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Ceramic Matrix Composites II: Science and Technology of Materials, Design, Applications, Performance and Integration

Proceedings

11-13-2022

Ceramic Matrix Composites II: Science and Technology of Materials, Design, Applications, Performance and Integration

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Program

Ceramic Matrix Composites II: Science and Technology of Materials, Design, Applications, Performance and Integration

November 13 – 18, 2022 LaFonda on the Plaza Santa Fe, New Mexico, USA

Conference Chairs

Dr. Ram Darolia GE Aviation (Retired), USA **Prof. Yutaka Kagawa** Tokyo University of Technology, Japan

Prof. Jon Binner University of Birmingham, United Kingdom **Prof. Rishi Raj** University of Colorado, USA

Prof. Dietmar Koch University of Augsburg, Germany **Prof. Gerard Vignoles** University of Bordeaux, France

Conference Secretaries

Prof. Ken Goto Japan Aerospace exploration agency (JAXA), Japan **Dr. Satoshi Kitaoka** Japan Fine Ceramics, (JFCC), Japan





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La Fonda on the Plaza

100 E. San Francisco St. Santa Fe, NM, USA Toll Free: 1-800-523-5002 Phone: 1-505-982-5511 Engineering Conferences International (ECI) is a not-for-profit global engineering conferences program, originally established in 1962, that provides opportunities for the exploration of problems and issues of concern to engineers and scientists from many disciplines.

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Previous conferences in this series

Advanced Ceramic Matrix Composites: Science and Technology of Materials, Design, Applications, Performance and Integration November 5 - 9, 2017 Santa Fe, New Mexico, USA Conference Chairs:

Yutaka Kagawa, Tokyo University of Technology, Japan Dongming Zhu, NASA Glenn Research, USA Ram Darolia, GE Aviation (retired), USA Rishi Raj, University of Colorado, Boulder, USA **Conference Sponsors**



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Sunday, November 13, 2022

16:30 - 18:30Conference check-in (Mezzanine)18:30 - 20:30Reception (with music from local Native American musician, Sky Redhawk)
followed by Dinner

Locations and Notes

- Technical and poster sessions will be in the Lumpkins Ballroom.
- Meals will be in La Terraza. Coffee breaks will be in the Mezzanine.
- The ECI on site office will be in the Stilha Room.
- Please wear your mask except when giving a presentation or actively eating or drinking. Please maintain physical distancing as much as possible.
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- Emergency Contact Information: Because of privacy concerns, ECI does not collect or maintain emergency contact information for conference participants. If you would like to have this information available in case of emergency, please use the reverse side of your name badge.

Monday, November 14, 2022

07:00 - 08:30	Breakfast
08:30 – 08:45	<u>Opening Remarks</u> Conference Chair and ECI Liaison: Ram Darolia
	Session 1: Overviews and Applications Chairs: Marc Montaudon, Eric Bouillon
08:45 – 09:15	Ceramic Matrix Composites (CMCs) at GE: From inception to commercialization Krishan Luthra, GE Research, USA
09:15 – 09:45	Industrialization of ceramic matrix composites for aerospace applications Mano Manoharan, GE Aviation, USA
09:45 – 10:15	Development of ceramic matrix composites for 2500°F turbine engine applications Olivier Sudre, Pratt & Whitney, USA
10:15 – 10:45	Coffee Break
10:45 – 11:15	Brief overview of CMCs engine components experiments coupled with representative sub-element tests Eric Bouillon, Safran Ceramics, France
11:15 – 11:45	Multi-scale study of ceramic composite materials for aeronautical applications Sébastien Denneulin, Safran Ceramics, France
11:45 – 12:15	SiC _f /SiC ceramic matrix composite – A turbine engine perspective Thomas Nixon, Rolls-Royce Corporation, USA
12:15 – 12:45	Development of CMC for nuclear fuel components Toshiki Nishimura, Toshiba Energy Systems & Solutions Corporation, Japan
12:45 – 14:15	Lunch
	Session 1: Overviews and Applications (continued) Chairs: Yutaka Kagawa, Takeshi Nakamura
14:15 – 14:45	International reliability assessment project through standard PateranoSiC(SiC/SiC) Chikara Fujiwara, Tokyo University of Technology, Japan
14:45 – 15:15	Overview of CMC activities: From high temperature characterization to applications Guillaume Pujol, DGA, France
15:15 – 15:45	Industrial application of all oxide ceramic matrix composites Walter Pritzkow, Walter E.C. Pritzkow Spezialkeramik, Germany
15:45 – 16:15	Coffee Break

