Program

ELECTRIC FIELD ENHANCED PROCESSING OF ADVANCED MATERIALS III: COMPLEXITIES AND OPPORTUNITIES

March 19-24, 2023
Tomar,
Portugal

Conference Co-Chairs
Rishi Raj
University of Colorado Boulder, USA

Luis Perez-Maqueda
CSIC, Spain

Engineering Conferences International
369 Lexington Avenue, 3rd Floor #389
New York, NY 10017, USA
www.engconfintl.org – info@engconfintl.org
Hotel Dos Templarios
Largo Candido do Reis, 1
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Hidehiro Yoshida, The University of Tokyo, Japan
Haiyan Wang, Purdue University, IN,
Anthony R. West, Sheffield University, UK
Dietrich Wolf, Physics, University of Duisburg, Germany
Previous conferences in this series:

**Electric Field Assisted Sintering and Related Phenomena Far From Equilibrium**
March 6-11, 2016
Tomar, Portugal

*Conference Chairs:*
Rishi Raj, University of Colorado at Boulder, USA
Thomas Tsakalakos, Rutgers University, USA

**Electric Field Enhanced Processing of Advanced Materials II: Complexities and Opportunities**
March 10-15, 2019
Tomar, Portugal

*Conference Chairs:*
Rishi Raj, University of Colorado at Boulder, USA
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Conference Sponsors

Army Research Office

Office of Naval Research
Sunday, March 19, 2023

16:30 – 18:30  Check-in
18:30 – 19:30  Opening reception
19:30 – 21:00  Dinner

Notes

- Please wear your mask except when giving a presentation or actively eating or drinking. Please maintain physical distancing as much as possible.
- Audio, still photo and video recording by any device (e.g., cameras, cell phones, laptops, PDAs, watches) is strictly prohibited during the technical sessions, unless the author and ECI have granted prior permission.
- Speakers – Please have your presentation loaded onto the conference computer prior to the session start (preferably the day before).
- Speakers – Please leave at least 5 minutes for questions and discussion.
- Please do not smoke at any conference functions.
- Turn your mobile telephones to vibrate or off during technical sessions.
- After the conference, ECI will send an updated participant list to all participants. Please check your listing now and if it needs updating, you may correct it at any time by logging into your ECI account.
- 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.
TOPICS (and Posters for Each Topic)

1. Overview Presentations (no posters)

2. Reactive Flash Sintering

2P-1 Effect of reactive flash sintering on the magnetic and hyperfine parameters of SrFe$_{12}$O$_{19}$ ceramic permanent magnets, Pedro Sanchez Jimenez, Institute of Materials Science of Seville - CSIC, Spain

2P-2 A comparative study of magnetic and electrical properties of BiFeO$_3$ multiferroic ceramics sintered by electric field assisted-methods: spark plasma sintering and flash sintering, Pedro Sanchez Jimenez, Institute of Materials Science of Seville - CSIC, Spain

3. In-Operando Characterization

3P-1 Phase evolution during Conventional and Flash Sintering of hydroxyapatite-zirconia composite using in-situ synchrotron X-ray diffraction, Isabela Reis Lavagnini, University of São Paulo, Brazil

4. SPS/Microwave/UHS

4P-1 Effect of Mn doping on densification and properties of transparent alumina by high-pressure SPS (HPSPS), Jonathan Mottye, Ben-Gurion University of the Negev, Israel

5. Special Materials Systems

5P-1 Fabrication and characterization of ceramic dielectric high gradient insulator, Anat Karlin, Technion - Israel Institute of Technology, Israel

5P-2 Tuning the microstructure of flash sintered BZT-BCT ceramics to obtain enhanced and singular properties, Samuel López Blanco, Universitat Politècnica de Catalunya, Spain

5P-3 Calcium and the elongated grain shape of alumina, Iman Naamne, Technion-Israel Institute of Technology, Israel

5P-4 Self-joining of Y-TZP by flash event under an AC electric field, Kohta Nambu, Kyushu University, Japan

