologies and facilitating global dialogue and discussion with leading world experts.

PACRIM 8 is organized into eight major thematic areas and 27 symposia. A plenary session entitled "Global Megatrends: Challenges and Opportunities for Ceramics" is also planned. The technical program of PACRIM 8 covers wide ranging topics and identifies global challenges and opportunities for various ceramic technologies. The program will generate important discussion on where the particular field is heading on a global scale. It will also provide a forum for knowledge sharing and the opportunity to make new contacts with peers from different continents.

I am excited to have very active and strong participation of the International Commission on Glass (ICG), as well as the Glass and Optical Materials, Basic Science, Engineering Ceramics, and Nuclear & Environmental Technology divisions of The American Ceramic Society.

An International Fulrath Symposium on the role of new ceramic technologies for a sustainable society is planned. This symposium is organized in honor of Professors Noboru Ichinose and Richard C. Bradt, who have made tremendous contributions to the Richard M. Fulrath award program and tirelessly promoted the friendship among Japanese and U.S. researchers.

I would like to invite all of you to take advantage of this opportunity to visit the great city of Vancouver and actively participate in this conference. This conference provides an excellent forum for interactions and friendships with participants from various continents, who are involved in research, development, engineering, manufacturing, and the application of ceramic materials.

I look forward to your participation in PACRIM 8 in Vancouver, Canada.

Mrityunjay Singh
Chairman, PACRIM 8
Ohio Aerospace Institute
NASA Glenn Research Center
Cleveland, OH (USA)
Tel: 216-433-8883
Email: mrityunjay.singh-1@nasa.gov



Abstract Submission Instructions

Visit the meeting website at www.ceramics.org/pacrim8 to review the session topics and select the "Submit Abstract" hyperlink to be directed to the Abstract Central website. Follow the prompts to create an account and submit your abstract online.

Please note that your member login and password will not work on this website. You will need to set up a new account login and password for the Abstract Central website. If you have questions, please contact Marilyn Stoltz at mstoltz@ceramics.org or 614-794-5868.

Complete program details can be found at www.ceramics.org/pacrim8.

Technical Program

Multi-Scale Modeling and Simulation

Symposium 1: Design, Modeling, and Simulation of Ceramic Interfaces

Proposed Session Topics

- High Toughness and Fracture Resistant Ceramics at Room Temperature
- Corrosion Resistant Ceramics
- Creep Resistant Ceramics at High Temperatures
- Enhanced Grain Boundary Sliding and Ductility in Superplastic Ceramics
- Optical Transmission in Transparent Ceramics
- Enhanced Thermal Transport
- Electronic Conduction Across/Along Grain Boundaries for Semiconductors, Superconductors
- Enhanced Grain Boundary Ionic Conductivity in Electrolytes
- Magnetism and Colossal Magnetoresistance
- Materials with Minimal Dielectric Loss

Symposium Organizers

Martha Mecartney, University of California–Irvine, USA
Omer van der Biest, Katholieke Universiteit Leuven, Belgium
Catherine M. Bishop, University of Canterbury, New Zealand

Symposium Organizers (Continued)

John Drennan, University of Queensland, Australia
Yuichi Ikuhara, University of Tokyo, Japan
Suk-Joong L. Kang, KAIST, Korea
Yung-Jen Lin, Tatung University, Taiwan
Xiuliang Ma, Shenyang, National Laboratory for Material Science, Chinese Academy of Sciences, China
Jose S. Moya, Instituto de Ciencias de Materiales de Madrid, Spain
Izabela Szlufarska, University of Wisconsin-Madison, USA
Suleyman Tekeli, Gazi University, Turkey
Yanchun Zhou, Institute of Metal Research, Chinese Academy of Sciences, China

Point of Contact

Martha Mecartney
Department of Chemical Engineering and Materials Science
University of California-Irvine, USA
Tel: 949-824-2919; Email: martham@uci.edu

Symposium 2: Computational Approaches in Materials Research and Design

Proposed Session Topics

- Computer Simulation/Prediction of Crystal and Electronic Structure
- Computer Simulation of Phase Diagrams and Phase Stability
- Modeling of Defects and Related Properties
- Optimization of Electrical, Optical and Mechanical Properties
- Improvement of the Performance of Ceramics and Composites
- Design of New Ceramics
- Application of Novel Computational Methods for Processing

Symposium Organizers

Yanchun Zhou, Institute of Metal Research, Chinese Academy of Sciences, China
Isao Tanaka, Kyoto University, Japan
Wai-Yim Ching, University of Missouri-Kansas City, USA
Denis Music, Aachen University, Germany

Points of Contact

Yanchun Zhou
Institute of Metal Research, Chinese Academy of Sciences, China
Tel: +86-24-23971765; Email: yczhou@imr.ac.cn
Isao Tanaka
Kyoto University, Japan
Tel : +81-75-753-5465
Email: isao.tanaka@materials.mbox.media.kyoto-u.ac.jp

