

## July 2023

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## Important: Sign-Up

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## Biophysics Week in Rio de Janeiro, Brazil

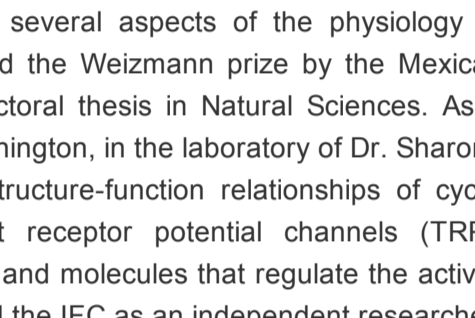
The 11th Week of Biophysics (XI Semana de Graduação em Física, XI SGBIOF) at the Federal University of Rio de Janeiro (UFRJ) took place on April 17-20, 2023. It was organized by undergraduate students for their fellow students as well as for the rest of the biophysical community. This event echoes the annual Biophysics Week celebrated worldwide at the end of March. Biophysics at UFRJ has a long-standing tradition, as the Institute of Biophysics (now Instituto de Física Carlos Chagas Filho, IBCCF) was created in 1945. The Graduate Program in Biological Sciences/Biophysics was created 60 years ago, in 1963. The history of teaching and research at IBCCF is documented in a small museum located next to lecture rooms and research laboratories. Biophysics has also been promoted early on in Brazil. The first biophysical society in Brazil was created in 1936, and the current society (SBBF, <https://www.sbbf.org.br/>) became an IUPAB member in 1977.

This year I joined the SGBIOF event as IUPAB delegate to participate in discussions and in mentoring of students. When I went to Rio de Janeiro, I met a group of enthusiastic students, who had entirely organized the event and prominently wore blue T-shirts, and extremely committed colleagues, who had advised them. The program started with presentations on biophysics in Brazil, the SBBF and IUPAB. The significance of "biophysics" and the range of this scientific discipline were the main topics. This led to interesting discussions with the students. Since applications of biophysics in medical, materials or environmental sciences are often highlighted, the question was raised about the interface with plant sciences and synthetic biology applications to tackle climate change. This interface rarely exists in graduation programs. For the young generation of biophysicists, plants of the future are not only sources of food or energy to fuel other processes, but also small factories per se for new, not yet invented, applications. Many students were eager to know about opportunities to graduate in international programs and/or to complete their education in other countries. During the four days of XI SGBIOF, scientific mini-courses were proposed, ranging from biophysical methods, like electron microscopy, to specific subjects like medicinal plants, not forgetting information about perspectives after graduation in biophysics. In addition, lectures and round tables were held on more general topics such as diversity and communication of science. The latter sessions are of particular importance to future scientists and teachers, since science cannot be done out of societal context or without social awareness. Since awareness is not sufficient, emphasis was put on means, for example, to communicate to a general public, and several practical issues were discussed. I was very impressed by the positive energy of the students. This was already obvious in our correspondence by email in the 2-3 months preceding XI SGBIOF. Such an event is a unique opportunity to improve their scientific knowledge, to open their minds, and to develop organizational, communication and team working skills. A number of students seized this opportunity, forming a mainly female organization committee. This event is particularly inspiring, and I would wish for similar events to take place at many other places. I can only recommend it, because it works!

I want to express my deepest gratitude to Rebecca Cruz and Ana Paula Guzmán Méndez, as well as to all the students who made the XII SGBIOF a big success, to their advisers Prof. Paulo M. Bisch, Pedro H. M. Torres, and Gilberto Weismuller, to Prof. Celso Caruso Neves, vice-president of SBBF, and to Prof. Ana A. Pinheiro for their warm welcome and for guiding me through IBCCF. I also warmly thank Prof. Fabio Almeida and all his team at the National Center of Nuclear Magnetic Resonance for discussions on protein NMR projects and about the challenges faced by running national NMR facilities.

Christina Sizon, IUPAB Treasurer (2021-2024)

## Professor Tamara Rosenbaum, IUPAB Lecturer at the Biophysical Society Meeting 2024



The IUPAB-sponsored invited speaker at the 68th Annual Meeting of the Biophysical Society (Pennsylvania Convention Center, Philadelphia, Sat. 10th Feb. - Wed. 14th Feb., 2024) will be Prof. Tamara Rosenbaum of the National Autonomous University of Mexico, Mexico City, Mexico. Professor Rosenbaum will speak at the symposium "New Insights into Ion Channel Regulation".