Monday, November 14, 2022 (continued)

16:15 – 16:45	Advances and technical challenges in development of CMC Takeshi Nakamura, IHI Corporation, Japan
16:45 – 17:15	Current trends in CMC research & development across DLR's technology programs Peter Mechnich, German Aerospace Center (DLR), Germany
17:15 – 18:15	Discussion Leader: Frank Zok
18:30 – 20:00	Dinner
20:00 - 21:00	Poster Session / Social Hour

Tuesday, November 15, 2022

07:00 - 08:30	Breakfast
	Session 2: Processing and Characterization Chairs: Krishan Luthra, Dietmar Koch
08:30 - 09:00	Multiphysics modeling of ceramic-matrix composites processing by thermal-gradient chemical vapor infiltration Gerard Vignoles, University of Bordeaux, LCTS, France
09:00 – 09:30	In-situ observation and multi-physics simulation of reactive melt Infiltration of silicon melt into SiC-C Preform Takeshi Yoshikawa, The University of Tokyo, Japan
09:30 – 10:00	Processing and characterization of layered UHTCMCs reinforced with continuous or discontinuous carbon fibers Antonio Vinci, National Research Council of Italy, CNR-ISTEC, Italy
10:00 - 10:30	Coffee Break
10:30 – 11:00	Processing, performance and process modeling of preceramic polymers Thomas Key, Air Force Research Laboratory, USA
11:00 – 11:30	Effect of matrix porosity and prepreg-tack on mechanical properties and processing of oxide ceramic matrix composites Stefan Schafföner, University of Bayreuth, Germany
11:30 – 12:00	CVI manufacturing routes of non-oxide CMCs Ryan Skillett, Archer Technicoat Ltd., United Kingdom
	Session 3: Physical and Mechanical Property Testing and Characterization Chair: Ken Goto, Michael Cinibulk
12:00 – 12:30	Small-scale testing of ceramic matrix composites Oriol Gavalda-Diaz, Imperial College London, United Kingdom
12:30 – 13:00	Simulation assisted study on structural degradation in advanced SiC/SiC CMC component during high-temperature fatigue Eiichi Sato, ISAS/JAXA, Japan
13:00 - 14:00	Lunch
14:00	Free time / Explore Santa Fe on your own
	Dinner on your own

