

Program

Nanotechnology in Medicine V

Giardini Naxos, Sicily, Italy

April 19 – 23, 2026

Conference Chairs

Rohan Fernandes, University of Maryland College Park, USA

Juliane Nguyen, University of North Carolina, USA



Engineering
Conferences
International

Engineering Conferences International

369 Lexington Avenue, 3rd Floor #389, New York, NY 10017, USA

www.engconfintl.org – info@engconfintl.org

Sunday, April 19, 2026

16:45 – 18:00 Conference Check-in

18:00 – 19:00 Opening Reception

19:00 – 20:30 Dinner

Monday, April 20, 2026

- 07:00 – 08:30 Breakfast
- 08:30 – 08:40 Conference Welcome (Conference Chairs)
- 08:40 – 09:40 **Plenary Talk**
Session Chairs: Juliane Nguyen; Rohan Fernandes
- TFAMoplex: A modular protein based nanoparticulate system for gene delivery**
Jean-Christophe Leroux, ETH Zurich, Switzerland
- Session 1: Nanocarriers, RNA Delivery & Vaccine Platforms**
Session Chair: Felix Sauvage
- 9:40 – 10:05 Invited Talk
Advancing the Design Logic of mRNA Nanomedicines
Owen Fenton, University of North Carolina, Chapel Hill, USA
- 10:05 – 10:30 Invited Talk
DNA Viral-Like Particles: Engineering Bioinspired Nanocarriers with Precision Immunogenicity
Leo Chou, University of Toronto, Canada
- 10:30 – 11:10 Coffee Break
- 11:10 – 11:35 Invited Talk
Triazine lipids as a platform for subunit vaccine development
Vincent Venditto, University of Kentucky, USA
- Session 2: Next-Generation Tools for Imaging, Tissue Engineering, and Precision Health**
Session Chair: Owen Fenton
- 11:35 – 12:00 Invited Talk
Light-mediated transfection for precise and enhanced corneal endothelium engineering
Félix Sauvage, Ghent University, Netherlands
- 12:00 – 13:30 Lunch
- 13:30 – 14:00 **Keynote Talk**
Biomedical nanoscale chemical imaging with null-deflection atomic force microscopy-infrared spectroscopy
Rohit Bhargava, University of Illinois Urbana-Champaign, USA
- 14:00 – 14:25 Invited Talk
Automated AI-based Functional Characterization of Engineered Contractile Tissues for Drug Toxicology
Parth Chansoria. ETH Zurich, Switzerland
- 14:25 – 14:55 **Keynote Talk**
Innovating Medical Materials for Women's Health and Beyond
Inge Herrmann, ETH Zurich, Balgrist/University of Zurich, Switzerland
- 14:55 – 15:15 Invited Talk
Advancing Nanomedicine Through NanoFCM: Precision Characterisation of Therapeutic Nanoparticles
Genevieve (Evie) Anghileri, NanoFCM
- 15:15 – 15:55 Coffee Break

Monday, April 20, 2026 (continued)

Session 3: Scientific publishing in a time of accelerated discovery

Session Chairs: Kaushal Rege

- 15:55 – 16:15 **Scientific publishing in a time of accelerated discovery, global shifts, and AI**
Laura Remis, AAAS, USA
- 16:15 – 16:35 **Publishing pitfalls and priorities in a changing research landscape**
Valeria Caprettini, Nature
- 16:35 – 17:30 **Panel Discussion**
Kaushal Rege, Arizona State University, USA
Laura Remis, AAAS, USA
JC Leroux, ETH Zurich
Valeria Caprettini, Nature
- 17:30 – 18:30 **Poster Session**
- 19:00 – 20:30 Dinner

Tuesday, April 21, 2026

07:00 – 08:30

Breakfast

Session 4: Translational Nanomedicine Across Diseases

Session Chairs: Vincent Venditto

08:30 – 09:00

Keynote Talk

Nitric oxide-releasing liposomes as a therapeutic against Mycobacterium abscessus infections