Innovative Processing and Manufacturing

Symposium 3: Novel, Green, and Strategic Processing and Manufacturing Technologies

Proposed Session Topics

- Green Manufacturing: Global Environmental Issues and Standards
- Alternative Manufacturing Processes with Lower Environmental Burden
- Nanotechnology for Environmental Remediation and Protection
- Energy Efficient Processing
- Education and Learning in Sustainable Materials Processing
- Ecological Binder and Slurry Technologies
- Strategic Materials: Processing and Manufacturing Technologies
- Alternatives for Rare Metals and Materials
- Room/Low-Temperature Synthesis
- Aqueous Synthesis and Processing, Colloidal Processing
- Rapid Prototyping, Patterning, Templates and Self Assembly
- Large Scale/Complicated Shape Processing
- Advanced Composite Manufacturing Technologies, Hybrid Processes

Symposium Organizers

Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST), Japan
Juergen G. Heinrich, Clausthal University of Technology, Germany
Dongliang Jiang, Shanghai Institute of Ceramics, China
Takashi Goto, Tohoku University, Japan
Richard D. Sisson, Jr., Worcester Polytechnic Institute, MA
Junichi Tatami, Yokohama National University, Japan

Point of Contact

Tatsuki Ohji
 National Institute of Advanced Industrial Science and Technology (AIST), Japan
 Tel: +81-052-736-7096; Email: t-ohji@aist.go.jp

Symposium 4: Polymer Derived Ceramics and Composites

Proposed Session Topics

- Synthesis of Novel Pre ceramic Polymers
- Investigation of the Nanostructure of Polymer-Derived-Ceramics
- Characterization of Various Properties
- Advanced and Innovative Polymer-to-Ceramic Conversion Methods
- Advanced and Innovative Fabrication Processes
- Polymer Derived Ceramic Matrix Composites
- Advances in High Performance Ceramic Fibers
- Application of PDCs in Various Engineering Fields

Points of Contact

Paolo Colombo
 Department of Mechanical Engineering, University of Padova, Italy
 Tel: +39-049-827-5825; Email: paolo.colombo@unipd.it

Rishi Raj
 Department of Mechanical Engineering, University of Colorado, USA
 Tel: 303-492-1029; Email: Rishi.Raj@colorado.edu

Symposium Organizers

Paolo Colombo, University of Padova, Italy
Gian Domenico Sorarù, University of Trento, Italy
Ralf Riedel, Technical University Darmstadt, Germany
Rishi Raj, University of Colorado, USA
Raj Bordia, University of Washington, USA
Yuji Iwamoto, Nagoya Institute of Technology, Japan
Dong-Pyo Kim, Chungnam National University, Korea
Ya-Li Li, Tian Jin University, China

Proceedings

Authors of accepted abstracts will be invited to submit your paper for inclusion in the conference proceedings which will be available after the meeting for an additional fee.

Technical Program

Symposium 5: Advanced Powder Processing and Manufacturing Technologies

Proposed Session Topics

- Powder Synthesis and Characterization
- Powder Coating Technology
- Aqueous Synthesis and Processing
- Colloidal Processing
- Binder and Slurry Technology
- Novel Forming/Sintering Technology
- Patterning, Templates and Self Assembly
- Micro/Macrostructure Control in Powder Processing
- Processing of Large and Complicated Shaped Components

Symposium Organizers

Koji Watari, National Institute of Advanced Industrial Science and Technology (AIST), Japan
George V. Franks, University of Melbourne, Australia
Jianfeng Yang, Xi'an Jiaotong University, China

Symposium Organizers (Continued)

Guo-Jun Zhang, Shanghai Institute of Ceramics, China
Yoshio Sakka, National Institute for Materials Science, Japan
Junichi Tatami, Yokohama National University, Japan
Satoshi Tanaka, Nagaoka University of Technology, Japan
Hae Jin Hwang, Inha University, Korea
Lennart Bergstrom, Stockholm University, Sweden
Christopher B. DiAntonio, Sandia National Laboratories, USA
Yuji Hotta, National Institute of Advanced Industrial Science and Technology (AIST), Japan

Point of Contact

Koji Watari
National Institute of Advanced Industrial Science and Technology (AIST), Japan
Tel: +81-52-736-7153; Email: koji-watari@aist.go.jp

Symposium 6: Synthesis and Processing of Materials by the Spark Plasma Method

Proposed Session Topics

- Fundamental Investigations on the SPS Process
- Modeling and Simulation Studies of the SPS Process
- Consolidation of Nano-structured Materials
- Property Evaluation of Pulsed Electric Current Sintered Materials

Symposium Organizers

Zuhair A. Munir, University of California-Davis, CA
Manshi Ohyanagi, Ryukoku University, Japan

