

Program

Enzyme Engineering XXVIII

October 19 - 24, 2025

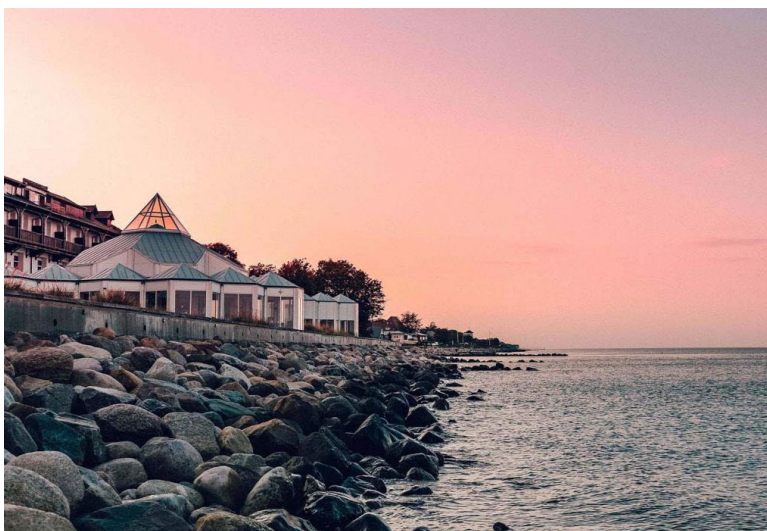
Helsingør, Denmark

Conference Co-Chairs

**John M. Woodley
Technical University of Denmark**

**Ditte Hededam Welner
Technical University of Denmark**

**Jens Erik Nielsen
Novonesis, Denmark**



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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

Enzyme Engineering

August 9-13, 1971

New England College, Henniker, New Hampshire

Conference Chair:

L.B. Wingard, Jr., SUNY Buffalo

Enzyme Engineering II

August 5-10, 1973

New England College, Henniker, New Hampshire

Conference Chairs:

L. B. Wingard, Jr., University of Pittsburgh

E. K. Pye, University of Pennsylvania

Enzyme Engineering III

August 3-8, 1975

Reed College, Portland, Oregon

Conference Chairs:

E. K. Pye, University of Pennsylvania

Howard H. Weetall, Corning Glass Works

Enzyme Engineering IV

September 25-30, 1977

Bad Neuenahr, W. Germany

Conference Chairs:

G. Manecke, der Freie Universität Berlin

L. B. Wingard, Jr., University of Pittsburgh

Enzyme Engineering V

July 29-August 3, 1979

New England College, Henniker, New Hampshire

Conference Chairs:

Howard H. Weetall, Corning Glass Works

G. P. Royer, University of Delaware

Enzyme Engineering VI

September 20-26, 1981

Kashikojima, Japan

Conference Chairs:

S. Fukui, Kyoto University

I. Chibata, Tanabe Seiyaku Co.

Enzyme Engineering VII

September 25-30, 1983

White Haven, Pennsylvania

Conference Chair:

Allen I. Laskin, Exxon Research & Eng. Co.

Enzyme Engineering VIII

September 22-27, 1985

Elsinor, Denmark

Conference Chair:

Klaus Mosbach, University of Lund

Previous conferences in this series

Enzyme Engineering IX

October 4-9, 1987

Santa Barbara, California

Conference Chairs:

Harvey W. Blanch, University of California, Berkeley
Alexander M. Klibanov, Massachusetts Institute of Technology

Enzyme Engineering X

September 24-29, 1989

Kashikojima, Japan

Conference Chair:

H. Okada, University of Osaka

Enzyme Engineering XI

September 22-27, 1991

Kona, Hawaii

Conference Chairs:

David A. Estell, Genencor
Douglas S. Clark, University of California, Berkeley

Enzyme Engineering XII

September 19-24, 1993

Deauville, France

Conference Chairs:

Daniel Thomas, University of Technology of Compiègne
Marie Dominique Legoy, University of Technology of Compiègne

Enzyme Engineering XIII

October 15-20, 1995

San Diego, California

Conference Chairs:

Jon Dordick, University of Iowa
Alan Russell, University of Pittsburgh

Enzyme Engineering XIV

October 12-17, 1997

Beijing, China

Conference Chairs:

Yao-Ting Yu, Nankai University
Gao-Xiang Li, Academia Sinica

Enzyme Engineering XV

October 10-15, 1999

Kailua-Kona, Hawaii

Conference Chairs:

David Anton, DuPont
Frances H. Arnold, California Institute of Technology
Robert Kelly, North Carolina State University

Previous conferences in this series

Enzyme Engineering XVI

October 7-12, 2001

Potsdam, Germany

Conference Chairs:

Frieder W. Scheller, University of Potsdam

Christian Wandrey, Research Center Jülich

Oreste Ghisalba, Novartis Pharma AG

Enzyme Engineering XVII

November 9-14, 2003

Santa Fe, New Mexico

Conference Chairs:

Stephen Benkovic, Pennsylvania State University

Chi-Huey Wong, Scripps Research Institute

Jeffrey Moore, Merck & Co., Inc.

