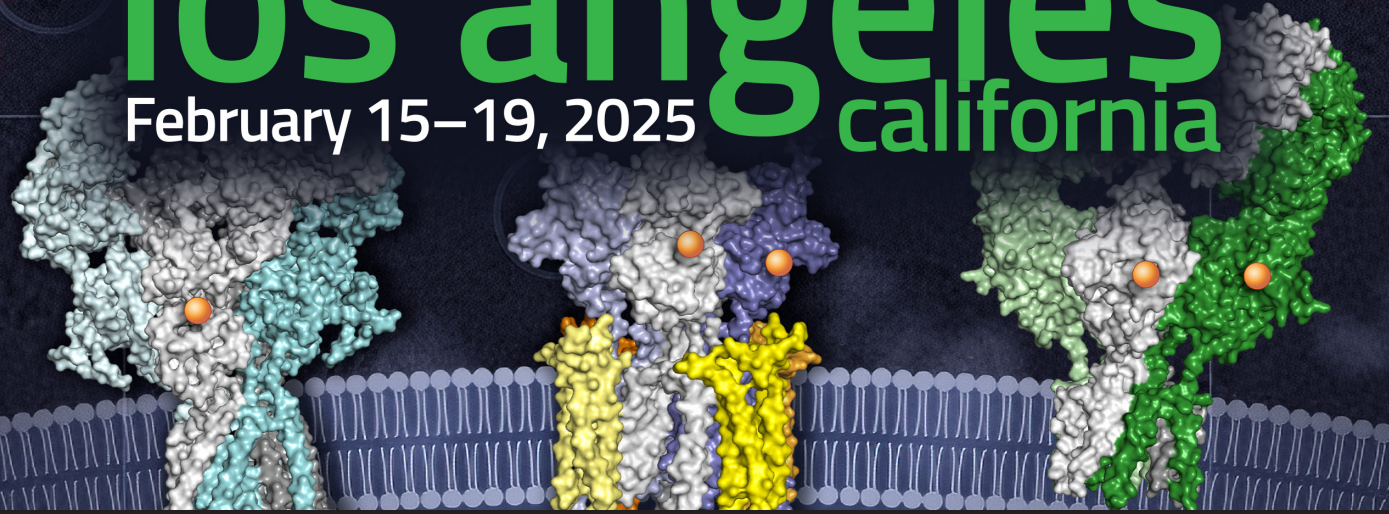


# BPS 2025 los angeles February 15–19, 2025 california



## Important Deadlines

### Abstracts

Abstract Submission: October 1, 2024  
Abstract Revision and Withdrawal: October 4, 2024

### Competitions

Student Research Achievement Awards (SRAA): October 3, 2024  
Undergraduate Poster Awards (UPAC): January 7, 2025

### Registration

Early Registration: July 1, 2024–January 7, 2025  
Regular Registration: January 8–February 19, 2025

## Travel Awards

Available for students, postdoctoral researchers, and scientists of all career levels. We strongly encourage members from all geographic locations, underrepresented communities, and at all career levels to apply. Applications will be evaluated by the Society's committees for Inclusion and Diversity, Early Careers, Education, Membership, and Professional Opportunities for Women.

**Deadline for applications: October 3, 2024**

## Registration

Join the Society or renew your membership for 2025 to:

- Submit or sponsor an Annual Meeting abstract
- Pay reduced registration rates and save up to \$275
- Apply for Annual Meeting Travel Awards and Family Care Grants
- Apply to poster competitions

**To become a member, visit  
[www.biophysics.org/join](http://www.biophysics.org/join)**

REGISTRATION TYPE	REGISTRATION ONLY	MEMBERSHIP & REGISTRATION
Regular Member	\$410*	\$625
Early Career Member	\$385*	\$486
Student Member	\$90*	\$115
Emeritus Member	\$90	\$90
Nonmember	\$660	\$625
Early Career Nonmember	\$660	\$486
Student Nonmember	\$140	\$115

\*2025 Society membership dues must be paid.

**For complete details, visit [biophysics.org/2025Meeting](http://biophysics.org/2025Meeting)**

# A NOTE FROM THE PROGRAM CHAIRS

At BPS2025, in the City of Angels, our Annual Meeting is going Hollywood! Our symposia and workshops will be your chance to see and hear what's exciting and up and coming in the biophysics world. Consider this your chance to not only catch trailers of the next research blockbuster but also to see the latest episode in the ever-expanding Biophysical Society universe. From short teaser flash talks to full-length feature platform presentations, the 2025 Annual Meeting will be sure to have something for everyone—from new tools and proteome-scale approaches to the classics of membrane biophysics, receptors and channels, and emerging themes of multi-scale biophysics. We are excited to continue the well-received programming changes launched at BPS2024, including Symp/Workshop Select, Flash Talks, and Platform speakers having the option to also present a poster.