Wednesday, November 16, 2022

07:00 - 08:30	Breakfast
	Session 3: Physical and Mechanical Property Testing and Characterization (continued) Chairs: Ken Goto, Michael Cinibulk
08:30 – 09:00	Multicriteria optimization as enabler for Sustainable Ceramic Matrix Composites (SCMC) Dietmar Koch, University of Augsburg, Germany
09:00 - 09:30	Cumulative fracture behavior of short fiber type C/SiC Ken Goto, Japan Aerospace Exploration Agency, Japan
09:30 – 10:00	Fragmentation, sliding and interface degradation in SiC/SiC composites Frank Zok, UC Santa Barbara, USA
10:00 – 10:30	Coffee Break
10:30 – 11:00	A method for estimating constitutive properties of a C/C-SiC composite materials based on a Brazilian disc specimen Royi Padan, Tel-Aviv University, Israel
11:00 – 11:30	Utilizing the electrical properties of non-oxide ceramic composites to diagnose damage development, test conditions and defects Gregory Morscher, University of Akron, USA
11:30 – 12:00	Detection of damage evolution in SiC/SiC under tensile loading using Talbot-Lau X-ray interferometer Yoshihisa Tanaka, Tokyo University of Technology, Japan
12:00 - 14:00	Lunch
14:00 – 14:30	Microscale characterization of CMCs using 3D tomography techniques and machine learning algorithms to quantify and correlate initial microstructure to damage evolution Ashley Hilmas, Air Force Research Lab, USA
14:30 – 14:50	Micro-scale observation of cracking in SiC/BN/SiC ceramic matrix composites Kaitlin Detwiler, Air Force Research Laboratory, USA
	Session 4: Modeling and Simulation Chairs: Gerard Vignoles, Gregory Morscher
14:50 – 15:20	Lifetime prediction of self-healing ceramic-matrix composites using a multi-physics image-based model Guillaume Couégnat, CNRS, France
15:20 – 15:50	Models for subcritical crack growth during static fatigue of SiC fiber in air and steam Randall Hay, USAF/AFRL, USA
15:50 – 16:20	Coffee Break

Wednesday, November 16, 2022 (continued)

16:20 – 17:20	Discussion Leader: Olivier Sudre
17:20 – 19:00	Free time / Networking
19:00 – 21:30	Reception and Banquet

Thursday, November 17, 2022

07:00 - 08:30	Breakfast
	Session 4: Modeling and Simulation (continued) Chairs: Gerard Vignoles, Gregory Morscher
08:30 – 09:00	Generation and evaluation of 3D digital twin of ceramic matrix composites using deep convolutional neural networks Naohiro Shichijo, Hitotsubashi University, Japan
09:00 – 09:30	Nonlinear continuum damage models for ceramic matrix composites with significant in plane ply anisotropy Craig Przybyla, Air Force Research Laboratory, USA
09:30 – 10:00	Proposition and validation of a damage and failure approach for 3D woven composite materials with ceramic matrix: From elementary coupons to composite structures Frédéric Laurin, ONERA, University Paris Saclay, France
10:00 – 10:30	Coffee Break
	Session 5: New Developments and Applications Chairs Satoshi Kitaoka, Peter Mechnich
10:30 – 11:00	New BN coating on SiC fibers as the interphase of SiC/SiC composites Takahiro Sekigawa, Mitsubishi Heavy Industries Aero Engines, Ltd., Japan
11:00 – 11:30	Laser-CVD silicon carbide fibers as non woven preforms in fiber-reinforced SiC-SiC composites Jeff Vervlied, Free Form Fibers, USA
11:30 – 12:00	Development of oxide-based CMCs with high thermal stability Isao Yamashita, Tosoh Corporation, Japan
12:00 – 12:30	Ceramic matrix composites for liner system of radioactive waste disposal cells Emilie Perret, High Performance Multifunctional Materials Domain IRT Saint Exupéry, France
12:30 – 14:00	Lunch
	Session 6: Environmental Behavior Chairs: Elizabeth Opila, Douglas Kiser
14:00 – 14:30	Synergistic degradation mechanisms of SiC/BN/SiC in oxidizing environments at intermediate temperatures under load Elizabeth Opila, University of Virginia, USA
14:30 – 15:00	Modeling environmental degradation in SiC/BN/SiC CMCs Pavel Mogilevsky, UES Inc., USA
15:00 – 15:30	NASA Glenn high temperature EB-coated CVI SiC/SiC minicomposite testing and characterization Douglas Kiser, NASA Glenn Research Center, USA

Thursday, November 17, 2022 (continued)

15:30 – 16:00	Coffee Break
16:00 – 17:00	Discussion Leader: Allan Katz
18:30 – 20:00	Dinner