Birgit Kosjek, Merck & Co., Inc.

Enzyme Engineering XVIII

October 9-14, 2005

Gyeong-ju, Korea

Conference Chairs:

Hak-Sung Kim, KAIST, Korea

Ji-Yong Song, LG Life Sciences, Ltd, Korea

Tae-Kwang Oh, Korea Research Inst. of Biosciences & Biotech, Korea

Moon-Hee Sung, Kookmin University, Korea

Enzyme Engineering XIX

September 23-28, 2007

British Columbia, Canada

Conference Chairs:

Romas Kazlauskas, University of Minnesota

Stefan Lutz, Emory University

David Estell, Danisco/Genencor

Enzyme Engineering XX

September 20-24, 2009

Groningen, the Netherlands

Conference Chairs:

Dick Janssen, University of Groningen

Oliver May, DSM Pharmaceutical Products

Andreas Bommarius, Georgia Institute of Technology

Enzyme Engineering XXI

September 18-22, 2011

Vail, Colorado

Conference Chairs:

Lori Giver, Codexis

Steve Withers, University of British Columbia

Previous conferences in this series

Enzyme Engineering XXII

September 22-26, 2013

Toyama, Japan

Conference Chairs:

Yasuhisa Asano, Toyama Prefectural University

Jun Ogawa, Kyoto University

Yoshihiko Yasohara, Keneka Corp.

Enzyme Engineering XXIII

September 6-11, 2015

St. Petersburg, Florida, USA

Conference Chairs:

Jon Dale Stewart, University of Florida

Robert DiCosimo, DuPont Industrial Biosciences

Enzyme Engineering XXIV

September 24-28, 2017

Toulouse, France

Conference Chairs:

Pierre Monsan, Toulouse White Biotechnology, France

Magali Remaud-Simeon, LISBP-INSA, University of Toulouse, France

Enzyme Engineering XXV

October 15-19, 2019

Whistler, British Columbia, Canada

Conference Chairs:

Huimin Zhao, University of Illinois at Urbana-Champaign, USA

John Wong, Pfizer, USA

Enzyme Engineering XXVI

May 22-27, 2022

Dallas/Fort Worth, Texas

Conference Chairs:

Andy Bommarius, Georgia Institute of Technology, USA

Vesna Mitchell, Codexis, USA

Doug Fuerst, GSK, USA

Enzyme Engineering XXVII

October 1-6, 2023

Singapore

Conference Chairs:

Ang Ee Lui, Singapore Institute of Food and Biotechnology Innovation, A*STAR, Singapore

Yan Feng, Shanghai Jiao Tong University, China

Li Zhi, National University of Singapore, Singapore

Jeffrey Moore– 2025 Enzyme Engineering Awardee



The 2025 Enzyme Engineering Award is given to Dr. Jeffrey Moore, a Senior Principal Scientist in Enabling Technologies at the pharmaceutical company MSD (Merck & Co., Inc., Rahway, NJ, USA).

A pioneer and influential leader, Dr. Moore has been the driving force behind implementation of enzymes for the synthesis of pharmaceutical products and their chiral intermediates. From his graduate studies through a distinguished 30-year industrial career, he has transformed biocatalysis from a promising concept into a standard and indispensable tool in modern pharmaceutical synthesis. Notably, he is one of the very few industrial winners of this award, recognized for his exceptional ability to translate innovative theory into practical solutions to deliver medicines to patients worldwide.

