*Program*

# *Biological, Pharmaceutical and Cosmetic Complex Fluids IV*

**October 25 - 29, 2026**

**Calabria, Italy**

**Conference Chair:**

**Samiul Amin**

**University of Miami, USA**



**Engineering Conferences International**
369 Lexington Ave., Suite 389 - New York, NY 10017, USA
Phone: 1 - 212 - 514 - 6760
www.engconfintl.org – info@engconfintl.org

**Grand Hotel San Michele**

**Contrada BOSCO 30**

**87022 - Cetraro (CS), Italy**

**Phone: +39-0982-91012**

**Email: info@sanmichele.it**

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 conference in this series***

***Biological & Pharmaceutical Complex Fluids:***
***New Trends in Characterizing Microstructure, Interactions & Properties***
**July 30 - Aug 3, 2012**
**Tomar, Portugal**
*Conference Chairs:*
Samiul Amin, Yet2.com Europe Ltd.
Michael Solomon, University of Michigan, USA

***Biological and Pharmaceutical Complex Fluids II: Novel Trends in Characterizing Interactions, Microstructure and Rheology***
**August 10-14, 2014**
**Durham, North Carolina, USA**
*Conference Chairs:*
Samiul Amin, Malvern Instruments, USA,
Tapan Das, Bristol Meyers Squibb, USA

***Biological and Pharmaceutical Complex Fluids III: Protein Self-Assembly, Rheology and Interfacial Properties***
**July 14-18, 2019**
**Hernstein, Austria**
*Conference Chairs:*
Samiul Amin, Malvern Instruments, USA,
Paolo Arosio, ETHZ, Switzerland
Miguel Rodrigues, University of Lisbon, Portugal

# Upcoming ECI Conferences

## 2026

**SINGLE USE TECHNOLOGIES VIII**
**October 12 – 15, 2026**
N. Montenay, Sartorius; G. Gillespie, North Carolina State University; P. Smith, GSK
*Montreal, P.Q., Canada*

**BIOLOGICAL, PHARMACEUTICAL AND COSMETIC COMPLEX FLUIDS IV**
**October 25 – 30, 2026**
S. Amin, University of Miami
*Calabria, Italy*

## 2027

**MICROBIAL ENGINEERING IV**
**February 14 – 18, 2027**
E. Keshavarz-Moore, University College London; T. Sauer, Sanofi; D. Dikicioglu, University College London
*Malta*

**ENG2WINE II: INDUSTRY CHALLENGES AND INNOVATIVE ENGINEERING SOLUTIONS**
March 21-25, 2027
D.E. Block, University of California Davis; D. Durner, University of Applied Sciences Kaiserlautern;
D. K. Kundiyana, E. & J. Gallo Winery
Alba, Italy

**CELL CULTURE ENGINEERING XX**
**May 1-7, 2027**
Inn Yuk, Genentech/Roche; M. Antoniewicz, University of Michigan; N. Abu-Absi, Abbvie
*Quebec City, Canada*

**ULTRA-HIGH TEMPERATURE CERAMICS: MATERIALS FOR EXTREME ENVIRONMENT APPLICATIONS VII**
**May 16 – 20, 2027**
C. Weinberger, Colorado State University
Estes Park, Colorado

**BIO-CHAR V**
**May 23 – 27, 2027**
J. Lehmann, Cornell University; M.R. Acocella, University of Salerno; O, Masek, University of Edinburgh;
N. Klinghoffer, Western University
*Giardini Naxos, Sicily, Italy*

**INNOVATIVE MATERIALS & METHODS FOR ADDITIVE MANUFACTURING IV (IM2AM)**
**June 6-11, 2027**
B. Compton; University of Tennessee, Knoxville; E. Eastwood, KCNSC; N. Gupta, New York University; D. Schmidt and J. Gonzalez-Gutierrez, Luxembourg Institute of Technology; P. Cortes, University of Texas at El Paso
*Espoo, Finland*

**ADVANCES IN OPTICS FOR BIOTECHNOLOGY, MEDICINE AND SURGERY IX**
**June 13-17, 2027**
T. Durduran, IFCO; B. Choi, University of California Irvine; J. Ramella-Roman, Florida International University
*Castelldefels, Spain*

# Upcoming ECI Conferences

## 2027

**MICRO- AND NANOPLASTICS IN WATER: CHARACTERIZATION, CURE AND PREVENTION II**
**July 4 – 8, 2027**
D. Hunkeler, Aqua+Tech; K. Bell, Hazen & Sawyer
*Davos, Switzerland*