Friday, November 18, 2022

07:00 – 08:30	Breakfast
	Session 7: Environmental Barrier Coatings Chairs: Kang Lee, Ravisankar Naraparaju
08:30 – 09:00	The current status of advanced environmentanl barrier coatings for ceramic matrix composites at NASA Kang Lee, NASA Glenn Research Center, USA
09:00 - 09:30	Mass transfer control in multilayer EBC systems at high temperatures Satoshi Kitaoka, Japan Fine Ceramics Center, Japan
09:30 – 10:00	TGO growth behavior of modified environmental barrier coating systems Dianying Chen, Oerlikon Metco (US) Inc., USA
10:00 – 10:30	Coffee Break
10:30 – 11:00	Solid particle erosion of environmental barrier coatings and ceramic matrix composites Michael Presby, NASA Glenn Research Center, USA
11:00 – 11:30	Development of EBCs and T/EBC multi-layer coatings: Challenges and implications Ravisankar Naraparaju, German Aerospace Center (DLR), Germany
11:30 – 12:30	General Discussion – Areas for further research, development and collaboration, Next conference Ram Darolia, Yutaka Kagawa, Dietmar Koch, Gerard Vignoles
12:30	Boxed Lunch
	Departures

Poster Presentations

1. **Burner rig optimization for high temperature materials and coating systems** Christopher Ferguson, The University of Akron, USA

2. WITHDRAWN

- Influence of ecological optimized manufacturing on the production costs of C/C structures using CVI technology Denny Schüppel, Composited United e. V, Germany
- 4. **Fabrication method of Yb based Oxide matrix for CMC** Hiroto Hirano, IHI, Japan
- 5. **Joining of SiC-SiC composites by embedded-wire CVD** Jeff Vervlied, Free Form Fibers, USA
- 6. Crack growth of pre-preg laminate composite subjected to elevated temperature fatigue post ballistic impact Gregory Morscher, The University of Akron, USA
- 7. Detection of micro cracking and SiC fiber distribution and its relationship between dark-field images using Talbot-Lau interferometer Keiju Kawamura, Tokyo University of Technology, Japan
- 8. **Durability investigation of burner rig of Yb2SiO5 environmental barrier coatings** Masahiro Negami, Kawasaki Heavy Industries, Ltd., Japan
- Cracking detection of a unidirectionally-reinforced SiC/SiC composite by X-ray Talbot-Lau interferometry Masaki Kotani, Japan Aerospace Exploration Agency (JAXA), Japan
- 10. Chemical and mechanical analysis of high temperature SiC/SiC CMC materials Michael Goode, University of Oxford, United Kingdom
- 11. Advanced materials development under NASA's Hybrid Thermally Efficient Core (HyTEC) project Michael Presby, NASA Glenn Research Center, USA
- 12. **Optimizing RMI atmosphere for SiC/SiC composites fabrication** Natsuki Murata, Tokyo University of Technology, Japan
- 13. Additive manufacturing of C/C-SiC by fused filament fabrication Stefan Schafföner, University of Bayreuth, Germany
- 14. **Measurement method of in-situ tensile strength of SiC fiber in SiC/SiC composite** Takumi Kiyohara, Tokyo University of Technology, Japan
- 15. **Measurement of exothermic reaction temperature during RMI process** Takumi Sato, Tokyo University of Technology, Japan
- 16. **Tensile loading-unloading behavior in SiC/SiC CMC at room and elevated temperature in air using a new mechanical testing machine** Tetsuya Narita, Tokyo University of Technology, Japan