Dr. Moore received his Bachelor of Science degree in Chemical Engineering from North Carolina State University and completed his Ph.D. in 1996 at the California Institute of Technology. As the first graduate student in Frances Arnold's group to work on Directed Evolution, his seminal work stands as one of the foundational examples of applying this technology to improve enzymes for synthetic chemistry. Upon joining MSD in 1996, Dr. Moore led a paradigm shift away from challenging-to-scale wild-type whole cell bioconversions and toward the use of recombinantly expressed enzyme preparations. Utilizing these enzyme preparations, he and his team consistently demonstrated biocatalytic processes with reaction rates and volumetric productivities comparable to traditional chemical reactions, paving the way for the general adoption of biocatalysis. Dr. Moore championed the systematic incorporation of directed evolution to engineer enzymes with improved properties and expanded substrate scopes to provide manufacturing-ready biocatalysts, facilitating the development of biocatalytic processes that function at the highest standards of synthetic organic chemistry. His transformative contributions have reshaped pharmaceutical manufacturing, inspiring both industrial and academic researchers through high-profile successes that have

elevated biocatalysis from a niche discipline into a thriving mainstream technology and ecosystem. Currently, Dr. Moore focuses on the development of computational and microfluidic methods to accelerate directed evolution and further broaden the adoption of biocatalysis in industry. Throughout his career, Dr. Moore has been a trusted mentor to numerous scientists, both within MSD and to collaborators, expertly guiding his teams to success. He is an author of over 40 publications and inventor on 15 granted patents. His work has been recognized with numerous prestigious awards, including the ACS Award for Affordable Green Chemistry (2025), the Peter J Dunn Award for Green Chemistry and Engineering (2023), two Presidential Green Chemistry Challenge Awards (2010 and 2020), the Thomas Edison Inventorship Award (2014) the Biocat2012 Award (2012), MSD President's Award for Innovation (2009) and the Lonza Centenary Prize (1997). Beyond his scientific achievements, Dr. Moore actively contributes to the biocatalysis and enzyme engineering communities. He is a frequent speaker at the Enzyme Engineering and Biocatalysis Gordon Conferences, including delivering the 2022 keynote lecture. He has served as the liaison of the Enzyme Engineering Conference Steering Committee since 2003, as a guest co-editor for the 2014 issue of Current Opinions in Chemical Biology on Biocatalysis and Biotransformation, editorial board member of ChemCatChem (2009-2012), and co-chair of both the Biocatalysis Gordon Conference (2010) and the Enzyme Engineering Conference (2003).

For these contributions, Engineering Conferences International is proud to award the 2025 Enzyme Engineering Award to Dr. Jeffrey Moore.

Past Enzyme Engineering Awardees

1983—WHITE HAVEN, PA, USA — ICHIRO CHIBATA

1985—HELSINGOR, DENMARK — KLAUS MOSBACH

1987—SANTA BARBARA, CA, USA — EPHRIAM KATCHALSKI-KATZIR

1989—KASHIKOJIMA, JAPAN — SABURO FUKUI

1991—KONA, HAWAII, USA — ALEX KLIBANOV

1993—DEAUVILLE, FRANCE — MALCOLM LILLY

1995—SAN DIEGO, CA, USA — MARIA-REGINA KULA / CHRISTIAN WANDREY

1997—BEIJING, CHINA — HARVEY BLANCH

1999—KONA, HAWAII, USA — CHI HUEY WONG

2001—POTSDAM, GERMANY — HIDEAKI YAMADA

Past Enzyme Engineering Awardees

2003—SANTA FE, NM, USA — JON DORDICK / DOUG CLARK

2005—GYEONG-JU, KOREA — DEWEY RYU

2007—HARRISON HOT SPRINGS, BC, CANADA — FRANCES H. ARNOLD

2009 – GRONINGEN, THE NETHERLANDS — SAKAYU SHIMIZU

2011 – VAIL, COLORADO, USA — DAVID ESTELL

2013 – TOYAMA, JAPAN — YASUHISA ASANO

2015 – ST. PETERSBURG, FLORIDA, USA – DAN TAWFIK

2017 – TOULOUSE, FRANCE – PIERRE MONSAN

2019 – WHISTLER, CANADA – HUIMIN ZHAO

2022 – DALLAS, TEXAS, USA - UWE T. BORNSCHEUER

2023 – SINGAPORE - HAK-SUNG KIM

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Sunday, 19 October 2025

14:00 – 17:00	Conference check-in
17:00 – 17:15	Chairs welcome and opening remarks
17:15 – 18:15	<u>Opening session</u> Chair: Ditte Hededam Welner, Technical University of Denmark, Denmark Plenary: Insights into enzyme catalysis and engineering for sustainable synthetic biology Pimchai Chaiyen, Vistec, Thailand
18:30 – 19:15	Welcome reception
19:15 – 21:00	Dinner

Notes

- *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.*
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Monday, 20 October 2025