Don't miss the abstract deadline, October 1, 2024.

Looking forward to seeing everyone in Los Angeles!

## 2025 Program Committee

**Margaret Cheung**, Pacific Northwest National Laboratory, USA

**Gilad Haran**, Weizmann Institute of Science, Israel

**Kumiko Hayashi**, Tohoku University, Japan

**Syma Khalid**, University of Oxford, United Kingdom

**Frances Marassi**, Medical College of Wisconsin, USA

**Joseph Mindell**, NINDS, NIH, USA

**Tamar Schlick**, New York University, USA

**Ibrahim Cissé**, Max-Planck Institute of Immunobiology and Epigenetics, Germany, Ex-Officio

**Elizabeth Villa**, University of California, San Diego, USA, Ex-Officio



**Sudha Chakrapani**

Case Western Reserve  
University, USA



**Christopher Yip**

University of Toronto,  
Canada

## Biophysical Society Lecturer



**Eric Gouaux, Vollum Institute, Oregon Health & Science University, USA**

*From Clamshells to Clefts: The Molecular Basis of Synaptic Transmission*

Being named the 2025 Biophysical Society Lecturer is the highest annual award bestowed by the Biophysical Society. In addition to presenting the Annual Biophysical Society Lecture, the recipient provides a molecule or figure that depicts his/her research. That figure is used in the background design for that year's Annual Meeting print and web announcements.

Eric Gouaux completed his BA and PhD degrees in Chemistry at Harvard University in 1984 and 1989, respectively. He remained at Harvard for a year as a postdoctoral fellow and then continued his postdoctoral studies at the Massachusetts Institute of Technology. In 1993, he was appointed assistant professor at the University of Chicago Department of Biochemistry and Molecular Biology.

In 1996, Gouaux joined the Department of Biochemistry and Molecular Biology at Columbia University as an assistant professor. In 2000, he was appointed Investigator with the Howard Hughes Medical Institute and associate professor with Columbia, reaching full professor the following year. Gouaux came to Oregon Health & Science University in 2005 as a Senior Scientist at the Vollum Institute and continuing his position with Howard Hughes. He joined the graduate faculty in the Department of Biochemistry and Molecular Biology in 2006. In 2015, Gouaux was appointed the Jennifer and Bernard Lacroute Endowed Chair in Neuroscience Research. He is a member of both the National Academy of Sciences (2010) and the National Academy of Medicine (2020).

Gouaux is widely recognized as an influential leader in revealing structures and mechanisms of synaptic receptors and transporters, using x-ray crystallography and cryo-electron microscopy. He has been a BPS member since 1996 and is the recipient of the Anatrache Membrane Protein Award.

About the Molecule: Molecular structures of AMPA, NMDA and kainate receptors.

## ABOUT THE BIOPHYSICAL SOCIETY

The Biophysical Society was founded in 1958 to lead the development and dissemination of knowledge in biophysics. It does so through its many programs, including meetings, publications, and committee outreach activities. The Society consists of over 7,000 members who work in academia, industry, and government agencies throughout the world.

In addition to Annual Meeting discounts and the right to sponsor an abstract, member benefits include:

- Access to the Membership Directory, Find a Biophysicist (FaB) Network, and Primarily Undergraduate Institution (PUI) Network

- Participation in BPS Subgroups to connect with peers and experts within focused areas of research
- An online subscription to the *Biophysical Journal*, as well as reduced charges when publishing in any BPS journals
- The *BPS Bulletin*, a monthly member newsletter to stay informed about what is happening in biophysics and the Biophysical Society
- Access to free webinars with career experts to help you thrive and advance in your professional role
- Getting involved as a volunteer leader in BPS to make connections and gain experience
- Opportunities for travel and meeting support funds

“ When I first started attending the Biophysical Society Annual Meetings, I began to understand how different fields of science are linked together and how it is important to understand concepts more holistically. Now, the meetings are a chance to see what is new in the field but also a valuable opportunity to receive feedback on my work – sometimes from more pointed comments and other times from general discussions.

— Logan Kaler, U.S. Naval Research Laboratory

## SUBGROUP SYMPOSIA

Delve deep into a subject area with symposia organized by these dynamic, focused communities.