2022

Engineering Conferences International

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Calendar of ECI Conferences

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Oct 30-Nov 3	20AE	ELECTROPHORETIC DEPOSITION VII: FUNDAMENTALS AND APPLICATIONS (Santa Fe, New Mexico) A.R. Boccaccini, Univ. of Erlangen-Nuremberg; B. Ferrari, Spanish Research Council; A.J. Pascall, Brookhaven National Laboratory; T. Uchikoshi, National Institute for Materials Science
Nov 13-18	21AS	CERAMIC MATRIX COMPOSITES II (Santa Fe, New Mexico) Y. Kagawa, Tokyo University of Technology; R. Darolia, GE Aviation (retired); R. Raj, University of Colorado; G. Singh, Kansas State University; D. Koch, University of Augsburg; G. Vignoles, University of Bordeaux; J. Binner, University of Birmingham
Dec 10-14	21AB	POLYMER REACTION ENGINEERING XI (Scottsdale, AZ) T. Mckenna, Universite Claude Bernard, France; C. Sayer, Federal University of Santa Catania, Brazil; J. Schork, Georgia Tech;USA; John Tsavalas, University of New Hampshire, USA; Jose Ramon Leiza, University of the Basque Country, Spain; Robin Hutchinson (Queen's University, Canada; Brian Greenhalgh, ExxonMobil Chemicals, USA; Markus Busch, TU Darmstadt, Germany; J Reimers, ExxonMobil Chemicals, USA
Dec 18-21	20AY	ADVANCES IN COSMETIC FORMULATION DESIGN II (Durham, NC) S. Amin, University of Miami; P. Somasundaran, Columbia University
<u>2023</u>		
March 19-24	22AD	ELECTRIC FIELD ENHANCED PROCESSING OF ADVANCED MATERIALS III: COMPLEXITIES AND OPPORTUNITIES (Tomar, Portugal) R. Raj, University of Colorado at Boulder; Luis Perez-Maqueda, CICA, Spain
April 23-28	23AC	CELL CULTURE ENGINEERING XVIII (Cancun, Mexico) L. Palomares, IBT-UNAM; C. Goudar, Amgen; T. Wang, Roche
May 7-12	23AP	PYROLIQ II – 2023: Pyrolysis and Liquefaction of Biomass and Wastes (Hernstein, Austria) F. Berruti, ICFAR & Western University; A. Dufour, CNRS, ENSIC; M. Garcia-Perez, Washington State University; W. Prins, University of Ghent
May 14-17	23 AU	2023 INTERNATIONAL CONFERENCE ON SEMICONDUCOR TECHNOLOGY FOR ULTRA LARGE SCALE INTEGRATED CIRCUITS AND THIN FILM TRANSISTORS (ULSIC VS TFT 8) (Hokkaido, Japan) Y. Kuo, Texas A&M University
May 28-June 2	21AG	ALKALI ACTIVATED MATERIALS AND GEOPOLYMERS: SUSTAINABLE CONSTRUCTION MATERIALS AND CERAMICS MADE UNDER AMBIENT CONDITIONS (Cetraro (Calabria), Italy) W.M. Kriven, University of Illinois at Urbana-Champaign; C. Leonelli, Universita' degli Studi di Modena e Reggio Emilia; J.L. Provis, University of Sheffield; A.R. Boccaccini, University of Erlangen-Nuremberg
June 11-15	21AO	ADVANCES IN OPTICS FOR BIOTECHNOLOGY, MEDICINE AND SURGERY (Tomar, Portugal) M. Niedre, Northeastern University; F. Leblond, Polytecnique Montreal
May/June	23AI	INNOVATIVE MATERIALS FOR ADDITIVE MANUFACTURING II (IMAM II) (Riga, Latvia) D. Schmidt (Luxembourg Institute of Science and Technology (LIST); N. Gupta, New York University; E. Eastwood, DOE; B.G. Compton; University of Tennessee, Knoxville; G.M. Gladysz, Los Alamos National Laboratory
July 16-21	21AV	SIXTH INTERNATIONAL WORKSHOP ON STRESS-ASSISTED CORROSION DAMAGE (Washington, DC area) A.K. Vasudevan, Office of Naval Research (retired); R. Latanision, Exponent, Inc.; H. Holroyd, Luxfer (retired); F. Friedersdorf, Luna Innovations Inc.