**2027 INTERNATIONAL CONFERENCE ON SEMICONDUCOR TECHNOLOGY FOR ULTRA LARGE SCALE INTEGRATED CIRCUITS AND THIN FILM TRANSISTORS (ULSIC VS TFT 10)**
July 25-29, 2027
Y. Kuo, Texas A&M University
*Tomar, Portugal*

**MIXED CONDUCTING AND NONSTOICHIOMETRIC COMPOUNDS IX**
August 8 – 13, 2027
M. Elm, University of Giessen
*Hernstein, Austria*

**PYROLIQ IV – 2027: PYROLYSIS AND LIQUEFACTION OF BIOMASS AND WASTES**
**September 5 – 9, 2027**
P. Biller, Aarhus University; B. DeCaprariis, Spaienza University of Rome; M. Garcia-Perez, Washington State University
*Irsee, Germany*

**INTEGRATED CONTINUOUS BIOMANUFACTURING VIII**
**September 12 - 16, 2027**
M. Brower, Merck; E. Gefroh, JustBio-Evotec; T. Villiger, University of Applied Sciences and Arts Northwestern Switzerland
Whistler, BC, Canada

**INTERNATIONAL HYDROGEN CONFERENCE: UNDERSTANDING HYDROGEN-MATERIALS INTERACTIONS**
**October 3 – 7, 2027**
M. Martin, NIST; J. Burns, University of Virginia
*Whitefish, MT*

**ENZYME ENGINEERING XXIX**
**October 17-22, 2027**
J. Lewis, Indiana University; E. Master, University of Toronto; M. Kerr, Eli Lilly
*Montreal, Canada*

## 2028

**DELIVERY OF NUCLEIC ACID THERAPEUTICS III: BIOLOGY, ENGINEERING & DEVELOPMENT**
**March 29 – April 2, 2028**
L. Sepp-Lorenzino, Intellia Therapeutics; S. F. Dowdy, University of California San Diego School of Medicine; M. Stanton, RA Ventures
Malta

**THERMAL AND ENVIRONMENTAL BARRIER COATINGS VIII**
**June 11 – 16, 2028**
R. S. Naraparaju, DLR; E. Opila, University of Virginia; M. Wallace, GE Aviation
Irsee, Germany

**CERAMIC MATRIX COMPOSITES IV**
**September 10 – 15, 2028**
G. Vignoles, University of Bordeaux
*Pau, France*

**Sunday, October 25, 2026**

| | |
|---|---|
| 17:30 – 18:30 | Conference check-in |
| 18:30 – 19:30 | Welcome reception |
| 19:30 – 21:00 | Dinner |

***Locations and Notes***

- *Technical Sessions will be in the Conference Center.*
- *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.*
- *Audiotaping, videotaping and photography of presentations are prohibited.*

**Monday, October 26, 2026**

| | |
|---|---|
| 07:30 – 09:00 | Breakfast |
| 09:00 – 09:15 | Welcome and Conference Opening |
| | **Session 1: Biotherapeutic Protein Interactions**<br>Session Chair: Michael Marlow |
| 09:15 – 09:50 | **Resolving heterogeneity in protein self-assembly across scales**<br>Vito Fodera, Copenhagen University, Denmark |
| 09:50 – 10:25 | **From monospecific to bispecific: Predicting and validating colloidal stability using B22-driven design heuristics**<br>Hasan Shafar, University of Delaware, USA |
| 10:25 – 11:00 | Coffee Break |
| 11:00 – 11:35 | **Concentration-gradient self-interaction nanoparticle spectroscopy (CG-SINS) as a high-throughput tool for early assessment of monoclonal antibody self-association and developability**<br>Angela Develin, Boehringer Ingelheim, USA |
| | **Session 2: Self Assembly & Gelation**<br>Session Chair: Samiul Amin |
| 11:35 – 12:10 | **Engineering β-sheet peptide supramolecular materials for biomedical applications**<br>Alberto Saiani, University of Manchester, UK |
| 12:10 – 12:45 | **Multi-step gelation pathways of food proteins from pea seeds**<br>David Schirone, Lund University, Sweden |
| 12:45 – 14:30 | Lunch |
| 14:30 – 15:05 | **Understanding the self-assembly of the amphiphilic block copolymer soluplus**<br>Gerardo Palazzo, University of Bari, Italy |
| 15:05 – 15:40 | **Rhamnolipid microstructured formulations: From physicochemical to functional properties**<br>Gerardino Derrico, University of Naples, Italy |
| 15:40 – 16:05 | **Surfactants and lipid membranes: Do we really know their interaction mechanism?**<br>Pamela Giannone, University of Bari Aldo Moro, Italy |
| 16:05 – 16:45 | Coffee Break |
| | Free time / Networking |
| 19:30 – 21:00 | Dinner |