07:00 – 08:30	Breakfast
08:30 – 12:10	<u>Session 1: Computational methods for enzyme engineering</u> Chair: Volker Sieber, Technical University of Munich, Germany
08:30 – 09:10	Keynote: Computational design of high-efficiency enzymes Sarel Fleishman, Weizmann Institute of Science, Israel
09:10 – 09:35	Digital enzyme evolution: Creation of a fully digitalized enzyme engineering platform, demonstrated through the multiparameter engineering of imine reductases (IREDs) Andrew Currin, Imperagen, UK
09:35 – 10:00	Enzymes of the future are built bottom – up: SAM-independent methyltransferases Matthew Thompson, Biomatter, Lithuania
10:00 – 10:40	Coffee Break
10:40 – 11:20	Keynote: Computational design of efficient enzymes through coevolution and correlation-mediated allosteric networks Silvia Osuna, University of Girona, Spain
11:20 – 11:45	Capturing protein dynamics and its determinants using explainable artificial intelligence Faraneh Haddadi, Masaryk University, Czech Republic
11:45 – 12:10	Benchmarking novel AI platforms against <i>in silico</i> designs: Enzymes for low – sugar foods David Schönauer, Aminoverse, Netherlands
12:10 – 13:30	Lunch and networking
13:30 – 17:10	<u>Session 2: Enzyme Engineering for Sustainability</u> Chair: Jens Erik Nielsen, Novonesis, Denmark
13:30 – 14:10	Keynote: Enzyme engineering for sustainable processes and products Volker Sieber, Technical University of Munich, Germany
14:10 – 14:35	From lab to industry: How enzyme stability can help drive the green transition through innovative biosolutions Lars Giger, Novonesis, Denmark
14:35 – 15:00	Biocatalytic methylation in drug discovery Diana Amariei, Astra Zeneca, Sweden
15:00 – 15:40	Coffee break
15:40 – 16:20	Keynote: Enzymatic synthesis in deep eutectic solvents: Catalysis across hydrophilic and hydrophobic realms Selin Kara, Leibniz University, Germany
16:20 – 16:45	Engineering formate dehydrogenase for applications in biocatalysis Carlos G. Acevedo-Rocha, Technical University of Denmark, Denmark
16:45 – 17:10	Engineering promiscuous aryl acylamidases for pesticide bioremediation Thierry Marti, ETH Zurich, Switzerland
18:00 – 19:30	Dinner
19:30 – 21:30	<u>Poster Session</u> (Authors of odd-numbered posters are asked to remain with posters)

Tuesday, 21 October 2025

07:00 – 08:30	Breakfast
08:30 – 12:10	<u>Session 3: Towards scalable bioprocesses using enzymes</u> <i>Sponsored by Codexis</i> Chair: John M. Woodley, Technical University of Denmark, Denmark
08:30 – 09:10	Keynote: Process readiness of biocatalysts: Redox reactions and amide couplings Andy S. Bommarius, Georgia Institute of Technology, USA
09:10 – 09:35	Enzymes for sustainable biomanufacturing: Expanding the molecular repertoire and getting there faster Ee Lui Ang, A*Star, Singapore
09:35 – 10:00	Engineering enzymes for RNA oligonucleotide manufacturing Anders Knight, Codexis, USA
10:00 – 10:40	Coffee break
10:40 – 11:20	Keynote: Enzyme engineering for the application of biocatalysts under non-physiological reaction conditions Dörte Rother, Forschungszentrum Jülich, Germany
11:20 – 11:45	Engineered enzymes at pH 11.5 to achieve a 200-fold volume reduction in API synthesis Pravin Kumar, Kcat Enzymatic, India
11:45 – 12:10	Engineering of halohydrin dehalogenase HHEG for application in microflow Anett Schallmeyer, TU Braunschweig, Germany
12:10 – 13:30	Lunch
13:30 – 17:10	<u>Session 4: Enzyme engineering towards better chemistry</u> Chair: Bernhard Hauer, Johannes Gutenberg – Universität Mainz, Germany
13:30 – 14:10	Keynote: Designing and engineering protein scaffolds for topologically complex metallocofactors Jared Lewis, Indiana University, USA
14:10 – 14:35	Integrated strain, enzyme and bioprocess design to bring progress to life René de Jong, dsm-firmenich, Netherlands
14:35 – 15:00	Increasing mevalonate kinase activity by mutating a variable active site residue identified in natural variant alignments Sylvia Sarnick, NREL, USA
15:00 – 15:40	Coffee break
15:40 – 16:20	Keynote: In vitro biocatalytic synthesis of nicotine alkaloids Gideon Grogan, University of York, UK
16:20 – 16:45	AI-guided enzyme cascade engineering for sustainable production of glucaric acid Haibin Chen, Enzymaster, China
16:45 – 17:10	Distal mutations in a designed retro-aldolase alter loop dynamics to shift and accelerate the rate-limiting step Cindy Klaus, University of Ottawa, Canada
18:00 – 19:30	Dinner
19:30 – 21:30	<u>Poster Session</u> (Authors of even-numbered posters are asked to remain with posters)