- **Bioenergetics, Mitochondria, and Metabolism**
- **Bioengineering**
- **Biological Fluorescence**
- **Biopolymers in vivo**
- **Channels, Receptors, and Transporters**
- **Cryo-EM**
- **Intrinsically Disordered Proteins**
- **Macromolecular Machines and Assemblies**
- **Mechanobiology**
- **Membrane Fusion, Fission, and Traffic**
- **Membrane Structure and Function**
- **Membrane Transport**
- **Motility and Cytoskeleton**
- **Multiscale Genome Organization**
- **Nanoscale Approaches to Biology**
- **Physical Cell Biology**
- **Single-Molecule Forces, Manipulation, and Visualization**
- **Theory and Computation**

## SHARE YOUR RESEARCH ON A GLOBAL STAGE

Submit Your Abstract - Deadline October 1, 2024

## SCIENTIFIC SYMPOSIA

### Massive Quantitative Proteome-Wide Biophysics

Sina Ghaemmaghami, University of Rochester, USA, *Chair*  
Klará Hlouchová, Charles University, Czech Republic  
John van Noort, Leiden University, The Netherlands  
Speaker to be announced

### Engineering Biological Macromolecules for Cellular Biophysics

Yamuna Krishnan, University of Chicago, USA, *Chair*  
Galia Debelouchina, University of California, San Diego, USA  
Matthew Paszek, Cornell University, USA  
Gonzalo Cosa, McGill University, Canada

### Intrinsically Disordered Proteins: A Peek Away from the Lamppost

Rohit Pappu, Washington University in St. Louis, USA, *Chair*  
Julie Forman-Kay, The Hospital for Sick Children, Canada  
Jeanne Stachowiak, University of Texas at Austin, USA  
Birthe Kragelund, University of Copenhagen, Denmark

### Condensates: From Characterization to Function and Application

Xuebiao Yao, University of Science and Technology, China, *Chair*  
Keren Lasker, Scripps Research Institute, USA  
Ashutosh Chilkoti, Duke University, USA  
Tsing-Young Dora Tang, Max Planck Institute of Molecular Cell Biology and Genetics, Germany

### Regulatory Mechanisms in Ion Channel Gating

Merritt Maduke, Stanford University, *Chair*  
Stephan Pless, University of Copenhagen, Denmark  
Julio Cordero-Morales, University of Texas Health Science Center at Houston, USA  
Irina Vetter, University of Queensland, Australia

### Supramolecular Assemblies in Membrane Signaling

Nieng Yan, Tsinghua University, China, *Chair*  
Tao Che, Washington University in St. Louis, USA  
Francesca Vallese, Columbia University, USA  
Daniel Minor, University of California, San Francisco, USA

### Novel Mechanisms in Membrane Transport

Aravind Penmatsa, Indian Institute of Science, India, *Chair*  
John Rubinstein, University of Toronto, Canada  
David Drew, Stockholm University, Sweden  
Inga Hänelt, Goethe University Frankfurt, Germany

### Mechanisms of Cell Wall Biopolymer Assembly

Syma Khalid, University of Oxford, United Kingdom, *Chair*  
Lynette Cegelski, Stanford University, USA  
Jochen Zimmer, University of Virginia, USA  
Speaker to be announced

### Label-free Approaches to Characterizing Membranes and Membrane Assemblies

Carlos Baiz, University of Texas at Austin, USA, *Chair*  
Frederick Heberle, University of Tennessee, Knoxville, USA  
Elizabeth Kelley, NIST, USA  
Speaker to be announced

### Membrane Asymmetry - Biogenesis, Mechanics, and Regulation

Sarah Veatch, University of Michigan, USA, *Chair*  
Milka Doktorova, University of Virginia, USA  
Mikhail Bogdanov, University of Texas Health Science Center at Houston, USA  
Rumiana Dimova, Max Planck Institute of Colloids and Interfaces, Germany

### Novel Techniques in Membrane Biology

William Prinz, UT Southwestern Medical Center, USA, *Chair*  
Gia Voeltz, University of Colorado Boulder, USA  
Edward Lyman, University of Delaware, USA  
Sarah Rouse, Imperial College London, United Kingdom

### Mechanobiology: The Role of Forces in Development

Julie Theriot, University of Washington, USA, *Chair*  
Rodrigo Fernandez-Gonzalez, University of Toronto, Canada  
Padmini Rangamani, University of California, San Diego, USA  
Kate Poole, UNSW Sydney, Australia

# SCIENTIFIC SYMPOSIA

## Integrins and Matrix Proteins

Klaus Hahn, University of North Carolina at Chapel Hill, USA, *Chair*  
Timothy Springer, Harvard University, USA  
Valerie Weaver, University of California, San Francisco, USA  
Jeremy Hollis, Fred Hutchinson Cancer Center, USA