5P-5 Electric-field directionality effect during flash joining of metal-ceramic multi-layered structure, Raghav Mundra, Indian Institute of Technology Kanpur, India

5P-6 Burning of the PVB binder during window glass sintering assisted by an electric field, Eduardo Bellini Ferreira, São Carlos Engineering School, (EESC)/University of São Paulo, Brazil

5P-7 A study on the current-controlled flash sintering experiments on 3YSZ-Ni composites, Pranav Rai, Indian Institute of Technology Patna, India

5P-8 Flash sintered Al$_2$O$_3$-YSZ-Boron composite for tribological applications, Subin Jose & Merbin John, University of Nevada, Reno, US

5P-9 Flash sinter-crystallization: A new technique for ultrafast crystallization of glasses, João Vitor Campos, Universidade Federal de São Carlos, Brazil
6. Metals (no posters)

7. Defects, Theory & Experiment

7P-1 Use of phase resolved partial discharges for studying the incubation period of room temperature flash sintering of zinc oxide, Jean-Francois Fagnard, University of Liege, Belgium

7P-2 Finite element analysis of hot spots in flash sintering, Philippe Vanderbemden, University of Liège, ACE, Belgium

7P-3 The Influence of Point Defects on Flash Sintering of MgO, Rawan Halabi, Technion, Israel

8. Advanced Methods

8P-1 Development of a microcontroller-based phase resolved partial discharge measurement system with application to the monitoring of flash sintering discharge patterns, Thibault Gillis, Université de Liège, Belgium

8P-2 AC vs. DC Flash Sintering: influence of field frequency on flash processes, Pedro E. Sanchez Jimenez, Instituto de Ciencia de Materiales de Sevilla, Spain

8P-3 Insights into the use of Flash Sintering methods to prepare catalytic materials, Xavier Vendrell, Villafruela Universitat de Barcelona, Institut de Nanociència i Nanotecnologia (IN2UB), Spain

8P-4 In-Flash Measurement of Elastic Constants, Sabyasachi Panda, IIT-Madras, India
Monday, March 20, 2023

07:30 – 08:30  Breakfast

**Session I: Overview Presentations**

**PLEASE NOTE** Please note that talks are limited to <30 min (including 5 – 10 minutes for questions) to make room for a 90 min. round table discussion at the end.

08:30 – 09:00  The History of Flash Sintering
Marco Cologna, European Commission, Joint Research Centre (JRC), Germany

09:00– 09:30  Reactive Flash Sintering
Luis A. Perez-Maqueda, Spanish National Research Council - University of Seville, Spain

09:30 – 10:00  Coffee Break

10:00 – 10:30  Athermally Enhanced High Temperature Plastic Flow in Zirconia Ceramics under Flash Event
Hidehiro Yoshida, The University of Tokyo, Japan

10:30 – 11:00  From Electrical Current via Non-Equilibrium n to Frenkel Defects
Dietrich E. Wolf, University of Duisburg-Essen, Germany

11:00 – 11:30  Coffee Break

11:30 – 12:00  Importance of in-situ Experiments in Understanding External Field Effects during Flash Sintering
Shikhar Krishn Jha, IIT Kanpur, India

12:00 – 12:30  From Pit Fire to Ultrafast High-Temperature Sintering (UHS): Shared Features of Ultra-Fast Sintering Techniques
Salvatore Grasso, Queen Mary University of London, United Kingdom

13:00 – 14:30  Lunch

14:30 – 15:00  Electrical Transitions/Memristors
Tony West, Sheffield University, United Kingdom

15:00 – 15:30  Ultra-Fast High Temperature Sintering (UHS) of Strontium Titanate
Martin Bram, Forschungszentrum Juelich GmbH, Germany

15:30 – 16:00  Coffee Break

16:00 – 16:30  Confluence of Flash and UHS
Rishi Raj, University of Colorado-Boulder, USA

16:30 – 17:00  Coffee Break

17:00 – 18:30  Round Table Discussion (all speakers)

