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Important: Sign-Up

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2024 IUPAB Congress in Kyoto

Kyoto will be the venue for the 21st IUPAB congress (June 24th - 28th 2024). The congress will be hosted by the Biophysical Society of Japan (BSJ) and will be joint with the 62nd BSJ meeting. The congress motto is 'Rocking Out Biophysics', meaning to shake up and create new biophysics together. Biophysics is a discipline that brings powerful techniques and new perspectives to update existing concepts in the life sciences. This conference will be a place where researchers from a variety of fields from all over the world can gather and enhance further biophysical research.

Outstanding researchers from biophysics and related field who have made remarkable achievements that bring innovative perspectives and technologies have been invited to plenary and keynote talks. In addition, more than 30 sessions will feature invited talks by leading scientists in their fields. Each session will also include cutting-edge oral presentations by young researchers selected from an open call. In addition, poster presentations that showcase unique research from around the world are encouraged.

Another highlight of the congress will be a hands-one training program for young researchers to experience front-line biophysics research in Japan. In this program, each host university or research institute will accept about 10 young researchers before the main meeting to experience state-of-the-art high-speed AFM technology, ultra-high-resolution and large-field imaging technology, and large-scale simulation technology. Each project is linked to scientific sessions of the congress, providing an opportunity for participating young researchers to learn widely, from the basics to the applications. Partial support for travel expenses is planned for participants in the program. Details are available on the [conference website](#).

Early bird registration for the conference closes on the 30th of April. You can register [here](#).

The 2024 Bei Shizhang Lectureship at the 2024 IUPAB Congress in Kyoto, 24th - 28th of June will be given by Xiyun Yan, professor in the Institute of Biophysics, Chinese Academy of Sciences.

Professor Yan was elected as the president of Asian Biophysics Association and Academician of the Chinese Academy of Sciences in 2015, and a Fellow of The World Academy of Sciences (TWAS) for the advancement of science in developing countries in 2024. Her research interests include tumor biology and nanobiology. In 2007, Dr. Yan and her research group discovered that iron oxide nanoparticles possess peroxidase-like activity, which provided the first evidence of nanozymes.

Subsequently, she proposed the new concept of nanozymes, and utilized nanozymes as enzyme mimics to create new strategies for tumor diagnosis and catalytic therapy, and established nanozyme-strip based POCT for pathogen detection such as Ebola virus and COVID-19. In addition, Professor Yan, along with her colleagues, compiled the first book of Nanozymology published by Springer Nature, formulated the first ISO Standard and China National Standard for nanozymes. To date she has published more than 230 papers with an h-index in Scopus of 57, being recognized as a highly cited researcher by Clarivate and one of Elsevier's world top 2% scientists in 2022 and 2023.

The Bei Shizheng Lectureship, which is awarded jointly by the Biophysical Society of China and IUPAB, honours the memory and contributions to biophysics of Shizhang Bei, founder of the Institute of Biophysics of the Chinese Academy of Sciences. The lectureship is awarded to an investigator for outstanding contributions to any theme within the field of biophysics without limit of age.



Avanti-IUPAB Prize: Massimo Olivucci

The 2024 Avanti-IUPAB Prize has been awarded to Massimo Olivucci, professor of organic chemistry at the University of Siena, Italy, and research professor at the Centre for Photochemical Sciences, Bowling Green State University, USA. Professor Olivucci will receive his prize at the IUPAB2024 Congress in Kyoto, where he will also deliver a plenary lecture.

Massimo took his PhD at the Università di Bologna with Fernando Bernardi and carried out postdoctoral research work at King's College London with Michael A. Robb before accepting his first academic position in Bologna in 1991. He has authored over 280 research papers. His work focuses on the investigation of organic and bio-organic reactivity using theoretical and computational methods. His most recent results are related to the investigation of light energy conversion in biological photoreceptors and the design of biomimetic photo-driven molecular switches and motors. The programming and implementation of automated hybrid quantum-mechanics/molecular-mechanics computational methodologies are also part



of his work.

Massimo has contributed to establishing the expanding fields of computational photochemistry and photobiology. Early results (1990's) helped to establish that light-triggered chemical reactions are commonly controlled by transient molecular structures, namely “photochemical funnels” called conical intersections. This discovery created a new branch of theoretical photochemistry and changed the way in which photochemical reactions are understood and light-responsive molecules are designed. These results also contributed to rationalizing the observations made in the field of transient spectroscopy revealing that many photochemical and photobiological reactions occur on ultrafast time-scale. In the first decade of the 2000s his group demonstrated the central role played by conical intersections in determining the function of different biological chromophores and of the corresponding photoreceptor proteins. These results included a first-principle demonstration of the light-triggered photoreaction of the mammal visual pigment rhodopsin accomplished by using advanced quantum chemical modeling techniques.

In 2010 he was awarded the Gold Medal "Angelo Mangini" for mechanistic organic chemistry by the Italian Chemical Society, in 2015 he became fellow of the Institute for Advanced Studies of the Université de Strasbourg, France, and in 2021 he was awarded the Doctoris Honoris Causa by the Université Aix-Marseille, France.

The Avanti-IUPAB Prize, donated jointly by Avanti Polar Lipids and IUPAB, is awarded to an investigator for outstanding contributions to any theme within the field of biophysics without limit of age.