Mark Schoenfisch, University of North Carolina, Chapel Hill, USA

09:00 – 09:25

Invited talk

Nanomedicine in the treatment of gastrointestinal metabolic disorders

Ana Beloqui, Université Catholique de Louvain, Belgium

09:25 – 09:50

Invited Talk

Battle of the Bio-Nanoconjugates: Comparison of Targeted Nanoparticle Platforms for Precision Cancer Therapy

Emily Day, University of Delaware, USA

09:50 – 10:35

Coffee Break

10:35 – 10:45

Lightning talk

Small extracellular vesicles (sEVs) isolation and cargo loading for cell targeting and engineering in a microfluidic framework

Anna Menale, University of Naples Federico II, Italy

10:45 – 11:15

Keynote Talk

Polypeptide-based Therapeutics with Inherent Mitochondria Tropism

Maria J. Vicent, CIPF, Spain

11:15 – 11:40

Invited Talk

A Light-activated, Carrier-free Nanodrug for Fighting Brain Cancer and Unlocking the Blood-brain Barrier

Huang-Chiao Huang, University of Maryland, USA

11:40 – 12:10

Keynote Talk

Ultrasound-responsive bicontinuous nanospheres for localized immunomodulation of the solid tumor microenvironment

Evan Scott, University of Virginia, USA

12:10 - 13:40

Lunch

Excursion to Taormina

14:15

Departure from the hotel, transfer to Taormina for guided tour followed by dinner at a Pizzeria

Wednesday, April 22, 2026

- 07:00 – 08:30 Breakfast
Session 5: Living Therapeutics & Engineered Biological Systems
Session Chairs: Ana Beloqui
- 08:30 – 09:00 **Keynote Talk**
Engineering probiotics for real-world medical applications
Tae Seok Moon, J. Craig Venter Institute, USA
- 09:00 – 09:30 **Keynote Talk**
Cyborg cells for programmable medicine
Cheemeng Tan, University of California, Davis, USA
- 09:30 – 09:55 Invited Talk
Engineered Living Materials from Bacteria
Sara Molinari, University of Maryland, USA
- 09:55 – 10:40 Coffee Break
- 10:40 – 11:10 **Keynote Talk**
High Dimensional Analysis of T cells Responding to Noncanonical Antigens in Malignancies
C. Russell Cruz, Children's National Hospital, USA
- 11:10 – 11:35 Invited Talk
Biofilm-Inspired Nanomaterials for the Encapsulation and Delivery of Therapeutic Bacteria
Joel Finbloom, University of British Columbia, Canada
- 11:35 – 11:45 Lightning Talk
Engineered *saccharomyces boulardii* for local immunotherapy delivery ameliorates colitis
Alita Miller, University of North Carolina, Chapel Hill, USA
- 11:45 – 12:00 Lightning Talk
Harnessing genome recoding to engineer novel phage vectors for in situ reprogramming of the gut microbiome
Peter Voorhees, University of North Carolina, Chapel Hill, USA
- 12:00 – 13:30 Lunch
- Session 6: Immunoengineering**
Session Chairs: Kaushal Rege
- 13:30 – 14:00 **Keynote Talk**
Nanoparticle-driven acute immune modulation ameliorates pain and structural damage in post-traumatic osteoarthritis
Omolola Eniola-Adefeso, University of Illinois Chicago, USA
- 14:00 – 14:25 Invited Talk
Engineering Nanotechnology for Immuno-Oncology.
John Wilson, Vanderbilt University, USA
- 14:25 – 14:55 **Keynote Talk**
Nanoparticulate immunoactive complex for local chemoimmunotherapy: From murine models to pilot canine study and beyond
Yoon Yeo, Purdue University, USA
- 14:55 – 15:40 Coffee Break

Wednesday, April 22, 2026 (continued)