Wednesday, 22 October 2025

07:00 – 08:30	Breakfast
08:30 – 12:10	<u>Session 5: Enzyme and protein functional improvement</u> Chair: Silvia Osuna, University of Girona, Spain
08:30 – 09:10	Keynote: Improving protein functionality by combining experiment and computation Kresten Lindorff-Larsen, University of Copenhagen, Denmark
09:10 – 09:35	Biocatalytic synthesis of non-natural peptides Juan E Valásquez, Merck and Co., Inc., USA
09:35 – 10:00	Clean solutions from dirty genes: Discovery and engineering of plastic –degrading enzymes from soil eDNA libraries David Ackerley, University of Wellington, New Zealand
10:00 – 10:40	Coffee break
10:40 – 11:20	Keynote: Accelerating discovery of substrate promiscuity in biocatalyzed oxidations Joelle Pelletier, University of Montreal, Canada
11:20 – 11:45	Protection from oxidative damage by hole hopping drives evolution in lytic polysaccharide monooxygenases (LPMOs) Tom Emrich-Mills, Norwegian University of Life Sciences, Norway
11:45 – 12:10	Analysing enzyme surface mobility kinetics in fabric and home care Charlotte Stenkjaer Fletcher, Newcastle University, UK
12:10 – 13:30	Lunch
	Free time and dinner on own

Thursday, 23 October 2025

07:00 – 08:30	Breakfast
08:30 – 12:20	<u>Session 6: Enzyme and protein design</u> Chair: Uwe Bornscheuer, University of Greifswald, Germany
08:30 – 09:10	Keynote: Growth-based selection: From non-canonical amino acids to defluorinases – and back again Clemens Mayer, Rijksuniversiteit Groningen, Netherlands
09:10 – 09:40	Invited: Protein design 2.0 Birte Höcker, University of Bayreuth, Germany
09:40 – 10:05	Stable and highly active knotted DHFR through computational design and directed evolution Yajie Liu, Peking University, China
10:05 – 10:45	Coffee break
10:45 – 11:25	Keynote: Building enzymes with new function Anthony Green, University of Manchester, UK
11:25 – 11:55	Invited: Rational enzyme design in amino acid – based biocatalysis Francesca Paradisi, University of Bern, Switzerland
11:55 – 12:20	Enzymatic synthesis of complex human milk oligosaccharides Birgitte Zeuner, Technical University of Denmark, Denmark
12:20 – 13:30	Lunch
13:30 – 14:20	<u>Session 7: Recent industry developments</u> Chair: Anthony Green, University of Manchester, UK
13:30 – 13:55	Directed enzyme discovery: A new paradigm for rational biocatalyst identification Maria Fatima Lucas, Zymvol, Spain
13:55 – 14:20	The 3DM AI platform can accurately combine mutations into a small number of higher clones with massive performance increase Henk-Jan Joosten, Bio-product, Netherlands
14:20 – 14:55	<u>Poster presentation and awards</u> Chair: Jared Lewis, Indiana University, USA
14:20 – 14:25	Announcement of winners
14:25 – 14:35	Poster prize 1
14:35 – 14:45	Poster prize 2
14:45 – 14:55	Poster prize 3
14:55 – 15:30	Coffee break
15:30 – 16:30	<u>Enzyme Engineering award presentation and lecture</u> Chair: Joelle Pelletier, University of Montreal, Canada
15:40 – 16:30	Enzyme Engineering Award Lecture
18:30 – 19:30	Reception
19:30 – 22:00	Gala dinner