Symposium Organizers (Continued)

Enrique J. Lavernia, University of California-Davis, USA
Masao Tokita, SPS SYNTEX INC, Japan
Javier E. Garay, University of California-Riverside, USA

Point of Contact

Zuhair A. Munir
Dept. of Chemical Engineering and Materials Science,
University of California-Davis, USA
Tel: 530-752-4058; Email: zamunir@ucdavis.edu

Nanotechnology and Structural Ceramics

Symposium 7: Nanostructured Materials and Systems

Proposed Session Topics

- Synthesis, Functionalization, Processing and Assembly of Nanostructures
- Nanostructured Membranes, Films, and Coatings
- Nanoporous Materials
- Nanotubes, Nanorods, Nanowires and Composite 1D Architectures
- Hybrid Nanomaterials and Nano-reinforced Composites
- Processing-Property Relationships in Nanoscaled Ceramics and Composites
- Molecular and Multi-scale Modeling of Nanocomposite Systems
- Bio-active Nanomaterials
- Nanodevices: Fabrication, Characterization and Large-scale Integration
- Industrial Development and Applications of Nanomaterials

Symposium Organizers

S. Mathur, University of Cologne, Germany
L. Vayssieres, National Institute for Materials Science, Japan
J. P. Morante, University of Barcelona, Spain
S. Islam, University of California-Davis, USA
C. Fan, SINAP, Chinese Academy of Science, Shanghai, China
X. Sun, Nanyang Technical University, Singapore
L.M. Manocha, Sardar Patel University, India

Point of Contact

Sanjay Mathur
University of Cologne, Germany
Tel: +49-22-470-2292; Email: sanjay.mathur@uni-koeln.de

Nanotechnology and Structural Ceramics

Symposium 8: Engineering Ceramics and Ceramic Matrix Composites: Design, Development, and Applications

Proposed Session Topics

- Oxides and Non-oxide Ceramics and Composites
- Ultra High Temperature Ceramics and Composites
- Fibers, Matrices, and Interfaces
- Processing-Microstructure-Property Relationships
- Residual Stresses and Environmental Effects
- Mechanics and Characterization Techniques
- Mechanical Behavior
- Design, Reliability, and Life Prediction Modeling
- NDE, Joining, and Machining Technologies
- Databases and Standards
- Functionally Graded Materials and Systems with Multi-functional Properties
- Applications in Aeronautics, Space, Automotive, Microelectronics, Energy and Environmental Systems

Symposium Organizers

Dileep Singh, Argonne National Laboratory, USA
S. Jill Glass, Sandia National Laboratories, USA
Sylvia M. Johnson, NASA Ames Research Center, USA

Symposium Organizers (Continued)

Litong Zhang, Northwestern Polytechnical University, China
Ron Kerans, Air Force Research Laboratory, WPAFB, USA
Walter Krenkel, University of Bayreuth, Germany
Laifei Cheng, Northwestern Polytechnical University, China
R.T. Bhatt, US Army Propulsion Directorate, NASA Glenn Research Center, USA
Raj Tandon, Sandia National Laboratories, USA
V.K.Srivastava, Banaras Hindu University, India

Points of Contact

Dileep Singh
 Argonne National Laboratory, USA
 Tel: 630-252-5009; Email: dsingh@anl.gov

S. Jill Glass
 Sandia National Laboratories, USA
 Tel: 505-845-8050; Email: sjglass@sandia.gov

Symposium 9: Advanced Ceramic Coatings: Processing, Properties, and Applications

Proposed Session Topics

- Thermal and Environmental Barrier Coatings
- Tribological, Wear- and Erosion-Resistant Coatings
- Corrosion Protective Coatings
- Smart and Catalytic Coatings
- Dielectric and Optical Coatings
- Embedded Sensors
- Hybrid Coatings and New Processing Methods
- Coatings Design Methodologies
- Multifunctional and Nano-structured Coating Systems
- Interfacial Phenomena in Coatings and Composite Systems
- Advanced Testing and Non-destructive Evaluation
- Micro-mechanics Modeling and Coatings Life Prediction

Symposium Organizers

Dongming Zhu, NASA Glenn Research Center, USA

Symposium Organizers (Continued)

Yutaka Kagawa, University of Tokyo, Japan
Nitin P. Padture, The Ohio State University, USA
Yoshinori Koga, National Institute of Advanced Industrial Science and Technology (AIST), Japan
Peter Mechnich, German Aerospace Center (DLR), Germany
Kevin Plucknett, Dalhousie University, Canada
Kwang Ho Kim, Pusan National University, Korea
Shaoming Dong, Shanghai Institute of Ceramics, CAS, China
Jow-Lay Huang, National Cheng Kung University, Taiwan, ROC
Qi Yang, National Research Council (NRC), Canada