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July 24-28	21AH	ASSOCIATION IN SOLUTION V (Azores, Portugal) I. Voets, Eindhoven University of Technology; J. Strakel, Wageningen University; J. Conrad, University of Houston
September 4-8	22AJ	TERATECH 2023: 10th International Symposium on Terahertz-related Devices and Technologies (Aizu-Wakamatsu, Japan) General Chair: Taiichi Otsuji, Tohoku University; LOC Chair: Maxim Ryzhii, University of Aizu, LOC Co-Chair: Junichiro Kono, Co-Chair of the LOC: Akira Satou, Tohoku University, Technical Program Chair: Junichiro Kono, Rice University; TPC Co-Chair : Alexey Belyanin, Texas A&M University
September 10-13	23AT	SINGLE USE TECHNOLOGIES VI (Boston, USA) M. Barbaroux, Sartorius; S. Kane, Takeda; S. Yoon, University of Massachusetts, Lowell
September 17-21	23-AH	INTERNATIONAL HYDROGEN CONFERENCE: UNDERSTANDING HYDROGEN-MATRIALS INTERACTIONS (Park City, Utah) M. Martin, NIST; J. Burns, University of Virginia
September 17-21	23AB	BIO-CHAR III (Tomar, Portugal) F. Berruti, Western University, Canada; D. Chiaramonti, Politecnico di Torino and RE-CORD, Italy; S. Fiore, Politecnico di Torino, Italy; M. Garcia-Perez, Washington State University, USA; O. Masek, University of Edinburgh, UK
October 1-6	23AE	ENZYME ENGINEERING XXVII (Singapore) Ang Ee Lui, A*Research, Singapore; Li Zhi, National University of Singapore; Yan Feng, Shanghai Jiao Tong University
<u>2024</u>		
January 7-12	20AT	TRANSITION OF ENERGY SYSTEMS TOWARDS SUSTAINABILITY (India TBA) S. De, S. Bandyopadhyay, IIT, Bombay
February 4-8	24AT	ADVANCING MANUFACTURE OF CELL AND GENE THERAPIES VIII (Coronado, CA) F. Masri, Cell & Gene Catapult; C. Yeager, Georgia Institute of Technology; G. Maheshwari, BMS; J. Moscariello, BMS
February TBA	21AD	ADVANCED MEMBRANE TECHNOLOGY VIII: ENVIRONMENT, FOOD, HEALTH AND NEW FRONTIERS (Casablanca, Morocco) J. Hestekin, University of Arkansas; U. Beusche, W.L. Gore, Inc.; D. Bhattacharyya, University of Kentucky
April 4-7	20AP	DELIVERY OF NUCLEIC ACID THERAPEUTICS II: BIOLOGY, ENGINEERING AND DEVELOPMENT (Siracusa, Sicily) L. Sepp-Lorenzino, Intellia Therapeutics; S. F. Dowdy, University of California San Diego School of Medicine; M. Stanton, Generational Bio
Spring	24AI	ULTRA-HIGH TEMPERATURE CERAMICS: MATERIALS FOR EXTREME ENVIRONMENT APPLICATIONS V (Italy) D. Sciti, Institute for Science and Technology of Ceramics, CNR;
April TBA	24AK	MICROBIAL ENGINEERING III (TBA) E. Keshavarz-Moore, University College London; T. Sauer, Sanofi
April/May	20AF	SYNTACTIC AND COMPOSITE FOAMS VI (Tallin, Estonia) G.M. Gladysz and K.K. Chawla, University of Alabama at Birmingham; A. R. Boccaccini, University of Erlangen-Nuremberg; M. Fukushima, National Institute of Advanced Industrial Science and Technology
ТВА	24AH	NANOTECHNOLOGY IN MEDICINE III: ENABLING NEXT GENERATION THERAPIES (TBA) K. Rege, Arizona State University; S. De Smedt, Ghent University S. Varghese, Duke University
May 19-24	24AA	VACCINE TECHNOLOGY IX (Los Cabos, Mexico) C. Lutsch, Sanofi Pasteur; L. Lua, University of Queensland; F. Godia, Universitat Autònoma de Barcelona; T. Tagmyer, Merck
ТВА	24AM	BIOCHEMICAL AND MOLECULAR ENGINEERING XXIII (TBA) M. O'Malley, University of California at Santa Barbara; B. Pfleger, University of Wisconsin
Sept 29-Oct 4	24AN	NANOMECHANICAL TESTING IN MATERIALS RESEARCH AND DEVELOPMENT IX (TBA, Europe) M. Sebastiani, Rome TRE University
October TBA	24AB	INTEGRATED CONTINUOUS BIOMANUFACTURING VI (TBA, USA) A. Azevedo, Instituto Superior Técnico; A. Noyes, Codiak Bio;; K. Brower, Sanofi