Friday, 24 October 2025

07:00 – 09:00

Breakfast

Departures

List of Posters

1. **Thiolase functionality as a key driver for sustainable biochemical production**
Hyeoncheol Son, Chonnam National University, South Korea
2. **Development of protein redesign approaches informed by molecular evolutionary theory**
Shogo Nakano, University of Shizuoka, Japan
3. **Results of the first Protein Engineering tournament: A detailed analysis of the generative round and comparison to Industrial Protein Engineering methods**
David Estell, IFF, USA
4. **Accessible biocatalyst development by Rapid In vitro Semi-rational Engineering (RISE) of enzymes**
András Telek, Servier, Hungary
5. **Fast and scalable directed evolution of a methyltransferase family by in silico stability prediction**
Lucas Bocquin, Universität Bielefeld, Germany
6. **Engineering formate dehydrogenase for applications in biocatalysis**
Carlos Acevedo-Rocha, DTU Biosustain, Denmark
7. **Global transcription factor engineering for designing robust microbial cell factories**
Yosephine Gumulya, The University of Queensland, Australia
8. **VMF: Disruptive Vibro® technology for Enzymes biomanufacturing processes**
Jarno Robin, SANI Membranes, Denmark
9. **Machine learning guided directed evolution of an unspecific peroxygenase**
Li Wan, Martin-Luther-Universität Halle-Wittenberg, Germany
10. **Novel aldolase-like enzymes from mechanism coupled phage display**
Mikael Widersten, Uppsala University, Sweden
11. **An enzyme switch based on luciferase activated by antigen-triggered release of its fragment fused to an antibody**
Takanobu Yasuda, Institute of Science Tokyo, Japan
12. **Machine learning for scalable molecular dynamics and evolution-aware protein design**
Pavel Kohout, Loschmidt Laboratories, RECETOX, Masaryk University, Czech Republic
13. **What neutrons can do for you: The single crystal neutron diffractometer BIODIFF at the Heinz Maier-Leibnitz Zentrum (MLZ)**
Tobias Erich Schrader, Forschungszentrum Jülich, Germany
14. **Directed enzyme discovery: A new paradigm for rational biocatalyst identification**
Maria Fatima Lucas, ZYMVOL, Spain
15. **Novel enzyme systems in gut microbial dietary component metabolisms useful for health promotion**
Jun Ogawa, Kyoto University, Japan
16. **How hydrophobic interfaces challenge enzyme stability**
Maria Isabel Rodriguez Torres, Technical University of Denmark, Denmark

- 17. Utilizing split inteins for post-translational creation of multi-catalytic enzymes**
Tove Widén, Chalmers University of Technology, Sweden
- 18. Rapid and iterative deep mutational scanning via selection campaigns enables AI-assisted enzyme engineering**
Gol Mohammad Dorrazehi, AstraZeneca, UK
- 19. Innovative approaches to GAPDH modification for efficient NADPH-driven chemical biosynthesis**
Hyeoncheol Son, Chonnam National University, South Korea
- 20. Oxidative biocatalysis at higher temperatures: Effect of temperature on mass transfer at 2L and 200L scales**
Emilie Overgaard Willer, Technical University of Denmark, Denmark
- 21. A simple method to measure kinetics of oxygen-dependent enzymes**
Ariadna Pié Porta, Technical University of Denmark, Denmark
- 22. Ancestral sequence reconstruction as a tool for structural analysis of modular polyketide synthases**
Taichi Chisuga, University of Shizuoka, Japan
- 23. Sweet, salty & hot: First insights into archaeal UDP-dependent glycosyltransferases from extreme habitats**
Onur Kirtel, Technical University of Denmark, Denmark
- 24. Structure determination and enzyme engineering for simple amino acid analysis method**
Hiroki Yamaguchi, Ajinomoto Co. Inc., UK
- 25. Synthesis of modified nucleotides via engineered biocatalytic enzymes**
Ericka Bermudez, Codexis, USA
- 26. Kgo-catalyzed oxyfunctionalization of industry-relevant substrate classes**
David Schoenauer, Aminoverse, the Netherlands
- 27. Metagenomic discovery of portable resistance enzymes for next-generation cancer therapies**
Abigail Sharrock, Victoria University of Wellington, New Zealand
- 28. Direct fermentative production of sarcosine by engineered corynebacterium glutamicum with sam-dependent glycine-n-methyltransferase**
Riku Usami, Ajinomoto Co., Inc., Japan
- 29. Salt-dependent Taqman Qpcr: A temperature independent approach to diagnostic amplification**
Shalus Singh, Agency for Science, technology and Research, Singapore
- 30. Enzyme engineering for improving thermostability of endolysin**
Sasina Premjaichon, VISTEC, Thailand
- 31. Enzymatic DNA Synthesis: the new gold standard for ssDNA synthesis, gene assembly and enzyme engineering**
Manon Molina, DNA Script, France
- 32. Engineering of an ochratoxin A degrading enzyme for efficient performance in animals**
Sebastian Fruhauf, dsm-firmenich, Animal Nutrition and Health, Austria