## Viral Assembly and Pathways for Host Cell Interaction

Roya Zandi, University of California, Riverside, USA, *Chair*  
Owen Pornillos, University of Utah, USA  
Lars-Anders Carlson, Umeå University, Sweden  
Robert Dick, Cornell University, USA

## Innovations in RNA Therapeutics

Blanton Tolbert, HHMI, USA, *Chair*  
Gene Yeo, University of California, San Diego, USA  
Hirohide Saito, Kyoto University, Japan  
Andrea Kasinski, Purdue University, USA

## Mitochondrial Dynamics and Regulation in Health and Disease

Yuriy Kirichok, University of California, San Francisco, USA, *Chair*  
Konstanze Winklhofer, Ruhr University Bochum, Germany  
Danielle Grotjahn, Scripps Research Institute, USA  
Jason Mears, Case Western Reserve University, USA

## Optogenetics: From Signaling to Cell Behavior

Keiichi Inoue, The University of Tokyo, Japan, *Chair*  
Barney Bryson, University College London, United Kingdom  
Susan Rempe, Sandia National Laboratories, USA  
Joanna Mattis, University of Michigan, USA

## AI-ML in Drug Discovery and Development

Jens Meiler, Vanderbilt University, USA, *Chair*  
Jianing Li, Purdue University, USA  
Vsevolod Katritch, University of Southern California, USA  
Debora Marks, Harvard University, USA

## New Biophysical Approaches Across Length Scales

Madhavi Krishnan, University of Oxford, United Kingdom, *Chair*  
Eva Nogales, University of California, Berkeley, USA  
Je-Kyung Ryu, Seoul National University, South Korea  
Ron Dror, Stanford University, USA

## Correlated Platforms for Visual Proteomics

Misha Kudryashev, Max Delbrück Center for Molecular  
Medicine, Germany, *Chair*  
Ariane Briegel, Leiden University, The Netherlands  
Qiangjun Zhou, Vanderbilt University, USA  
Peijun Zhang, University of Oxford, United Kingdom

# WORKSHOPS

## Multiscale Biophysical Modeling of the Cell

Leslie Loew, University of Connecticut, USA, *Chair*  
Garegin Papoian, University of Maryland, USA  
Speakers to be announced

## Vibrational Spectroscopies and Imaging for Cell and Molecular Biophysics

Oxana Klementieva, Lund University, Sweden, *Chair*  
Caitlin Davis, Yale University, USA  
Joachim Heberle, Freie University Berlin, Germany  
Naixin Qian, Columbia University, USA

# Presentation Preference

## Increased opportunities for participation

### Symp Select or Workshop Select Speaker

One additional speaker will be added to each symposium as a Symp Select speaker and to each workshop as a Workshop Select speaker. If you are a principal investigator, you will have the option of choosing Symp Select and Workshop Select during abstract submission. Symp Select and Workshop Select speakers will have 15 minutes for presentation and 5 minutes for Q&A.

### Platform Presenters Can Also Present a Poster

If selected for a platform talk, you will be able to indicate your preference to also present this work in a poster session. Should you choose to present a poster, please be advised that BPS cannot guarantee the order in which the platform talk and poster presentation will occur.

### Five-Minute Flash Talks

Each platform will have seven platform talks with three flash talks (five minutes each). These flash talks will be scheduled in the last speaking slot, and presenters must also present this work in a poster session. If you are selected for a flash talk, please be advised that BPS cannot guarantee the order in which the flash talk and poster presentation will occur.

### Posters

There are over 600 scientific poster presentations daily.

# Abstract Topic Categories

- Proteins
- Intrinsically Disordered Proteins, Aggregates, and Condensates
- Nucleic Acids
- Lipids and Membranes
- Cell Physiology and Bioenergetics
- Channels and Transporters
- Cytoskeleton, Motility, and Motors
- Systems Biology
- Biophysics of Neuroscience
- New Developments in Biophysical Techniques
- Bioengineering and Biomaterials
- Biophysics Education

## Organoid Biophysics

Martin Oheim, CNRS Paris, France, *Chair*  
Laurence Pelletier, Lunenfeld-Tanenbaum Research Institute, Canada  
Jatin Roper, Duke University, USA  
Eyal Karzbrun, Weizmann Institute of Science, Israel

## Enabling Technologies: From Atoms, Optics, and Beyond

Vasanthi Jayaraman, University of Texas Health Science Center  
at Houston, USA, *Chair*  
Lee Makowski, Northeastern University, USA  
Mark Leake, University of York, United Kingdom  
Kevin Welscher, Duke University, USA