- 15:40 – 16:05 Invited Talk
Bench-to-Bedside Engineering of Precision Immunotherapy Paradigms with Focused Ultrasound
Natasha Sheybani, University of Virginia, USA
- 16:05 – 16:30 Invited Talk
Enhancing cancer radiotherapy via metabolic reprogramming with bioreducible polymer nanoparticles
Christopher Grigsby, Queen's University Belfast, UK
- 16:30 – 16:55 Invited Talk
Biomolecular Engineering of Extracellular Vesicles for Precision Therapy
Mei He, University of Florida, USA
- 16:55 – 17:25 **Keynote Talk**
Immunomodulatory Biomolecular Interventions for Skin Tissue Repair and Melanoma
Kaushal Rege, Arizona State University, USA

Free evening / Dinner on your own

Thursday, April 23, 2026

- 07:00 – 08:30 Breakfast
Session 7: Biophysics, Mechanics & New Approach Methodologies
Session Chairs: Joel Finbloom
- 08:30 – 09:00 **Keynote Talk**
Simple kinetic modeling frameworks to predict efficacy and potency in LNPs and RNA nanocarriers
Millicent Sullivan, University of Delaware, USA
- 09:00 – 09:25 Invited Talk
Biomolecular Transformation of Nanomedicines Under Shear: Addressing a Biomechanical Blind Spot in Drug Delivery
Matthias Wacker, KU Leuven, Belgium
- 09:25 – 09:35 Lightning Talk
Advanced in vitro models for mechano-profiling of red blood cell-based shear-responsive carriers
Anat Gluzman, Technion-Israel Institute of Technology, Israel
- 09:35 – 10:00 Invited Talk
Prenatal Nanomedicine and Bioengineered Models of Pregnancy
Hagar Labouta, University of Toronto, Canada
- 10:00 – 10:45 Coffee Break
- 10:45 – 11:15 Invited Talk
Focal treatment of brain aneurysms via fluid mechanics-driven strategies
Netanel Korin, Technion-Israel Institute of Technology, Israel
- 11:15 – 11:45 **Keynote Talk**
TBA
Paolo Decuzzi, Italian Institute of Technology in Genova, Italy
- 11:45 – 11:55 Lightning Talk
Biodegradable Polymeric Nanoparticles as Radiosensitizers for Glioblastoma
Mariarita Menale, Università di Napoli Federico II, Italy
- 11:55 – 12:05 Lightning Talk
Bio-based, low-swelling auxetic hydrogels for the treatment of pneumothorax
Parmiss Khosravi
- 12:05 – 13:35 Lunch
- 13:35 – 14:05 **Keynote Talk**
TBA
Avi Schroeder, Technion-Israel Institute of Technology, Israel
- 14:05 – 14:35 **Keynote Talk**
Multiscale Bioengineering Approaches for Novel Pulmonary Delivery Therapies
Josué Sznitman, Technion-Israel Institute of Technology, Israel
- 14:35 – 15:20 **Science Advocacy: Panel discussion**

Paolo Decuzzi, Italian Institute of Technology, Italy
Lola Eniola-Adefeso, University of Illinois Chicago, USA
Millicent Sullivan, University of Delaware, USA
Kaushal Rege, Arizona State University, USA
Josué Sznitman, Technion-Israel Institute of Technology, Israel

Thursday, April 23, 2026 (continued)

- 15:20 – 16:00 Coffee Break
- 16:00 – 17:45 **Closing Plenary Session**
Session Chairs: Christopher Grigsby, Rohan Fernandes
- 16:00 – 16:45 **Plenary Talk 1**
Nanotechnology at the NIH: Transforming Biomedical Innovation Across Disciplines
David Rampulla, NIH/NIBIB, USA
- 16:45 – 17:45 **Plenary Talk 2**
Bioengineering Cell Based Therapeutics from Bench to Bedside
Omid Veisheh, Rice University, USA
- 19:00 – 19:30 Reception
- 19:30 – 21:00 Conference Banquet and Awards

Friday, April 24, 2026

- 07:00 – 09:00 Breakfast and departures