- 33. A machine learning approach for faster discovery of oxidizing enzymes for difficult chemical reactions**
Lilly Marie Eger, Leibniz Institute for Plant Biochemistry, Germany
- 34. Metal promiscuity in present-day and ancestral terpene cyclases**
Pauline Granit, KTH Royal Institute of Technology, Sweden
- 35. Enzymatic characterization and kinetic analysis of monomeric variants derived from homodimeric amylosucrase**
Yun-Sang So, Sejong University, South Korea
- 36. Machine learning-guided engineering of galactose oxidase for enhanced activity on non-galactose carbohydrate substrates**
Julia Gordijo, University of Toronto, Canada
- 37. Indigoidine synthetases; Driving the synthesis of novel C-nucleosides and pigments**
Alistair Brown, Victoria University of Wellington, New Zealand
- 38. Reprogramming poly(A) polymerase for single-nucleotide extension of RNA oligonucleotides**
Joonyoung Lee, Korea Advanced Institute of Science and Technology, South Korea
- 39. Engineering oxygen tolerance in anaerobic CO dehydrogenase via Fe-S cluster stabilization and multilayer O₂ tunnel sealing**
Jingu Kang, Ulsan National Institute of Science and Technology (UNIST), South Korea
- 40. How much Flavin is too much? Exploring cofactor driven control of Oxidase activity and lifetime**
Elif Erdem, Technical University of Denmark, Denmark
- 41. Optimizing whole-cell catalysis of 2,5-furandicarboxylic acid (FDCA)**
Anna Z. Schuppe, KTH Royal Institute of Technology, Sweden
- 42. Application of a high-throughput selection to enrich for plastic-degrading enzymes from metagenome libraries**
Hannah Lee-Harwood, Victoria University of Wellington, New Zealand
- 43. LMCO₂, a novel laccase for PE degradation**
Chiara Tantillo, KTH Royal Institute of Technology, Sweden
- 44. Simulation of pH gradients in a 200 L reactor during biocatalytic ester hydrolysis**
Caroline Hamelmann, Technical University of Denmark, Denmark
- 45. MD-guided salt bridge analysis and pK_a engineering to enhance acidic stability of ChCODH**
Doa Kim, Ulsan National Institute of Science and Technology, South Korea
- 46. Enzymatic denim dyeing with biocatalytic indican**
Mandy Hobusch, DTU Biosustain, Denmark
- 47. Engineering of NADH oxidases for efficient NAD⁺ regeneration in enzymatic cascades**
Franka Matena, Technical University of Munich, Germany
- 48. Utilizing split inteins for post-translational creation of multi-catalytic enzymes**
Tove Widén, Chalmers University of Technology, Sweden
- 49. Design, synthesis and directed evolution of single-domain dihydrofolate reductase catenanes**
Jing Fang, Peking University, China

- 50. Enzyme-based multiplex biosensors for biosynthetic intermediates**
Yoshiki Takemura, Waseda University, Japan
- 51. Redesigning specificity of betaine synthase using substrate-induced stabilization**
Haruki Uryu, Waseda University, Japan
- 52. Novel antioxidant enzymatic functions are part of the Clic protein family's repertoire of moonlighting activities**
Stella Valenzuela, University of Technology Sydney, Australia
- 53. ProteusAI: An open-source and user-friendly platform for machine learning-guided protein design and engineering**
Carlos Acevedo-Rocha, DTU Biosustain, Denmark
- 54. Systematic dissection of the unique epimeric selectivity of DdGal1Pase in Tagatose biosynthesis via metadynamics bootstrapping**
Pravin Kumar, Kcat Enzymatic Private Limited, India
- 55. Breaking the scale barrier in biocatalyst development: AI-powered enzyme engineering for minimal variants and commercial efficiency**
Pravin Kumar, Kcat Enzymatic Private Limited, India
- 56. Identification and characterization of niclosamide-active glycosyltransferases**
Martina Escorial García, Technical University of Denmark, Denmark
- 57. Enzymatic detoxification of deoxynivalenol (DON) for low-impact agriculture**
William Olsen, NNF Center for Biosustainability, DTU, Denmark
- 58. Directed evolution of a transferase for SAM analog (re)generation from simple bromoalkanes**
Friederike Reese, Bielefeld University, Germany