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Engineering Conferences International

Engineering Conferences International (ECI) is a not-for-profit global engineering conferences program that has served the engineering/scientific community since 1962 as successor program to Engineering Foundation Conferences. ECI has received recognition as a 501(c)3 organization by the U.S. Internal Revenue Service and is incorporated in the State of New York as a not-for-profit corporation.

The program has been developed and is overseen by volunteers both on the international Board of Directors and international Conferences Committee. More than 1,900 conferences have taken place to date. The conferences program is administered by a professional staff and the conferences are designed to be self-supporting.

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To serve the engineering/scientific community with international, interdisciplinary, leading edge engineering research conferences

ECI Purposes

The advancement of engineering arts and sciences by providing a forum for the discussion of advances in the field of science and engineering for the good of mankind by identification and administration of international interdisciplinary conferences

To work with engineering, scientific and social science societies and the interested general public to jointly sponsor conferences and to take other actions that will foster complementary programming.

To initiate conferences that will have a significant impact on engineering education, research practice and/or development.

ECI Encouragement of New Conference Topics

The ECI Conferences Committee invites you to suggest topics and leaders for additional conferences and encourages you to submit a proposal for an ECI conference.

Ideally, proposals should be submitted from 18 to 24 months in advance of the conference although the staff can work on a shorter timeline.

The traditional format for an ECI conference is registration Sunday afternoon with technical sessions held each morning and evening through Thursday or Friday noon. Afternoons are used for informal gatherings, poster sessions, field trips, subgroup meetings and relaxation. This format has served well to build important professional networks in many areas.

ECI welcomes proposals for shorter conferences and for conferences which span weekends in order to reduce the number of working days participants are away from their offices.

ECI Works With You

ECI works with conference chairs in two complementary ways. First, an experienced member of the Conferences Committee acts as your technical liaison from the proposal stage through the conference itself. He or she is always available to consult with you on any conference issue.

Second, after your proposal has been approved by the Conferences Committee, the ECI staff will assume responsibility for the administration of the conference.

Your primary responsibilities will be recruiting the organizing committee, developing the technical program and securing third-party funding necessary to support the travel of key speakers.

The responsibilities of ECI's "full service" staff include -- but are not limited to -- the following:

- Recommend, negotiate, contract and make substantial deposits for housing, meals, meeting space, A/V equipment and tours.
- Maintain web sites for the conference and for submission of abstracts.
- Publicize via electronic and print media.
- Administer all finances including grants, contributions and purchase orders. (ECI makes grant funds available as soon as a grant is approved.) There is no need for chairs to set up a conference bank account or file tax returns for their conference.
- Process all applications and registrations.
- Produce bound program/abstracts book.
- Contract for the publication of print or electronic proceedings, if any.
- Provide on-site staff during the conference.

For more information, please contact the ECI Director at Barbara@engconfintl.org