19:30 – 21:00  Dinner

21:00 – 23:00  Posters and Social Hour
Tuesday, March 21, 2023

07:30 – 08:30  Breakfast

Session 2: Reactive Flash Sintering

08:30 – 08:50  Manufacturing
David Pearmain, Lucideon Ltd, United Kingdom

08:50 – 09:10  Reactive Flash Sintering of High Entropy (Mn0.2Co0.2Ni0.2Cu 0.2X 0.2)Fe2O4 (X=Fe, Mg) Spinel Oxides
Pedro Sanchez Jimenez, Institute of Materials Science of Seville - CSIC, Spain

09:10 – 09:30  Effects of Reactive Flash Sintering on Phase Evolution of Ceramic Materials
Lilian M. Jesus, UFSCar, Brazil

09:30 – 10:00  Coffee Break

Session 3: In-Operando Characterization

10:00 – 10:20  Structural Changes Induced by Flash in a Single Crystal of Pr2CuO4
Dmitry Reznik, University of Colorado-Boulder, USA

10:20 – 10:40  Flash Migration Velocity in Bilayers: With an Without Interdiffusion
Rishi Raj, University of Colorado-Boulder, USA

10:40 – 11:00  Studies of Grain Boundaries by High Resolution TEM
Klaus van Benthem, University of California Davis

11:00 – 11:30  Coffee Break

Session 4: SPS/Microwave/UHS

Camila Ribeiro, CICECO - University of Aveiro, Portugal

11:50 – 12:10  Ultrafast High-Temperature Sintering of Advanced Ceramics: A Direct Comparison with the State-of-the-Art Techniques
Salvatore Grasso, Queen Mary University of London, United Kingdom

13:00 – 14:30  Lunch

14:30 – 14:50  Evaluating the Microwave Sintering Behaviors of Binder-jetted Additively Manufactured Alumina
Bashu Aman, Carnegie Mellon University, USA

Session 5: Special Materials Systems

14:50– 15:10  Microstructure and Defect Formation in BaTiO3 Ceramics Obtained by Flash Sintering of Micro and Nanopowders
Samuel López Blanco, Universitat Politècnica de Catalunya, Spain

16:00 – 16:20  Flash Sintering of Gadolinium-doped Ceria
Luca Balice, Forschungszentrum Jülich GmbH, Germany

16:20 – 17:00  Coffee Break
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<tr>
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<td>17:00 – 17:20</td>
<td>Field Assisted Sintering Techniques in Recycling NdFeB Magnets</td>
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<td>Monica Keszler, Forschungszentrum Jülich GmbH, Germany</td>
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<tr>
<td>17:20 – 17:40</td>
<td>Effect of Absorbed Power on Densification and Grain Growth during Rapid Microwave Sintering</td>
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<td></td>
<td>Kirill I. Rybakov, Institute of Applied Physics, Russian Academy of Sciences, Russia</td>
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<tr>
<td>17:40 – 18:10</td>
<td>Investigation of the Mechanisms of Flash Sintering in Ceramic Materials</td>
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<td></td>
<td>Thomas Tsakalakos, Rutgers University, USA</td>
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<tr>
<td>19:30 – 21:00</td>
<td>Dinner</td>
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<td>21:00 – 23:00</td>
<td>Posters and Social Hour</td>
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</table>
Wednesday, March 22, 2023

07:00 – 08:30  Breakfast

Session 5: Special Materials Systems (continued)

08:30 – 08:50  Flash Assisted Processing of Entropy Stabilized (Mg, Co, Ni, Cu, Zn)O
Mohammad Imteyaz Ahmad, Indian Institute of Technology (BHU), India

08:50 – 09:10  Investigation and Enhancement in Properties of Copper Converter Slag Residue with Flash Sintering Method
Zeynep Çetinkaya, Konya Technical University, Turkey

09:10 – 09:30  Flash Sinter-Crystallization: A New Technique for Ultrafast Crystallization of Glasses
João Vitor Campos, Universidade Federal de São Carlos, Brazil

