

Name of the Union

Activities' Report - Year 2019

Delegate: Michael Pusch

1. Introduction

Biophysics is characterized by an elevated interdisciplinarity with active scientists coming from diverse backgrounds including physics, biology, biotechnology, chemistry, pharmacology, mathematics, engineering, and others. The common objective is to investigate fundamental problems of life sciences using the quantitative approach typical of the physical sciences, paving also the way for the development of technological applications. The interdisciplinary nature poses a challenge regarding communication with a common language and establishing a scientific identity, given the still rather strict division of the academic structure in separate fields. For these reasons, scientific societies at the national level (Italian Society for Pure and Applied Biophysics - SIBPA), European level (European Biophysical Societies' Association – EBSA), and international level (International Union of Pure and Applied Biophysics – IUPAB) are important for the biophysical community, as also documented in previous activities report (<https://www.cnr.it/en/international-scientific-organization/41/iupab-international-union-of-pure-and-applied-biophysics>).

2. Main activities carried on by IUPAB during 2019 relevant for Italy and for CNR

IUPAB reminded that it has launched a new initiative, Focused Meetings. This new form of events will be funded by IUPAB in years in which we the main Congress is not held. The first one will take place in 2021 and deadline for application was 30th of April, 2019. The IUPAB Council has approved the following Focused Meetings that will take place in 2021. 1. IUPAB Focused Meeting on “Emerging Trends in Integrated Structural Biology with the Focus on CryoEM”. It will be held in Hyderabad (India) and the main organizer is Prof. Rajan Sankaranarayanan. 2. IUPAB Focused Meeting on “The biophysics of neurotransmitter-gated ion channels: from structure to drug discovery”. This Meeting will take place in Ottawa (Canada), May 2021. Main organizer Prof. John Baezinger.

IUPAB launched a call for the applications for the IUPAB - Young Scientist Program 2020 (IUPAB-YSP). The IUPAB-YSP had been planned to be held in São Paulo, Brazil, October 22th to 24th, 2020 as a satellite activity for the IUPAB Annual Meeting. This program, aimed toward students and recent PhDs, will provide a unique opportunity for 40 young scientists from different countries to discuss their scientific results, novel ideas, and career development. Participants in the YSP will be selected from candidates worldwide and will receive free registration for both the YSP and IUPAB-SBBq-SBBf Congress, as well as shared accommodation. Further funding requests are underway with the aim to cover travel and other local costs expenses.

IUPAB launched the Michèle Auger Award for Young Scientists' Independent Research (2020). In late 2018, long time Editorial Board Member of the Biophysical Reviews journal, Professor Michèle Auger, sadly succumbed to illness. As a mark of the respect for Michèle, the Biophysical Reviews' Board, together with the support of Springer-Nature, installed a perpetual memorial award in honor of her life and service. The, 'Michèle Auger Award for Young Scientists' Independent Research', will be granted each year to a single candidate performing biophysical research who, at the time of application, is under 40 years of age. The award will consist of a plaque and a free personal subscription to the journal along with an invitation to submit a single author Review article to Biophysical Reviews. The winner's published Review will carry a short foreword about the life of Professor Michèle Auger, along with her work associated with teaching and training the next generation of biophysical scientists.

As last year, IUPAB promoted the “Biophysics Week”, an activity initiated by the American Biophysical Society. It took place from March 25 to 29 with events all over Italy coordinated by the Biophysics Institute and the Italian Society of Pure and Applied Biophysics (Sibpa) (<https://www.ibf.cnr.it/index.php/2019/03/19/settimana-della-biofisica-2019/?lang=en>). In particular,

events including talks for a general audience, school visits, scientific cafés, a math-box laboratory, a biophysics box laboratory, laboratories on computational biophysics, cryo EM, and others took place in Ancona, Genova, Milano, Palermo, Pisa, and Trento. A highlight was the final conference with a talk by Franco Malerba, the first Italian astronaut. Malerba had started his career as a scientist at the Biophysics Institute in Camogli as a student of Franco Conti.

The next IUPAB Congress should have been in 2020 in Brazil. Due to the Covid-19 pandemics it has been postponed to 2021. We intend to present again a candidature for an Italian member of council.

3. Activities carried on by the delegate within the Union during 2019 and impact on the Italian scientific community

The XXIII International School of Pure and Applied Biophysics, Venice (Italy), 4-8 February 2019 held in Venice at the Palazzo Loredan was headed by Silvia Caponi, Mauro Dalla Serra and Massimo Vassalli, all from the Italian National Research Council. The school was partially funded by IUPAB. The 2009 edition of the school was focused on recent advances and emerging techniques able to probe mechanical properties in biological material. Forty students came from all over the world (Argentina, Brazil, Croatia, Egypt, France, Germany, Hungary, Italy, Japan, Norway, Poland, Portugal, Turkey, United Kingdom) and actively participated in five intense days of scientific excellence and the high-quality formative activities.

With the participation of the Italian societies of Pure and Applied Biophysics (SIBPA), of Chemistry (SCI) and of Biochemistry and Molecular Biology (SIB), the French Membrane Study Group (GEM) and Club Exocytose-Endocytose held for the first time a joint meeting entitled “Membrane Biophysics of Exo-Endocytosis: from Model Systems to Cells“ from April 3 to April 6, 2019 in the region of Nice on the sunny French Riviera in the South of France. The goal of this international meeting was to illustrate how novel opportunities for discovery in the life sciences arise when the most urgent challenges in the field of exo and endocytic membrane trafficking are addressed from fresh angles based on innovative biophysical tools and concepts.

The joint EBSA / ICBP-IUPAB biophysics congress was held from July 20 to July 24 in Madrid and saw a prominent participation of Italian scientist with several invited speakers (Fabrizio Chiti, Giulia Rossi, Alberto Diaspro, Silvia Caponi), session chairs (Mauro Dalla Serra, Silvia Caponi) and short talks.

4. Conclusions

IUPAB remains an important link of the Italian scientific community to the international biophysical scene. The active role of Italian scientists within IUPAB should continue to be promoted, after Dr. Giuseppe Zucchelli from the CNR Biophysics Institute (IBF, Milan section), cannot be elected again as member of the council of IUPAB at the next IUPAB meeting.

Signature



Genova, May4, 2020