



Ph: "Foldscope-A revolutionary microscope" by Arpan Chowdhury

Editorial

Equity, Diversity, Inclusion and Sustainable Development

IUPAP has a long tradition of advancing actions to promote equality, diversity, and inclusion in the practice of science and to foster applications of physics to help solving problems of concern to humanity. The strong commitment of the Union in this regard is reflected in the renovated set of goals that are included in its new Strategic Plan.

IUPAP has been working hard to advance its new aims without disregarding those that have been at its core since the creation of the Union 100 years ago. In this sense, we can recognize the critically important role that IUPAP has always played to bring physicists together across political divides even during the most difficult years in the past. During the cold war, IUPAP did what was possible at that time to maintain contacts with physicists in the former USSR. In that spirit, today, faced with the Russian military offensive/invasion in Ukraine and the terrible consequences that this has on the lives of our colleagues in the region, we extended our deepest sympathy and solidarity to them and to all the Ukrainian people and admitted Ukraine as a new territorial member of IUPAP. At the same time, with the aim of embracing and promoting scientific collaboration across the world as a driver for peace, IUPAP decided that it would be inappropriate to bar any scientist, especially from one of its territorial members, from any scientific activity. As long as the work upholds the ethics and principles of science in its highest ideals and the people involved do not actively support war, IUPAP sees no reason to disallow the participation of Russian scientists in the affairs of the Union and in IUPAP sponsored conferences. We strongly recommend as well that schools for PhD students be exempted of any sanction. More generally, we are strongly committed to guarantee that IUPAP sponsored conferences and related activities be open to people from all countries. To achieve this goal, IUPAP funding is there to help scientists from less developed countries to attend IUPAP sponsored conferences or to organize schools and conferences in their own countries.

The long-lasting efforts of IUPAP to increase diversity and inclusion in physics and science started with the creation of its Working Group on Women in Physics in 1999. At the time the group was charged with the mandate to survey the situation of women in physics across the globe, report to the Council and Liaison Committees and suggest means to improve this situation. Conscious of the enormous work that must be done to level off the uneven landscape of science practice in terms of gender, the IUPAP General Assembly has been continuously extending the existence of the group, expanding its mandate to increase diversity in multiple dimensions. Through the ongoing series of surveys and conferences (ICWIP) the group has been a catalyst for change at many levels, both within IUPAP and within the physics communities of its territorial members. Since its creation, the activities of the group have put a

strong emphasis on the empowerment of women physicists from developing countries. Good practices have been recommended to move towards reducing the gender gap in physics and science, many of which have been incorporated into IUPAP rules for the composition of its various bodies, for decisions on awards and for its sponsored conferences. We strongly recommend conference organizers to apply these good practices and to report. We can see positive effects along the recent past years. The Working Group also articulates its actions with the Commissions on Physics Education and Physics for Development, among other things, to advance the Sustainable Development Goals (SDGs) of quality education and universal gender equality. Its actions, on the other hand, lead to an increasingly diverse pool of scientists who can tackle other SDGs. Finally, we would like to also refer to the two recent IUPAP resolutions: [statement](#) on unrest and violence against women in Iran, [statement](#) on ban of women in Afghanistan.

The rising awareness of climate change, loss of biodiversity, water, and food shortages and, more generally, of the UN Sustainable Development Goals agenda, is impacting the activities of IUPAP. Global challenges need global responses and can be an opportunity for global collaborations. IUPAP took the lead in the declaration of the International “Global” Year of Basic Sciences for Sustainable Development in 2022/2023. Hopefully it will continue to promote the global mobilization and organization of all sciences for sustainability using the lessons of what it has done so far, promoting cooperation and applications of physics to help solve problems of concern to humanity.

All this means that IUPAP is currently strongly acting for Global Equality and Sustainable Development. We hope you can all contribute to this end by promoting and participating of our actions.

Bruce McKellar, Michel Spiro, Silvina Ponce Dawson



IUPAP Statement on ban on women from higher education in Afghanistan

The decree by the Afghanistan authorities in December 2022 suspending higher education for women in Afghanistan is deeply concerning and is yet another erosion of the rights of women in Afghanistan. This is in stark contrast to the aims of the current International Year of Basic Sciences for Sustainable Development, where across the world scientists are striving to ensure that science is available (to) and of benefit to everyone. This equally applies to education.

IUPAP [condemns](#) the suspension of Afghan women rights to education and stands in strong support of the International Science Council statement urging a reversal of the ban.

Throughout its 100 year history, IUPAP has spoken out not only against injustices and human rights violations of physicists and scientists, but has consistently sought to support the oppressed communities across the world. IUPAP continues to embrace and promote scientific collaboration across the world as a driver for peace.