09:30 – 10:10  Coffee Break

10:10 – 10:30  Behind the High Electrical Performance of Flash Sintered Potassium Sodium Niobate Piezoelectric Ceramics
Alexander Tkach, University of Aveiro, CICECO-Aveiro Institute of Materials, Portugal

10:30 – 10:50  Preliminary Results of Flash Sinter-Crystallization of Li1.3Al0.3Ti0.7(PO4)3 for All Solid-State Batteries
Ana Candida Rodrigues, Federal University of São Carlos, Brazil

10:50 – 11:10  Influence of Fields on Grain Boundary Mobility in Alumina
Rachel Marder, Technion – Israel Institute of Technology, Israel

11:10 – 11:20  In-situ Generation and Grain Growth of CeO2 Nanocrystals in AC/DC Electrical Fields
Vaclav Tyrpezl, Charles University, Czech Republic

12:15 – 13:30  Lunch

13:50   Excursion: Meet in hotel lobby
14:00   Depart with guides on excursion
18:00   Return from excursion
18:30   Social hour in Lobby Bar
19:30 – 21:00  Dinner
21:00 – 23:00  Social Hour
Thursday, March 23, 2023

07:30 – 08:30  Breakfast

**Session 6: Metals**

Alexander Gourley, Carnegie Mellon University, USA

08:50 – 09:10  MXene-Based Ceramic Nanocomposites Enabled by Field-Assisted Sintering
Maxim Sokol, Tel Aviv University, Israel

09:10 – 09:40  Coffee Break

09:40 – 10:00  Nanocarbon-Infused Copper Conductors by Electric Field Assisted Processing
Uthamalingam Balachandran, University of Colorado-Boulder, USA

10:00 – 10:20  Energy Deficit and Defect Formation
Jean-Marie Lebrun, St. Gobain, France

10:20 – 11:20  OPEN DISCUSSION: Defects: Calorimetry, Characterization, Phonons

13:00 – 14:30  Lunch

**Session 7: Defects and Theory/Experiments**

14:30 – 14:50  Memristors: The Role of Anode Interface Resistance
Rishi Raj, University of Colorado-Boulder, USA

14:50 – 15:10  Neural Network-Based Simulation Method to Examine Ion Behaviors Under Electric Fields: Application to Ion Migration in Amorphous Li$_3$PO$_4$
Koji Shimizu, The University of Tokyo, Japan

15:10 – 15:30  Probing the local structure of electroluminescing rutile TiO$_2$ with neutron diffuse scattering and atomistic modelling
Ty Sterling, University of Colorado-Boulder, USA

15:30 – 15:50  Role of Native Defects in Field-Assisted Sintering
Yoed Tsur, Technion - Israel Institute of Technology, Israel

16:00 – 16:30  Coffee Break

16:30 – 16:50  First-Principles Design and Discovery of New High-Entropy Materials
Liping Yu, University of Maine, USA

16:50 – 17:10  Flash Sintering as a Route to Produce Lead-Free Piezoelectric KNN
Ana Senos, University of Aveiro, Portugal

17:10 – 17:30  Understanding Flash Sintering of Semiconductor Oxide Materials at the Nano-Atomic Scale
Fátima Zorro, Instituto Superior Técnico, Portugal

17:30 – 18:45  Posters Session

18:45 – 20:00  Social hour with piano

20:00 – 22:00  Conference Gala Dinner
Friday, March 24, 2023

07:30 – 08:30  Breakfast

**Session 8: Advanced Methods**

08:30 – 08:50  Touch Free Sintering with Superposition of Magnetic Fields
Rishi Raj, University of Colorado-Boulder, USA

08:50 – 09:10  Multi-Phase Flash Sintering: The Next Natural Step in Flash Sintering Evolution
Sandra Molina-Molina, Spanish National Research Council (CSIC), Spain

09:10 – 09:30  Rapid Densification of Technical Ceramic Coatings using a Precise Controlled Contactless Flash Sintering System
Carolyn Grimley, Lucideon, USA

09:30 – 09:50  Flash Sintering, a Novel Technique, for Manufacturing Surrogate and Active Nuclear Materials
Gareth Jones, Lucideon Ltd, United Kingdom

09:50 – 10:30  Coffee Break

10:30 – 10:50  Generating Electrically Conducting Single Crystals of Rutile Titania Through Repetitive Flash Experiments
Devinder Yadav, Indian Institute of Technology Patna, Bihta, India

10:50 – 11:30  OPEN DISCUSSION: The Future?