Upcoming ECI Conferences

2025

INTEGRATED CONTINUOUS BIOMANUFACTURING VII

October 5 – 9, 2025

I. Ramos, Johnson & Johnson; M. Brower, Merck; A. Jungbauer, BOKU; K. Brower. Sanofi
Dubrovnik, Croatia

ELECTROPHORETIC DEPOSITION VIII: FUNDAMENTALS AND APPLICATIONS

October 12 – 16, 2025

A.R. Boccaccini, University of Erlangen-Nuremberg; B. Ferrari, Institute for Ceramic and Glass, Spanish Research Council; A.J. Brookhaven National Laboratory; F. Grasset, IRL LINK, CNRS; K. Katagiri, Hiroshima University
Calabria, Italy

ENZYME ENGINEERING XXVIII

October 19 – 24, 2025

J. Woodley, DTU; D. Heddam-Welner, DTU
Helsingør, Denmark

CERAMIC MATRIX COMPOSITES III

October 26 – 31, 2025

R. Darolia, GE Aerospace; K. Goto, JAXA; G. Vignoles, University of Bordeaux; S. Kitaoka, Japan Fire Ceramics Center; T. Akatsu, Tokyo University of Technology
Yamanashi, Japan

BENEFICATION OF PHOSPHATES X

November 2 – 7, 2025

Chair: Patrick Zhang, Florida Industrial and Phosphate Research Institute, USA; Co-Chairs: Phong Vo, Ardaman & Associates Inc, USA; Erika Rova, Yara Suomi Oy, Finland; André Carlos Silva, Federal University of Goiás, Brazil; Ewan Wingate, Bechtel Australia, Australia
Hanoi, Vietnam

2026

INNOVATIVE MATERIALS & METHODS FOR ADDITIVE MANUFACTURING III (IM2AM)

January 11 – 16, 2026

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
Savannah, Georgia, USA

ADVANCING MANUFACTURE OF CELL AND GENE THERAPIES IX

February 1 – 5 2026

J. Moscariello; C. Hoesli, McGill University; B. Marques, CenturyTC
Hilton Head, SC, USA

Upcoming ECI Conferences

ENG2WINE: INDUSTRY CHALLENGES AND INNOVATIVE ENGINEERING SOLUTIONS

March 22-26, 2026

D.E. Block, University of California Davis, USA; D. Durner, University of Applied Sciences Kaiserslautern, Germany; D. K. Kundiyana, E & J Gallo Winery, USA
Porto, Portugal

DELIVERY OF NUCLEIC ACID THERAPEUTICS III: BIOLOGY, ENGINEERING AND DEVELOPMENT

April 9 – 13, 2026

L. Sepp-Lorenzino, Intellia Therapeutics; S. F. Dowdy, University of California San Diego School of Medicine; M. Stanton, Generational Bio
Croatia

VACCINE TECHNOLOGY X

April 12-17, 2026

T. Tagmyer, PATH; N. Alteras, Moderna; S. Frank, UCL; D. Cowley, AstraZeneca
Porto, Portugal

NANOTECHNOLOGY IN MEDICINE V: PHYSICAL TRIGGERS AND ADVANCED MATERIALS

April 19-23, 2026

R. Fernandes, George Washington University; J. Nguyen, University of North Carolina at Chapel Hill; A. Schroeder, Technion
Giardini Naxos, Messina, Sicily, Italy

WASTELCA 5: NEW TOOLS FOR LIFE CYCLE SUSTAINABILITY ASSESSMENT OF MUNICIPAL AND CHALLENGING WASTE MANAGEMENT

June 7 – 12, 2026

U. Arena, University of Campania “Luigi Vanvitelli”, Italy; A. Damgaard, DTU, Denmark; M. Materazzi, UCL, UK; F. Ardolino, University of Campania “Luigi Vanvitelli”, Italy
Cetraro (Calabria), Italy

July 19 – 23, 2026

BIOCHEMICAL AND MOLECULAR ENGINEERING XXIV

D. Tullman-Ercek, Northwestern University; M. Blenner, University of Delaware; A. Lewis, Moderna
Puerto Rico

NANOMECHANICAL TESTING IN MATERIALS RESEARCH AND DEVELOPMENT X

October 4 – 9, 2026

Conference Chair: Verena Maier-Kiener
Montan Universität Leoben, Austria

October 12 – 15, 2026

SINGLE USE TECHNOLOGIES VIII

N. Montenay, Sartorius; G. Gillespie, North Carolina State University; P. Smith, GSK
Montreal, P.Q., Canada

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