***The IUPAP Executive Council
February 7th, 2023***

Meet our team



Jens Vigen

IUPAP Secretary-General for financial affairs

• Could you please introduce yourself?

In spite of being the IUPAP Secretary-General, I am not a physicist. Still, I have spent more than half of my life working to support physicists and to promote physics as an academic librarian. I live in Geneva, Switzerland, and I am employed by the European Organization for Nuclear Research (CERN) since nearly 30 years. I was born in Oslo, Norway, back in 1966. However, as a consequence of the 1973 oil crisis my parents moved south in the country, so I actually grew up in a small town on the “Norwegian Riviera”, Grimstad. There I learned to appreciate everything related to the sea; the relaxed way of life, swimming, sailing, fishing, etc.—all interests that I am still cultivating today, both at the Geneva Lake and in the Norwegian fjords during my summer holidays. At the technical university in Trondheim (at the time referred to as NTH—today NTNU) I studied civil engineering. As part of the study we did of course have physics classes, but I have to admit that these courses were not my favourites. I like to enjoy the Nature, so my interest went in the direction of the land surveying courses, with the hope of working outdoor never having to sit stuck behind a computer ... In the end this led me to complete my master degree with a thesis in photogrammetry. But rarely things go as planned ... Since many years the Norwegian economy has been blossoming, but when I graduated, in the year 1990, there was an economic depression and difficult to find interesting employments for civil engineers. During my student days I had been the archivist of the student union, so through that activity I knew several of the employees at the university library. They encouraged me to apply for a specialised training course—actually remunerated as a research assistant—to become an academic librarian. I applied and I was accepted, but it took time before I got convinced that this was the right way to go. In hindsight I think I only got convinced about academic librarianship after having worked a couple of years in the CERN Library. Today—if I could have re-made my choice—I would not have chosen differently.

• What is your role within the IUPAP?

I got involved in IUPAP through my activities related to open access publishing in particle physics. Looking 20 years back, it was not obvious that open access publishing should become mainstream, but with strong support from the physics and library communities, we were able to establish the Sponsoring Consortium for Particle Physics Publishing (SCOAP³) that is still very much thriving and stands as an example for other scientific disciplines. Through the IUPAP Working Group 2, Communication in Physics, I got to know the IUPAP officers and when Michel Spiro became President, he asked me if I would be available to serve as Secretary-General, for which I was officially elected at the General Assembly in 2021. Since then I have spent much of my time to move the IUPAP headquarters from Singapore to Geneva with an administrative office in Trieste. In close collaboration with our colleagues in Trieste and the President, I do what I can to make the work of the commissions and working groups as smooth as possible. In addition I interact with many of the IUPAP members on various issues. In addition I interact with many of the IUPAP members on various issues and throughout 2022/23 plenty of effort has gone into support actions for the International Year of Basic Sciences for Sustainable Development.

• What did you enjoy most in your collaboration with IUPAP?

I enjoy working with physicists. My role at CERN has allowed me to get to know the field of particle and accelerator physics—IUPAP let me interact with physicists “across the board”. In addition, IUPAP is truly global and the issues we are working on have been valid for the last 100 years.

• What do you think is the greatest potential of IUPAP?

It is stated in the IUPAP Articles: “... to assist in the worldwide development of physics, to foster international cooperation in physics, and to help in the application of physics toward solving problems of concern to humanity.” It is striking to think about that IUPAP actually was created on this basis shortly after the First World War. 100 years later one could think that the IUPAP had reached the state “mission completed”, but this is unfortunately not at all the case. The current war in Ukraine, with all its consequences, emphasises the importance of IUPAP and that we should strive to use “science for peace” as a

communication channel between the conflicted parties. Furthermore, IUPAP can onboard low and middle-income countries to become part of the international physics community. Replying to these questions on 8 March, I cannot avoid mentioning the important work IUPAP has done through its working group “Women in Physics”—an activity to be developed to better include any minority within the physics community.



Imagine being together with a Nobel Prize and 245 of the best minds in the world in the field of Physics: this is not imagination, it is PLANCKS.

PLANCKS represents the most important event of the International Association of Physics Students ([IAPS](#)), with which the Italian Association of Physics Students is associated. Being an annual event, a different local committee organizes it each year.

The PLANCKS benefit from the economic patronage of the IUPAP.

For the 2023 edition, the organization has been entrusted to the [AISF](#) section Milano-Statale: indeed, the tenth edition of PLANCKS will be held in Milan from 12th to 16th May 2023.

The winners of national competitions from every corner of the world, ranging from bachelor's, master's, and doctoral degree courses, will compete in solving problems concerning numerous physics disciplines. However, the competition, which will develop over a single morning, is only a part of PLANCKS: there will be poster sessions, student sessions, guest lectures, visits to laboratories, centers of research of state bodies, and private companies in the Milan area as well.