13:00 – 14:30  Lunch and Departures
Poster Presentations

1. Fabrication and characterization of ceramic dielectric high gradient insulator
   Anat Karlin, Technion - Israel Institute of Technology, Israel

2. Burning of the PVB binder during window glass sintering assisted by an electric field
   Eduardo Bellini Ferreira, São Carlos Engineering School (EESC)/University of São Paulo, Brazil

3. Self-joining of Y-TZP by flash event under an AC electric field
   Kohta Nambu, Kyushu University, Japan

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12. Finite element analysis of hot spots in flash sintering
    Philippe Vanderbemden, University of Liege, Belgium

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14. Electric-field directionality effect during flash joining of metal-ceramic multi-layered structure
    Raghav Mundra, Indian Institute of Technology Kanpur, India
Poster Presentations

15. The influence of point defects on flash sintering of MgO  
    Rawan Halabi, Technion-Israel Institute of Technology, Israel

16. In-flash measurements of elastic constants  
    Sabyasachi Panda, Indian Institute of Technology Madras, India

17. Tuning the microstructure of flash sintered BZT-BCT ceramics to obtain enhanced and singular properties  
    Samuel López Blanco, Universitat Politècnica de Catalunya, Spain

18. Flash sintered Al2O3-YSZ-Boron composite for tribological applications  
    Subin Jose and Merbin John, University of Nevada, Reno, USA

19. WITHDRAWN

20. Development of a microcontroller-based phase resolved partial discharge measurement system with application to the monitoring of flash sintering discharge patterns  
    Thibault Gillis, Université de Liège, Belgium

21. Insights into the use of Flash Sintering methods to prepare catalytic materials  
    Xavier Vendrell Villafruela, Universitat de Barcelona, Institut de Nanociència i Nanotecnologia (IN2UB), Spain
Calendar of ECI Conferences

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2023

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  23AU  2023 INTERNATIONAL CONFERENCE ON SEMICONDUCTOR TECHNOLOGY FOR ULTRA LARGE SCALE INTEGRATED CIRCUITS AND THIN FILM TRANSISTORS (ULSIC VS TFT 8) (Otaru (Sapporo), Japan)
Y. Kuo, Texas A&M University

May 28-June 2  21AG  ALKALI ACTIVATED MATERIALS AND GEPOLYMERS: SUSTAINABLE CONSTRUCTION MATERIALS AND CERAMICS MADE UNDER AMBIENT CONDITIONS (Cetrao (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 18-23  23AI  INNOVATIVE MATERIALS FOR ADDITIVE MANUFACTURING II (IMAM II) (Tallinn, Estonia)
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.

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-MATERIALS 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, Singapore Institute of Food and Biotechnology Innovation, A'STAR, Singapore; Li Zhi, National University of Singapore; Yan Feng, Shanghai Jiao Tong University

Oct. 15-19  21AO  ADVANCES IN OPTICS FOR BIOTECHNOLOGY, MEDICINE AND SURGERY (Tomar, Portugal)
M. Niedre, Northeastern University; F. Leblond, Polytechnique Montreal