**Tuesday, October 27, 2026**

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|---|---|
| 07:30 – 09:00 | Breakfast |
| | **Session 3: Biotherapeutic Formulation, Bioprocessing & Administration**<br>Session Chair: Gerardo Palazzo |
| 09:00 – 09:35 | **From models to molecules: A "smart"iIntegrated framework for development of mioprocesses for high-concentration biotherapeutic formulations**<br>Tarik Khan, Roche, Germany |
| 09:35 – 10:10 | **Droplet-driven surface waves reveal protein formulation stability by encoding material stress responses**<br>Jack Holland, Apoha Limited, UK |
| 10:10 – 10:55 | Coffee Break |
| 10:55 – 11:30 | **Innovative approaches to therapeutic protein formulations to improve patients' outcomes**<br>Jan Jazek, Arecor, UK |
| 11:30 – 12:05 | **Stability and rheology control of high-concentration biotherapeutic formulations through advanced characterization and AI/ML**<br>Samiul Amin, University of Miami, USA |
| 12:05 – 12:30 | **Discussion** |
| 12:30 – 13:45 | Lunch |
| 13:45 – 17:30 | **Excursion to Diamonte**<br><br>Diamante is a renowned Calabrian seaside resort famous for its over 200 murals decorating the historic center, the island of Cirella, and the production of its signature chili pepper (Diamante is home to the Italian Chili Pepper Academy). This "pearl of the Tyrrhenian Sea" offers crystal-clear beaches, a quaint fishing village, and a lively waterfront, making it an ideal destination for culture, art, and the sea. |
| 19:30 – 21:00 | Dinner |

**Wednesday, October 28, 2026**

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|---|---|
| 07:30 – 09:00 | Breakfast |
| | **Session 4: Peptides, Nanoparticles & Biomaterials**<br>Session Chair: Tarik Khan |
| 09:00 – 09:35 | **Biomolecules for non-biological things: Peptide 'Bundlemer' design for model nanoparticle creation and hierarchical solution assembly**<br>Darrin Pochan, University of Delaware, USA |
| 09:35 – 10:10 | **Peptide recognition of ligand-bound protein complexes enables targeted delivery strategies**<br>Iris Da Luz Batalha, University of Bath, UK |
| 10:10 – 10:55 | Coffee Break |
| 10:55 – 11:30 | **High-throughput biomaterial encapsulation of cells and cellular components for diagnostic and therapeutic applications**<br>James Harden, University of Ottawa, Canada |
| 11:30 – 12:05 | **Beyond the surface: Lipoprotein corona drives structural remodeling of lipid nanoparticles**<br>Jacopo Cardellini, University of Florence, Italy |
| 12:40 – 14:00 | Lunch |
| | **Session 5: Advanced Characterization**<br>Session Chair: Gerardo Palazzo |
| 14:00 – 14:35 | **Multiplex quantification of extracellular vesicle markers using lfia and libs**<br>Helena Mateos Cuadrado, Università Degli Studi Di Bari, Italy |
| 14:35 – 15:10 | **Acoustics and electroacoustics for characterization of complex fluids**<br>Andriy Yaroshchuk, ICREA and Polytechnic University of Catalonia, Spain |
| 15:10 – 15:55 | Coffee Break |
| 15:55 – 16:30 | **Probing liquid-liquid phase separation kinetics by microfluidics time-resolved small angle x-ray scattering and molecular simulations**<br>Marco Polimeni, Copenhagen University, Denmark |
| 16:30 – 17:05 | **Multivariate modelling for soft sensing of membrane fouling by a biological complex fluid**<br>Zakhar Maletskyi, Norwegian University of Life Sciences, Norway |
| 17:05 – 17:20 | Closing Remarks |
| 19:30 – 20:00 | Reception |
| 20:00 – 22:00 | Gala dinner |

**Thursday, October 29, 2026**

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|---|---|
| 07:30 – 09:30 | Breakfast |
| | Departures |

## 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