The event aims to make students discover new frontiers of scientific research and help them to orient themselves in the world of work while making new personal and academic contacts.

Since the first edition, held in Utrecht in 2014, the entire academic world has recognized PLANCKS as an opportunity for dialogue between students, researchers, and professors. Indeed, there is a succession of guest lectures held by illustrious scientists of the caliber of Stephen Hawking and by many Nobel laureates in physics, such as Reinhard Genzel. This year, Milan will have the honor of hosting Marco Liscidini, associate professor of the Physics Department of the University of Pavia, recognized as a fellow by the Optical Society of America (OPTICA, ex OSA) and expert in the fields of photonics and optics classical and quantum nonlinear, Claudia Pasquero, associate professor of Oceanography and Atmospheric Physics at the University of Milan Bicocca and vice-president of the Mathematical Geophysics committee of the IUGG (International Union of Geodesy and Geophysics) and Didier Queloz, Nobel Prize winner in 2019 for the discovery of the first exoplanet orbiting a primary sequence star.

Some of these conferences will take place in the classrooms of the University of Milan; others will be held in public spaces in the city of Milan: indeed, one of the main objectives of AISF is to take physics as far as possible, making sure that this splendid science, which links the abstract beauty of mathematics to the origin and transformation of our universe, is accessible to as many people as possible.

The PLANCKS are supported also by the Italian Physical Society (SIF), the European Physical Society (EPS), the Italian Society of Optics and Photonics (SIOF) and the International Association of Geomagnetism and Aeronomy (IAGA).

More information is available on the website dedicated to PLANCKS 2023 [PLANCKS 2023- PLANCKS 2023 \(ai-sf.it\)](#).

Matteo Vismara and Valentina Raspagni

Organizing Committee, PLANCKS 2023



ICWIP 2023

8th International Conference on Women in Physics 10-14 July 2023

IUPAP has recognised a particular need to foster the participation of women in physics. The IUPAP Conferences series on Women in Physics, organised by IUPAP Working Group 5, **has a history not only of success and growth but also of making a difference to the physics community.**

The 8th conference in this series will be held virtually during 10-14 July 2023 with India as the host country and it will be jointly organised by the Gender in Physics Working Group of Indian Physics Association and the Tata Institute of Fundamental Research (TIFR). The conference will be hosted by the Homi Bhabha Centre for Science Education, TIFR – a national centre of TIFR, strongly focused on promoting quality and equity in Science & Mathematics education from primary school to introductory college levels.

The program will consist of plenary sessions, interactive workshops, poster presentations and networking sessions. In addition to country papers depicting the status of women in physics, registered participants can make contributions in physics, physics education and gender issues.

[More about ICWIP 2023](#)

IUPAP Centenary

We are pleased to share some reflections that emerged during the [Centennial Symposium](#), which took place at ICTP, Trieste, on 11, 12 and 13 July 2022.



2023 IUPAP Medal for the Physics of Life

The IUPAP Medal for the Physics of Life is a new prize, presented by the C6 Commission on Biological Physics of the IUPAP every three years at the IUPAP International Conference on Biological Physics (ICBP). The Award recognizes outstanding achievements in Biological Physics.



Dr. John J. Hopfield

“For his pioneering contributions to a wide range of biological physics, including cooperativity and electron transfer in proteins, proofreading in molecular information transmission, and concepts and applications of nonlinear dynamics of neural networks, which set a foundation for the modern engagement of theoretical physics with the phenomena of life.”

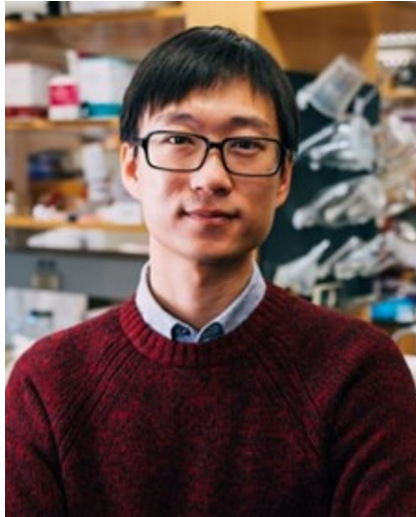


Dr. Frank Jülicher

“For his key contributions to biological active matter physics, shedding light on the physical mechanisms that underlie cellular processes, including cooperative molecular motors; hearing; flagellar beat; active gels, fluids, and droplets; the active cell cortex; tissue growth and patterning; protein phase separation in cells; and self-organization of active surfaces.”

[More about the Medal](#)

Early Career Scientist Prize for the C6 - Commission on Biological Physics



2022

Dr. Ming Guo
Department of Mechanical
Engineering,
Massachusetts Institute of
Technology, USA

"For his groundbreaking development of novel biophysical tools which, in turn, enabled his discovery of physical laws governing interactions of subcellular structures across scales of length from molecule to cytoskeleton to tissue, and across conditions spanning normative physiology, embryonic development and cancer invasion."



