

# **International Union for Pure and Applied Biophysics (IUPAB)**

## **Activities' Report - Year 2018**

**Delegate: Michael Pusch**

### **1. Introduction**

Biophysics, the science at the interface of biology and physics, has always been driven by technical developments that allow to obtain ever greater insight into biological mechanisms using quantitative approaches. A recent example is represented by the breakthrough developments in the technology of single particle cryogenic electron microscopy that allowed the structure determination of many membrane proteins that are extremely difficult to crystallize. For the Italian biophysics community, in order to remain at the forefront of research, the integration into international organizations like IUPAB (International Union of Pure and Applied Biophysics) or EBSA (European Biophysics Societies Association) is essential. CNR is a long-term member of IUPAB, whose importance for Italian Biophysics is 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 2018 relevant for Italy and for CNR**

IUPAB initiated a Task Force on Structural Biology (headed by Prof. Frances Separovic, Australia) to promote communication in structural biology, in particular X-ray diffraction, nuclear magnetic resonance and 3D electron microscopy. The Task Force will arrange a workshop before the next Congress in 2019, and will engage in cooperative projects with other sister Unions and organizations such as IUBMB, IUCr, IUPAC, IUPAP.

Another Task Force initiated by IUPAB is dedicated to Education and Capacity Building (headed by Prof. Trevor Sewell, South Africa) with the aim to promote the expansion of the Biophysics community and the resources available to Biophysicists for the development of biophysics in scientifically less developed countries.

IUPAB initiated the sponsoring of so-called Focused Meetings in years in which the triennial Congress is not held. The first occasion in which one of these Meetings is to be organized will be 2021. The organization of these Meetings should be carried out within a country which is represented in IUPAB. It will be preferred to have co-organizers from two or more countries. IUPAB will provide partial financial support.

Further, IUPAB promoted the "Biophysics Week", an activity initiated by the American Biophysical Society, and which took place from March 12 to 16 with events all over Italy coordinated by the Biophysics Institute and the Italian Society of Pure and Applied Biophysics (Sibpa) (<http://www.pa.ibf.cnr.it/sibpa/index.php/biophysics-week/113-biophysics-week-2018>).

The next IUPAB Congress will be held in 2020 in Rio de Janeiro. We intend to present again a candidature for an Italian member of council.

### **3. Activities carried on by (Italian Delegate name) within the Union during 2017 and impact on the Italian scientific community**

The XXII International School of Pure and Applied Biophysics held in Venice at the Palazzo Loredan (15-19, January, 2018) was headed by Armando Carpaneto, then research scientist of the Biophysics Institute of CNR, and was promoted through IUPAB through my intervention.

The International school of Nanomedicine held the course "Nanofluidics, Nanoimaging and Nanomanipulation" (5-11 April 2018) at the international "Ettore Majorana Foundation and centre for scientific culture" in Erice (Sicily), which was promoted through IUPAB.

The XXIV National Congress of The Italian Society for Pure and Applied Biophysics (SIBPA) was held in Ancona (10- 13th September 2018) and promoted through IUPAB. A report of the congress was distributed through the Iupab newsletter.

Massimo Vassalli, research scientist of the Biophysics Institute of CNR, was invited speaker at the International Biophysics School on Mechanobiology (October 6th – 8th, 2018 | Kotor, Montenegro), which was partially funded by IUPAB.

#### **4. Conclusions**

Iupab's role continues to be important for Italian Biophysics together with the European Biophysics Association (EBSA). The organization of regional meetings that could obtain support from IUPAB should be fostered in the future.

Signature

A handwritten signature in blue ink, appearing to read 'Michael P...' with a stylized flourish at the end.

Genova, June 4, 2019