Professor Rosenbaum is currently a full-time professor and Chair of the Department of Cognitive Neurosciences at the Institute for Cellular Physiology (IFC) of the National Autonomous University of Mexico (UNAM). She fell in love with science watching her father who had been asked to come back to UNAM to direct an Institute of Nuclear Sciences after he finished his PhD in physics in the USA and her mother's thirst for knowledge.

She earned her BSc in biology and her doctorate in biomedical sciences at UNAM under the mentorship of Dr. Marcia Hiriart studying several aspects of the physiology of pancreatic beta cells. Rosenbaum was awarded the Weizmann prize by the Mexican Academy of Sciences in 1998 for the best doctoral thesis in Natural Sciences. As a postdoctoral researcher at the University of Washington, in the laboratory of Dr. Sharon Gordon, she became interested in studying structure-function relationships of cyclic nucleotide gated ion channels and transient receptor potential channels (TRP), contributing to the understanding of the regions and molecules that regulate the activity of these channels. At the end of 2004, she joined the IFC as an independent researcher, where she works on several aspects of the structure of TRP channels and their roles in physiology.

She has taught several courses on structure-function relationships in ion channels and neurobiology of TRP channels and has mentored several bachelor, masters and doctorate students.

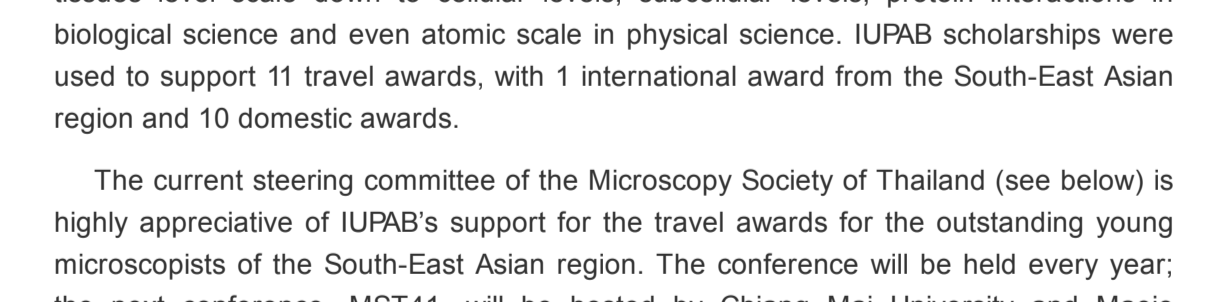
Prof Rosenbaum is a member of the Biophysical Society, the Mexican Society for Neurosciences, the Mexican Society for Physiological sciences, a member of the advisory editorial board of the Journal of General Physiology and part of the editorial board of Cell Calcium. She is also an elected member of the Academies of Sciences of Latin America and an elected fellow of the Academy of Physiology of the International Union of Physiological Sciences. She has received several awards for her work including the award for the best young investigator in Natural Sciences by the Mexican Academy of Sciences, the award for best young investigator in Natural Sciences by the National Autonomous University of Mexico, the Glaxo-Smith-Klein National Prize for Biomedical Research project, twice awarded special grants by the Miguel Aleman Foundation, the Marcos Moshinsky Fellowship, among others. She is also part of the advisory committee of the National Laboratory for Channelopathies at UNAM.

Prof Rosenbaum deeply enjoys performing experiments with her students and participating in the development of biophysics in Mexico as well as her "best experiment", her teenage daughter, Maia.

## Young Biophysicists Meeting in Porto, Portugal

The 3rd Meeting of Young Biophysicists – Biophysics Festival 2023 was held at the Institute for Research and Innovation in Health (i3S) in Porto, Portugal on June 1st-2nd 2023 and was organized by the Portuguese Young Biophysicists of the Portuguese Biophysics Society (SPBf). This meeting has the main purpose of gathering students and young scientists working in biophysics, and related disciplines, to promote networking and knowledge exchange in a casual environment. Beyond a comfortable place to communicate the most recent advances in research, the Biophysics Festival was projected to give young researchers the opportunity to meet and share knowledge with experts in the field.