Point of Contact

Dongming Zhu
 NASA Glenn Research Center, USA
 Tel: 216-433-5422; Email: dongming.zhu@nasa.gov

Technical Program

Symposium 10: Geopolymers – Low Energy and Environmentally Friendly Ceramics

Proposed Session Topics

- Synthesis and Properties of Novel Geopolymers
- Sintering Kinetics and Aluminosilicate Precursors
- Processing of Geopolymers Including Heat-Treatment
- Microstructure and Mechanical Properties
- Application of Spectroscopic Techniques for Advanced Study
- Applications Where Ceramics and Cement are Currently Used
- New Applications
- Encapsulation and Hazardous Waste Immobilization

Symposium Organizers

Dan S. Perera, ANSTO, Australia

Waltraud M. Kriven, University of Illinois at Urbana-Champaign, USA

Ken J.D. MacKenzie, Victoria University of Wellington, New Zealand

Kiyoshi Okada, Tokyo Institute of Technology, Japan

Symposium Organizers (Continued)

Wanchai Yodsudjai, Kasetsart University, Thailand

Tomas Hanzlicek, Academy of Science of the Czech Republic, Czech Republic

Points of Contact

Dan S. Perera

ANSTO, Australia

Tel: +61-2-9717-3477; Email: dsp@ansto.gov.au

Waltraud M. Kriven

University of Illinois at Urbana-Champaign, USA

Tel: 217-333- 5258; Email: kriven@uiuc.edu

Ken J. D. MacKenzie

Victoria University of Wellington, New Zealand

Tel: +64-4-463 5885; Email: Kenneth.MacKenzie@vuw.ac.nz

Multifunctional Materials and Systems

Symposium 11: Advances in Electroceramics

Proposed Session Topics

- Fundamental and Processing of Electronic Ceramics and Oxide Thin Films
- Dielectric Materials and Applications (MLCCs and Microwave Dielectrics)
- Piezoelectric Materials and Applications
- Single Crystals, PZT-based System, Lead-free System, Sensors and Actuators
- Ferroelectric Thin Film Memories
- Fundamental of Multi-ferroic Materials and Their Applications
- Optical Properties of Ceramics and Their Applications
- Passive Components and Integration Technology (MLCI and LTCC)
- Electrically or Magnetically Tunable Devices

Symposium Organizers

Jun Akedo, National Institute of Advance Industrial Science & Technology, Japan

Symposium Organizers (Continued)

Takaaki Tsurumi, Tokyo Institute of Technology, Japan

Zuo-Guang Ye, Simon Fraser University, Canada

Hong Wang, Xi'an Jiaotong University, China

Yonh Soo Cho, Yonsei University, Korea

Marija Kosec, Jožef Stefan Institute, Slovenia

Point of Contact

Jun Akedo

National Institute of Advance Industrial Science & Technology, Japan

Tel: +81-29-861-7228; Email: akedo-j@aist.go.jp

Multifunctional Materials and Systems

Symposium 12: Microwave Materials and Their Applications

Proposed Session Topics

- Microwave Material Properties Based on the Microstructure and Atomic Arrangements
- Microwave Resonators: New Materials and Technologies
- Tunable Electronics for Microwave Operation
- Meta-materials and Photonic Crystals for Microwave Devices
- Modeling, Simulation, and Measurement Issues
- Novel Processing Technologies and Chemical Powder/Nano-powder Synthesis
- Low Temperature Co-fired Ceramics (LTCC)
- New Film Materials and Integration Technologies
- Microwave Packaging and Ceramic Interconnect Issues

Symposium Organizers

Robert Freer, University of Manchester, United Kingdom

Symposium Organizers (Continued)

Danilo Suvorov, Jozef Stefan Institute, Slovenia

Heli Jantunen, University of Oulu, Finland

Xiang Ming Chen, Zhejiang University, China

Eung Soo Kim, Kyonggi University, Korea

Mailadil T. Sebastian, National Institute for Interdisciplinary Science and Technology, India,

Terrell A. Vanderah, National Institute of Standards and Technology, USA

Michael T. Lanagan, Pennsylvania State University, USA

Takeshi Shimada, Hitachi Metals, Ltd., Japan

Hitoshi Ohsato, Nagoya Institute of Technology, Japan

Point of Contact

Hitoshi Ohsato

Nagoya Institute of Technology, Japan

Tel: +81-052-735-7511; Email: ohsato.hitoshi@nitech.ac.jp

Symposium 13: Advanced Thermal Management Materials and Technologies

Proposed Session Topics

- Design, Development, and Testing of Aerospace Thermal Protection Systems (TPS)
- Advanced Composites for Thermal Protection Systems (e.g., Carbon/Carbon and Ceramic Matrix Composites, Ablative Materials, etc.)
- Harsh Environment, Light Weight Insulating Materials (Aerogels, Foams, etc.)
- Light Weight, High Conductivity Materials for Thermal Management (Graphite and Diamond, Carbon and Metallic Foams, C/C and CNT composites, Al/SiC, BeO, Cu-based Systems, etc.)
- Design, Development, and Testing of Advanced Heat Exchangers, Recuperators, etc.
- Bonding and Integration Technologies, Thermal Contact Materials
- Nondestructive Evaluation, Quality Assessment, Structural Health Monitoring, Sensors, etc.