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<td>February 4-8</td>
<td>24AT</td>
<td>ADVANCING MANUFACTURE OF CELL AND GENE THERAPIES VIII</td>
<td>(Coronado, CA)</td>
<td>F. Masri, Cell &amp; Gene Catapult; C. Yeager, Georgia Institute of Technology; G. Maheshwari, BMS; J. Moscariello, BMS</td>
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<td>February TBA</td>
<td>21AD</td>
<td>ADVANCED MEMBRANE TECHNOLOGY VIII: ENVIRONMENT, FOOD, HEALTH AND NEW FRONTIERS</td>
<td>(Casablanca, Morocco)</td>
<td>J. Hestekin, University of Arkansas; U. Beusche, W.L. Gore, Inc.; D. Bhattacharyya, University of Kentucky</td>
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<td>April 4-7</td>
<td>20AP</td>
<td>DELIVERY OF NUCLEIC ACID THERAPEUTICS II: BIOLOGY, ENGINEERING AND DEVELOPMENT</td>
<td>(Siracusa, Sicily)</td>
<td>L. Sepp-Lorenzino, Intellia Therapeutics; S. F. Dowdy, University of California San Diego School of Medicine; M. Stanton, Generational Bio</td>
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<td>April 14-19</td>
<td>24AI</td>
<td>ULTRA-HIGH TEMPERATURE CERAMICS: MATERIALS FOR EXTREME ENVIRONMENT APPLICATIONS V</td>
<td>(Sicily, Italy)</td>
<td>D. Sciti, Institute for Science and Technology of Ceramics, CNR; L. Silvestroni and F. Monteverde, ISSMC-CNR; J. Binner, Univ. of Birmingham; R. Savino, Univ. of Naples; G. Thompson, Univ. of Alabama; E. Wuchina, Naval Surface Warfare Center</td>
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<td>April TBA</td>
<td>24AK</td>
<td>MICROBIAL ENGINEERING III (TBA)</td>
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<td>E. Keshavarz-Moore, University College London; T. Sauer, Sanofi</td>
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<td>April/May</td>
<td>20AF</td>
<td>SYNTACTIC AND COMPOSITE FOAMS</td>
<td>(Riga, Latvia)</td>
<td>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</td>
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<td>May 12-17</td>
<td>24AH</td>
<td>NANOTECHNOLOGY IN MEDICINE III: ENABLING NEXT GENERATION THERAPIES</td>
<td>(Tomar, Portugal)</td>
<td>K. Rege, Arizona State University; S. De Smet, Ghent University S. Varghese, Duke University</td>
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<td>May 19-24</td>
<td>24AA</td>
<td>VACCINE TECHNOLOGY IX</td>
<td>(Los Cabos, Mexico)</td>
<td>C. Lutsch, Sanofi Pasteur; L. Lua, University of Queensland; F. Godia, Universitat Autònoma de Barcelona; T. Tagmyer, Merck</td>
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<td>June TBA</td>
<td>24AS</td>
<td>TRANSITION OF ENERGY SYSTEMS TOWARDS SUSTAINABILITY</td>
<td>(Savanger, Norway)</td>
<td>S. De, S. Bandypadhyay, IIT Bombay; M. Assadi, University of Savanger</td>
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<td>July 21-25</td>
<td>24AM</td>
<td>BIOCHEMICAL AND MOLECULAR ENGINEERING XXIII</td>
<td>(Dublin, Ireland)</td>
<td>M. O'Malley, University of California at Santa Barbara; B. Pfleger, University of Wisconsin</td>
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<td>TBA</td>
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<td>POLYMER REACTION ENGINEERING XII (TBA)</td>
<td>(TBA)</td>
<td>I. Konstantinov, The Dow Chemical Company; P. Iedema, University of Amsterdam; M. Grady, Axalta</td>
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<tr>
<td>Sept/Oct</td>
<td>24AW</td>
<td>WATER (Europe)</td>
<td></td>
<td>D. Hunkeler, Aqua+Tech</td>
</tr>
<tr>
<td>Oct 6-11</td>
<td>24AN</td>
<td>NANOMECHANICAL TESTING IN MATERIALS RESEARCH AND DEVELOPMENT IX</td>
<td>(Sicily, Italy)</td>
<td>M. Sebastiani, Rome TRE University</td>
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<tr>
<td>Oct 20-24</td>
<td>24AB</td>
<td>INTEGRATED CONTINUOUS BIOMANUFACTURING VI</td>
<td>(USA, Canada or Panama)</td>
<td>A. Azevedo, Instituto Superior Técnico; A. Noyes, CodiaKBio; K. Brower, Sanofi</td>
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</table>
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.

ECI Mission

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