This two-day event counted the presence of 75 participants. The first day was dedicated to lectures focused on biophysical techniques such as cryo-EM (Dr Arturo Carabias), molecular dynamics (Dr Arménio Barbosa) and bioimaging (Prof Paula Sampaio). On the second day, three plenary lectures took place, one being kindly sponsored by IUPAB. The IUPAB lecture was given by Dr. Arturo Carabias from the Novo Nordisk Foundation Center for Protein Research (NMF-CPR) in Copenhagen, Denmark with the title "Structure of the mini-RNA-guided endonuclease CRISPR-Cas12j3". The other two plenary lectures were given by Professor Bert Poolman, University of Groningen, Netherlands entitled, "Synthetic non-equilibrium vesicle systems for physicochemical homeostasis and membrane transport" and by Professor João Morais-Cabral from i3S on "Exploring novel conformational states in a K<sup>+</sup> channel using weak-binding antibodies and FRET". During this day, talks, flash talks and posters from the participants were crucial for scientific discussion and to find out the latest discoveries in the field of biophysics in Portugal. With the financial support of IUPAB, two poster communication prizes were awarded: Rita Emídio from BioISI, Faculdade de Ciências, Universidade de Lisboa and iMed, Faculdade de Farmácia, Universidade de Lisboa with the poster entitled "Targeting the c-MYC G4 interaction with indolisoquinoline derivatives: a computational approach" and Paula Teixeira from i3S, Universidade do Porto with the poster entitled "Optimizing a screening assay for small-molecules that modulate CdaA activity". The IUPAB lecture was chaired by Prof. Manuel Prieto who addressed the audience on biophysics and the activities of IUPAB.



## EBSA 2023 Congress Update

The 14th EBSA congress ([ebsa.org](https://ebsa.org); July 31st – August 4th 2023) will take place in Stockholm, and already it has attracted significant interest with 1016 registrations so far, and 850 abstracts submitted from around the world. Registration is available on line until the start of the congress, and then on-site, with a generous provision of lunches, refreshments and welcome reception included. Plenary speakers include David Julius (USA), Molly Stevens (UK), Lewis Kay (Canada), Karen Fleming (USA), Thorsten Wohland (Singapore) and Hao Wu (USA), who together with 58 Keynote and Invited Speakers cover the full range of contemporary biophysics.

The congress will be in the University of Stockholm, situated within the City National Park of Stockholm and with the main Aula Magna being used for plenary and keynote lectures. The City of Stockholm has generously invited participants to a reception at the famous Stockholm City Hall, which is also known as the Dining Hall used for the banquet held after the annual Nobel Prize award ceremonies.

With over 25 sessions, ~120 short oral presentations and ~800 posters, the appetite for in-person congresses is back. Four satellite meetings and a pre-congress summer school are also planned, with plenary and invited speakers giving introductory talks to graduate students in a relaxed environment.



## 40th International Conference of the Microscopy Society of Thailand

The 40th International Conference of the Microscopy Society of Thailand, jointly organised by the Department of Anatomy, Faculty of Medicine, Srinakharinwirot University, Thailand, was held from the 3rd-5th of April, 2023, in Pattaya, Chonburi, Thailand. The 2 day conference with 1-day excursion involved 16 invited talks along with oral presentations and technical seminars delivered by speakers from The Netherlands, Germany, Japan, Malaysia, Singapore, Russia, and Thailand. The conference covered the development or usage of microscopy in various fields that range from organs and tissues level scale down to cellular levels, subcellular levels, protein interactions in biological science and even atomic scale in physical science. IUPAB scholarships were used to support 11 travel awards, with 1 international award from the South-East Asian region and 10 domestic awards.

The current steering committee of the Microscopy Society of Thailand (see below) is highly appreciative of IUPAB's support for the travel awards for the outstanding young microscopists of the South-East Asian region. The conference will be held every year; the next conference, MST41, will be hosted by Chiang Mai University and Maejo University in Chiang Mai, Thailand. For those who are interested in presenting their research at the conference, please contact the committee via the email: [mstconference@gmail.com](mailto:mstconference@gmail.com) with the subject heading: Re: Registration of interest in MST41.



## 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. Additionally, a brand new [website](#) has been launched! A IUPAB Wiki page has also been created – details [here](#).

## Future IUPAB Congresses

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

2027 (October 10 – 14<sup>th</sup>) Berlin, Germany

Links will be posted on the [IUPAB.ORG](https://www.iupab.org) website when they are available.