Symposium Organizers

Andrew L. Gyekenyesi, Ohio Aerospace Institute (OAI), USA

J. Douglas Kiser, NASA Glenn Research Center, USA

Sylvia M. Johnson, NASA Ames Research Center, USA

Rajiv Asthana, University of Wisconsin-Stout, USA

Ajit K. Roy, Air Force Research Laboratory, WPAFB, USA

Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST), Japan

Points of Contact

Andrew L. Gyekenyesi,

Ohio Aerospace Institute, USA

Tel: 216-433-8155; Email: Andrew.L.Gyekenyesi@grc.nasa.gov

Rajiv Asthana

University of Wisconsin-Stout, USA

Tel: 715-232-2152; Email: asthanar@uwstout.edu

Technical Program

Ceramics for Energy and the Environment

Symposium 14: Solid Oxide Fuel Cells and Hydrogen Technology

Proposed Session Topics

- Oxygen Ion, Proton and Mixed Conductors; Conduction Mechanisms, Materials Limitations
- Electrode Materials and Microstructural Engineering; Ceramic and Metallic Interconnects; Degradation Mechanisms
- Sealing Materials, Compatibility and Designs
- Mechanical and Thermal Properties
- Reliability and Degradation, Stability of Cells and Stacks
- Electrochemical Performance, Modeling, Cell and Stack Designs
- Utilization of Different Fuels With or Without Reformation
- Prototype SOFC Systems, Field Test Experience, Cost, and Commercialization Plans
- Materials and Technologies for Hydrogen Production, Storage, Transportation and Safety

Symposium Organizers

Fatih Dogan, Missouri University of Science and Technology, USA

Symposium Organizers (Continued)

Masanobu Awano, National Institute of Advanced Industrial Science and Technology (AIST), Japan

John Kilner, Imperial College London, United Kingdom

Mogens Mogensen, Risoe National Laboratory, Denmark

JooHo Moon, Yonsei University, Korea

Wen-Cheng Wei, National Taiwan University, Taiwan

Points of Contact

Fatih Dogan

Missouri University of Science and Technology, USA

Tel: 573-341-7130; Email: doganf@mst.edu

Masanobu Awano

National Institute of Advanced Industrial Science and Technology (AIST), Japan

Tel: +81-52-736-7103; Email: masa-awano@aist.go.jp

Symposium 15: Direct Thermal to Electrical Energy Conversion Materials and Applications

Proposed Session Topics

- Oxides and Other Materials With Strong Electron Correlation
- Theoretical Guidance to High Efficiency Thermoelectric Energy Conversion
- New and Emerging Technologies for TE Power Conversion
- High Efficiency Bulk TE Materials
- Composite and Nano-Composite Thermoelectrics
- Functionally Graded Materials
- Thermoelectrics Related to Harvesting Solar Energy
- Thermophotovoltaics and Other Related Topics
- Low Dimensional Aspects of TE Materials
- Synthetic Strategies for Preparing Novel Materials and Compounds
- Role of Spark Plasma Sintering Techniques for TE Materials
- Processing of Bulk and Thin Film Nanostructured Materials
- Materials Property Measurement and New Measurement Techniques
- Design, Performance Testing, Fabrication and Processing of Energy Conversion Devices
- Device Performance Requirements for Future Applications

Proposed Session Topics (Continued)

- Applications and New Directions in Thermal Energy Conversion
- Mechanical Properties of Various TE Materials

Symposium Organizers

Terry M. Tritt, Clemson University, USA

Anke Weidenkaff, EMPA, Switzerland

Ryoji Funahashi, National Institute of Advanced Industrial Science and Technology (AIST), Japan

Wenqing Zhang, Shanghai Institute of Ceramics, China

Holger Kleinke, University of Waterloo, Canada

Point of Contact

Terry M. Tritt

Clemson University, USA

Tel: 864-656-5319; Email: ttritt@clemson.edu

Ceramics for Energy and the Environment

Symposium 16: Ceramics for Electric Energy Generation, Storage, and Distribution

Proposed Session Topics

- Ceramics and Composites for Stationary and Distributed Power Generation Systems
- Ceramics and Composites for Nuclear Energy Systems
- Technologies and Industrial Applications of Advanced Ceramics and Composites
- High Temperature Superconductors: Processing, Microstructure, and Properties
- High Temperature Superconductors Technologies and Industrial Applications
- Materials and Composites for Thermo and Chemical Energy Storage
- Materials in Li-ion Batteries
- Materials of Capacitive Energy Storage (Supercaps)
- Materials for Solar-Thermal Applications
- Novel Design and Strategies for Energy Storage
- Smart Materials Design Through Theory and Modeling