2023

Dr. Ricard Alert
Max Planck Institute for
the Physics of Complex
Systems, and Center for
Systems Biology Dresden,
Germany

"For revealing how new phenomena in active matter underlie a wide range of biological processes, from the spreading of epithelial tissues, to turbulent-like flows in cytoskeletal networks, to the formation of fruiting bodies in bacterial colonies."

Early Career Scientist Prize for the AC2 - Affiliated Commission on General Relativity and Gravitation



2021

**Christopher
Berry,**
Northwestern
University and
University of
Glasgow

"For key contributions to gravitational-wave discoveries, mentoring and leadership to support the research community, and effective public outreach."



2022

**Katerina
Chatziioannou,**
California
Institute of
Technology

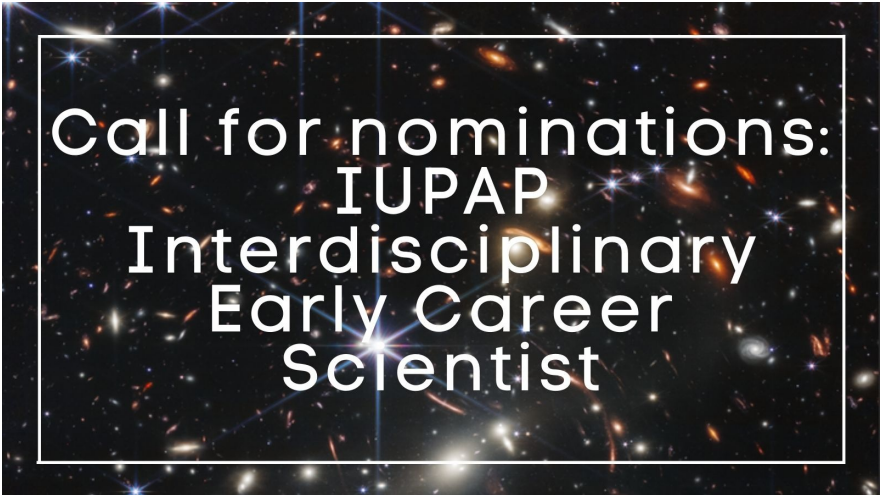
"For exceptional contributions to gravitational-wave astrophysics and the effort to constrain the equation of state of nuclear matter from neutron-star mergers."



2023

Tim Dietrich,
Universität
Potsdam

"For his essential contributions to the development of gravitational-wave and electromagnetic models for binary-neutron star systems, his multi-messenger studies placing new constraints on the properties of supranuclear-dense matter, and his important role and engagement within international scientific collaborations."



Call for nominations: IUPAP Interdisciplinary Early Career Scientist

Besides the prizes that are associated with each IUPAP's commission, the Union has **recently established the Interdisciplinary Early Career Scientist Award to recognize the contributions of Early Career Scientists who do interdisciplinary research that does not fit within a single subfield of physics as covered by one IUPAP Commission.** The deadline for nomination submissions is May 31, 2023.

[Info and submission](#)



Application for Conference Sponsorship by IUPAP

Historically IUPAP came into existence charged with enhancing physics through the organization and sponsorship of the most appropriate conferences, and ensuring that all physicists had free access to the meetings. These goals basically remain today.

IUPAP supports conferences in two ways, by Sponsorship and by Endorsement. Conference organisers seeking IUPAP support of their conference in any way should refer to the IUPAP Policies for Conference Support. IUPAP Endorsement is given to conferences at any stage before they have been held. The call for application for IUPAP Sponsorship for conferences to be held in 2024 is now open, with deadline 1 June 2023.

Different types of support are envisaged depending on the type of the Conference. The Type A, or General, conference is a large general meeting of 750 - 1000 attendees covering an entire field (i.e. the area covered by the commission). The Type B, or Topical, conference is smaller with 300 - 500 attendees on a subset of topics. The Type C, or Special, conference has 50 - 200 attendees on a specialized topic, and may be a workshop. The IUPAP Council believes that if the meetings are part of a series there should generally be at least two years between their occurrences. A fourth type of conference, Type D, workshops in developing countries, was added in 2007. All applications for Type D conferences must select the Commission on Physics for Development (C13) when filling out the corresponding form. The final decision on conference sponsorship, made by the Council, will be communicated to the Conference Organizers in November 2023.

[Apply here](#)

Iupap Open Calls

Find out what calls for nominations are currently open!

[Let me have a look](#)



IUPAP

Fondazione Internazionale Trieste per il Progresso e la Libertà delle Scienze
c/o ICTP Strada Costiera 11, 34151, Trieste

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