IUPAB Young Investigator Prize: Hideaki Kato

The 2024 IUPAB Young Investigator Prize has been awarded to Hideaki Kato, Professor in Structural Engineering at the Research Center for Advanced Science and Technology, University of Tokyo. Professor Kato will receive his prize at the IUPAB2024 Congress in Kyoto, where he will also deliver a plenary lecture.

Professor Kato obtained his BSc in Biochemistry and Biophysics from the University of Tokyo in 2009, followed by a PhD from the same university in 2014, under the supervision of Dr Osamu Nureki. He then undertook postdoctoral research at Stanford University with Dr Brian Kobilka for five years. In 2019, he returned to Japan to establish his research group at the University of Tokyo. His research primarily explores the molecular mechanisms that enable living organisms to capture and process energy and information from light at the atomic level. Employing a comprehensive range of methods, including structural, biophysical, biochemical, and electrophysiological techniques, he focuses on the study of light-responsive proteins, especially those in the rhodopsin family. Through his work, Professor Kato has developed novel rhodopsins with modified properties for optogenetics, contributing significantly to the advancement of structural biology, protein engineering, and neuroscience. His contributions to the scientific community are well



recognized, not only through his publications in prestigious journals such as *Nature* and *Cell* but also through his commitment to mentoring students, his active participation in outreach initiatives, and his generous sharing of expertise with peers in the field.

The IUPAB Prize Young Investigator Prize is awarded by IUPAB to a young investigator, usually within 12 years of their PhD, for outstanding contributions to the field of biophysics.

Michèle Auger Award for Young Scientists' Independent Research: David Alsteens

The winner of the 2024 Michèle Auger Award for Young Scientists' Independent Research is Professor Dr David Alsteens of the Institute of Biomolecular Science and Technology, Université Catholique de Louvain, Belgium.

Professor Alsteens's group uses force-distance based atomic force microscopy at high-resolution to image single receptors at sub-nanometer resolution and quantify the interaction forces of a ligand with the receptor. Using this technology they are able to image the contour of native receptors at a resolution of 1-3 nm, decipher the ligand-binding free energy landscape and even to image and localize molecules on living cells, allowing dynamic processes to be followed.



The award honours Professor Michèle Auger Award, former editorial board member of *Biophysical Reviews*, who sadly succumbed to illness in 2018. The award is made each year to a candidate under 40 at the time of nomination for outstanding biophysical research.

International Year of Basic Sciences for Sustainable Development Closing Ceremony, Geneva

Manuel Prieto, President of IUPAB and member of the “Steering Committee” of the International Year of Basic Sciences for Sustainable Development (IYBSSD), participated on the 15th



of December 2023 at CERN (Geneva) on the closing session of this [action](#). Representatives of scientific societies and organizations (in the picture: Michel Spiro (left) (CERN, Switzerland, President of [IUPAP](#)), Manuel Prieto (Uni. Lisbon, Portugal, President of [IUPAB](#)), Javier García-Martínez (Uni. Alicante, Spain, President of [IUPAC](#)) revisited the 400 events carried out in 70

countries. An overview of the activities was presented in a [video](#) with the participation of Christina Sizun (IUPAB Treasurer), together with Luc Allemand, the Secretary General of IYBSSD. Also, it was the moment for the proclamation of the “International Decade of Sciences for Sustainable Development” (2024-2033), already approved by the UN General Assembly (25th of August 2023), and to be developed in close collaboration with UNESCO and the “Club of Rome”. This will be all sciences, all knowledge, a wider basis than IYBSSD, which was basic sciences, intending to be a “Earth-Humanity Coalition for the Decade”.



Biophysical Society Annual Meeting 2024 in Philadelphia

The 68th Biophysical Society (BPS) Annual Meeting, held from February 10-14, 2024, in Philadelphia, Pennsylvania, included thousands of scientists from 53 countries and showcased some of the latest research in biophysics. Highlights of the meeting included the BPS Annual Lecture from Nobel Laureate Carolyn Bertozzi of Stanford University “Therapeutics Opportunities in Glycoscience” (left above, with BPS President Taekjip Ha) and the return of the dance social for the first time since 2020.

BPS Member Tamara Rosenbaum (right above, with IUPAB Secretary-General Ron Clarke and IUPAB Treasurer Christina Sizun on each side) from the National Autonomous University of Mexico was the IUPAB sponsored speaker and gave a talk entitled “Modulation of TRPV1 and TRPV4 Channels by Glycerophospholipids” in the symposium New Insights into Ion Channel Regulation during the meeting.

BPS2024 also featured 18 Subgroup symposia, 24 Annual Meeting symposia, 4 workshops, 64 platforms, and more than 600 daily poster presentations. Career and education sessions, along with committee programs and exhibitor presentations ensured the 5 days were filled with opportunities to learn and network.

Social Media

IUPAB is now on social media platforms! These include Twitter (@IUPAB1), Instagram (IUPAB1) and Facebook (IUPAB2). Please head over to any of these pages to keep up to date

on all IUPAB activities. A IUPAB Wiki page has also been created – details [here](#).

Future IUPAB Congresses

2024 (June 24-28th) Kyoto, Japan, Chair: Hiroyuki Noji, Tokyo

2027 (October 10 – 14th) Berlin, Germany

Links will be posted on the IUPAB.ORG website when they are available.



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