Symposium Organizers

Hua-Tay Lin, Oak Ridge National Laboratory, USA
Franziska Scheffler, Bavarian Center for Applied Energy Research, Germany

Symposium Organizers (Continued)

Tohru Sekino, Tohoku University, Japan
Tom Troczynski, University of British Columbia, Canada
Yi-Bing Cheng, Monash University, Australia
Kuan-Zong Fung, National Cheng Kung University, Taiwan
Elzbieta Frackowiak, Poznan University of Technology, Poland
Peter H.L. Notten, Eindhoven University of Technology, The Netherlands
Michael Scheffler, Brandenburg Technical University of Cottbus, Germany

Points of Contact

Hua-Tay Lin
 Oak Ridge National Laboratory, USA
 Tel: 865-576-8857; Email: linh@ornl.gov

Franziska Scheffler
 Bavarian Center for Applied Energy Research, Germany
 Tel: +49-9131-691-298
 Email: franziska.scheffler@zae.uni-erlangen.de

Symposium 17: Photocatalytic Materials: Reaction, Processing, and Applications

Proposed Session Topics

- Modified TiO₂ Photocatalyst
- Novel Aspects of Catalyst Preparation, Doping and Co-doping
- Visible Light Active Photocatalyst
- Photocatalyst-sorbent Combinations (TiO₂/Carbon, TiO₂/Cement, etc.)
- Thin Film Photocatalyst by Wet Coating Process
- Thin Film Photocatalyst by Physical Deposition Process
- Photocatalyst Nano Particles
- Surface Wettability Control by Photocatalysis
- Characterization of Photocatalytic Materials
- Applications: Air Treatment, Water Treatment, Self-cleaning Surface
- Anti-bacterial, Disinfection, and Medical Applications

Symposium Organizers

Toshiya Watanabe, The University of Tokyo, Japan
Hisashi Ohsaki, National Institute of Advanced Industrial Science and Technology (AIST), Japan

Point of Contact

Toshiya Watanabe
 RCAST, The University of Tokyo, Japan
 Tel: +81-3-5452-5332; Email: watanabe@wlab.rcast.u-tokyo.ac.jp

Technical Program

Symposium 18: Ceramics Enabling Environmental Protection: Clean Air and Water

Proposed Session Topics

- Gas Filtration and Separation
- Liquid Purification, Recovery and Desalination of Water
- Novel Materials and Processes Enabling New Products for Environmental Protection
- Novel Environmental Applications for Ceramic-Based Systems

Symposium Organizers

Aleksander J. Pyzik, The Dow Chemical Company, USA
Hua-Tay Lin, Oak Ridge National Laboratory, USA
Hai-Doo Kim, Korea Institute of Materials Science, Korea
Toshihiro Ishikawa, Ube Industries, Japan

Symposium Organizers (Continued)

Cheng Li, The Dow Chemical Company, China
Armin Reller, University of Augsburg, Germany
Kevin Plucknett, Dalhousie University, Canada

Points of Contact

Aleksander J. Pyzik
The Dow Chemical Company, USA
Tel: 989-636-8801; Email: apyzik@dow.com

Hua-Tay Lin
Oak Ridge National Laboratory, USA
Tel: 865-576-8857; Email: linh@ornl.gov

Symposium 19: Glasses and Ceramics for Nuclear and Hazardous Waste Treatment

Proposed Session Topics

- Vitrification Technologies
- Cementitious Materials
- Radioactive Waste Immobilization
- Glass-Ceramics From Hazardous Waste
- Air Pollution Control Residues Inertisation
- Glass-Ceramic Composite Waste Forms
- Sintered Matrices
- Mixed Waste Approaches
- Waste Form Performance: Durability
- Waste Form Characterization and Structural Integrity

Symposium Organizers

Aldo R. Boccaccini, Imperial College London, United Kingdom
Bill Lee, Imperial College London, United Kingdom

Symposium Organizers (Continued)

James Marra, Savannah River National Laboratory, USA
David Peeler, Savannah River National Laboratory, USA
Russell Hand, University of Sheffield, United Kingdom

Points of Contact

Aldo R. Boccaccini
Imperial College London, United Kingdom
Tel: +44-207-594 6731; Email: a.boccaccini@imperial.ac.uk

James C. Marra
Savannah River National Laboratory, USA
Tel: 803-725-5838; Email: james.marra@srl.doe.gov

Discover Vancouver

The conference venue for PAC RIM 8 is located in beautiful Vancouver, Canada. Take advantage of exploring “the most livable city in the world.” Make your plans to participate in this conference today!



Ceramics in Biology, Medicine, and Human Health

Symposium 20: Advances in Biomineralized Ceramics, Bioceramics, and Bioinspired Designs

Proposed Session Topics

- Mineralization Processes, Self-assembly and Organic/Inorganic Structures
- Natural Ceramics (Seashells, Bone, Diatoms, Teeth, etc.)
- Orthopedic Implants, Bone Cements, Bone Scaffolding
- Dental Ceramics
- Porous Bioceramics, Resorbable Bioceramics and Degradation
- Bioactive Ceramics
- New Materials and Composites
- Biologically Inspired Ceramics
- Surfaces and Biocompatibility
- Mechanical Properties and Biomechanics

Symposium Organizers

Joanna McKittrick, University of California-San Diego, USA
Francois Barthelat, McGill University, Canada

Symposium Organizers (Continued)

Seeram Ramakrishna, National University, Singapore
Jizhong Zhang, Tsinghua University, China
Julian Martinez Fernandez, University of Seville, Spain
Kunihito Koumoto, Nagoya University, Japan

Points of Contact

Joanna McKittrick
 University of California-San Diego, USA
 Tel: 858-534-5425; Email: jmckittrick@ucsd.edu

Francois Barthelat

McGill University, Canada
 Tel: 514-398-6318; Email: francois.barthelat@mcgill.ca

Symposium 21: Nano-Biotechnology and Ceramics in Biomedical Applications

Proposed Session Topics

- Nanostructured Bioceramics
- Rapid Prototyping of Bioceramics
- Advanced Processing of Bioceramics
- In Vitro and In Vivo Characterization of Bioceramics
- Biohybrid Composites and Bioinspired Nanodevices
- Nanostructured Biosensors
- Drug/Gene-delivery Devices and Biochemical Sensors
- Sensing and Diagnostics in Medical Applications

Symposium Organizers

Roger J. Narayan, University of North Carolina, USA
Markus Reiterer, Medtronic, USA
Saranjit S. Bhasin, Maulana Azad Medical College, India
Suwan Jayasinghe, University College London, United Kingdom
Chikara Ohtsuki, Nagoya University, Japan

Symposium Organizers (Continued)

Akiyoshi Osaka, Okayama University, Japan
Rizhi Wang, University of British Columbia, Canada

Points of Contact

Roger J. Narayan
 University of North Carolina, USA
 Tel: 919-696-8488; Email: roger_narayan@unc.edu

Markus Reiterer

Medtronic Energy and Component Center, Brooklyn Center, USA
 Tel: 763-514-7579; Email: markus.w.reiterer@medtronic.com

Technical Program

Symposium 22: Environmental, Health, and Safety of Nanomaterials: Assessment and Measurement Needs

Proposed Session Topics

- Measurement Needs and Standardization
- Worker Health and Safety
- Product Safety

Symposium Organizers

Steve Freiman, Freiman Consulting, USA
Sylvia Johnson, NASA Ames Research Center, USA

Symposium Organizers (Continued)

Gary Fischman, NMAB, National Research Council, USA

Point of Contact

Steve Freiman
Freiman Consulting, USA
Tel: 240-499-6447; Email: steve.freiman@comcast.net

Innovations in Glass Science and Technology (Jointly organized with GOMD and ICG)

Symposium 23: Glass Science

Proposed Session Topics

- Relaxation Processes in Glasses
- Structural Basis of Glass Properties
- Non-oxide Glasses
- Theory and Modeling
- Glass Surface and Functionalization
- Glass in Canada

Symposium Organizers

Pierre Lucas, University of Arizona, USA
Lothar Wondraczek, University of Erlangen-Nuernberg, Germany

Symposium Organizers (Continued)

Adrian Wright, University of Reading, England
Klaus Bange, SCHOTT, Germany
Josef Zwanziger, Dalhousie University, Canada

Point of Contact

Pierre Lucas
University of Arizona, USA
Tel: 520-322-2311; Email: pierre@u.arizona.edu

Symposium 24: Glass Technology, Energy and Environment

Proposed Session Topics

- Mechanical Properties of Glass and Glass-Ceramics
- Glass Ceramics
- Glass Durability
- Sustainable Glass Manufacturing, Energy Reduction
- Environmentally Friendly Compositions and Processes

Symposium Organizers

Pierre Lucas, University of Arizona, USA
Michael Greenman, Glass Manufacturing Industry Council, USA

Symposium Organizers (Continued)

Mark Davis, SCHOTT North America Inc., USA
Jean-Christophe Sangleboeuf, University of Rennes, France

Point of Contact

Pierre Lucas
University of Arizona, USA
Tel: 520-322-2311; Email: pierre@u.arizona.edu

Innovations in Glass Science and Technology (Jointly organized with GOMD and ICG)

Symposium 25: Glasses for Optoelectronic and Optical Applications

Proposed Session Topics

- Optically Active Glasses
- Glasses for Optoelectronics
- Photosensitivity in Glasses
- Optical Sensing
- Glass Fibers

Symposium Organizers

Pierre Lucas, University of Arizona, USA
Setsuhisa Tanabe, Kyoto University, Japan
John Ballato, Clemson University, USA

Symposium Organizers (Continued)

Shibin Jiang, Advalue Photonics, USA
Kathleen Richardson, Clemson University, USA
Giancarlo C. Righini, National Research Council (CNR), Italy
Norman Anheier, Pacific Northwest National Laboratory, USA

Point of Contact

Pierre Lucas
University of Arizona, USA
Tel: 520-322-2311; Email: pierre@u.arizona.edu

Symposium 26: Austen Angell Honorary Symposium

Proposed Session Topics

- Fragility in Glasses
- Energy Landscapes
- Glassy Water
- Glass Formation
- Glassy Electrolytes

Symposium Organizers

Jeff Yarger, Arizona State University, USA

Symposium Organizers (Continued)

Steve W. Martin, Iowa State University, USA
Pierre Lucas, University of Arizona, USA

Point of Contact

Jeff Yarger
Arizona State University, USA
Tel: 480-965-4460; Email: jeff.yarger@asu.edu

Hotel & Location Information

Hyatt Regency Vancouver
655 Burrard Street
Vancouver, British Columbia, Canada
V4M 4B9
Telephone: 604-683-1234
Fax: 604-689-3707

Room Rates:
Single/Double - \$225 Canadian
Triple - \$275 Canadian
Quad - \$300 Canadian
U.S. Government – Prevailing U.S.
Federal Government rate.

These rates are subject to the appropriate provincial, local and occupancy taxes. Please mention The American Ceramic Society to receive these special rates.

Technical Program

Special Symposia

Symposium 27: International Fulrath Symposium on “New Frontiers in Ceramics for Sustainable Society”: In Honor of Prof. Noboru Ichinose and Prof. Richard C. Bradt

This symposium honors the long and outstanding contributions of Professor Noboru Ichinose from Waseda University, Japan and Professor Richard C. Bradt from University of Alabama, USA to Richard M. Fulrath award program. They have tirelessly promoted the long term friendship among the ceramic scientists and engineers from the United States and Japan.

All of the Fulrath award winners from Japan and the United States, over the last three decades, are invited to make presentations in their specific areas of interest and highlight specific contributions they have made to better the lives of people and promote the exchange and friendships. A special banquet for the Fulrath award winners and their spouses is also planned.

Symposium Organizers

Koichi Niihara, Nagaoka University of Technology, Japan
M. Singh, OAI/NASA Glenn Research Center, USA
T. Yamamoto, National Defense Academy, Japan
Y. Sakabe, Murata Manufacturing, Japan
J.A. Salem, NASA Glenn Research Center, USA

Point of Contact

M. Singh
OAI/NASA Glenn Research Center, USA
Tel: 216-433-8883; Email: Mrityunjay.singh-1@nasa.gov

Tentative Schedule of Events

Sunday, 31 May 2009

Registration 3pm – 8pm
Welcome Reception 6pm – 8pm

Monday, 1 June 2009

Registration 7am – 7pm
Opening Session 8:30am – 9:30am
Plenary Session 10am – Noon
Concurrent Technical Sessions 1:30pm – 5pm
Poster Session 5pm – 7pm

Tuesday, 2 June 2009

Registration 7am – 5pm
Concurrent Technical Sessions 8am – Noon
Concurrent Technical Sessions 1:30pm – 5pm

Wednesday, 3 June 2009

Registration 7am – 1pm
Concurrent Technical Sessions 8am – Noon
Free Afternoon

Thursday, 4 June 2009

Registration 7am – 5pm
Concurrent Technical Sessions 8am – Noon
Concurrent Technical Sessions 1:30pm – 5pm
Evening Event 7pm – 9pm

Friday, 5 June 2009

Registration 7am – Noon
Concurrent Technical Sessions 8am – Noon

8TH PACIFIC RIM CONFERENCE ON CERAMIC AND GLASS TECHNOLOGY

Includes 2009 Annual Meeting of the International Commission on Glass (ICG)



PACRIMS

May 31 – June 5, 2009
Hyatt Regency Vancouver
Vancouver, British Columbia, Canada

www.ceramics.org/pacrim8

Call for Papers!
Abstract Deadline: November 3, 2008

Call for Papers!
Abstract Deadline:
November 3, 2008



The American Ceramic Society
600 N. Cleveland Avenue, Suite 210
Westerville, Ohio 43082

