

# How does the International Union of Biochemistry and Molecular Biology support education and training?

The International Union of Biochemistry and Molecular Biology (IUBMB) was founded in 1955 and brings together biochemists and molecular biologists from the 79 countries that belong to the Union. IUBMB works to support, promote, and develop both research and education internationally (<https://iubmb.org/>).

IUBMB is focused on championing and improving education and training in biochemistry and molecular biology at all levels. This includes K-12, undergraduate and postgraduate education, and training of early and mid-career research scientists. To achieve the goals of the Union, IUBMB organizes, supports, and funds a broad range of educational and training activities.

## 1 | SUPPORT FOR EDUCATIONAL ACTIVITIES

IUBMB provides financial support for members of IUBMB Adhering Bodies, Associated Adhering Bodies, and regional organizations to organize a variety of educational activities (<https://iubmb.org/guidelines-statutes/guidelines/iubmb-educational-activities/>). These fall under the broad priority areas of:

- Symposia or workshops that bring together expertise from across the international community of biochemistry and molecular biology educators, and which focus on significant pedagogical issues.
- Education symposia or workshops that are developed deliberately to facilitate repeat delivery in multiple locations.
- Activities that focus on communities where biochemistry and molecular biology are not yet well developed.

## 2 | EDUCATION CONFERENCES

IUBMB has introduced a biannual education conference. The conferences are designed to be collaborative being run in conjunction with biochemistry and molecular biology societies and organizations in different geographical regions of the world.

The first conference “New Horizons in Biochemistry & Molecular Biology Education” was very successfully held in 2017 in Israel in conjunction with the Federation of European Biochemical Societies and the Weizmann Institute of Science (Israel). The second conference “Harnessing Interdisciplinary Education in Biochemistry and Molecular Biology” was organized in conjunction with the Federation of Asian and Oceanian Biochemists and Molecular Biologists and the Philippine Society of Biochemistry and Molecular Biology and was held in 2019 at The Manila Hotel, Manila City, Philippines.

Plans are in progress for the next conference to be a joint meeting with the American Society for Biochemistry and Molecular Biology in 2021. Dates and location and or delivery mode will be announced shortly taking into account the impact of the COVID-19 pandemic.

## 3 | AN EXCITING NEW EDUCATION FELLOWSHIP: IUBMB TANG EDUCATION FELLOWSHIPS

The IUBMB Tang Education Fellowships are designed to provide opportunities for the development of both biochemistry and molecular biology educational programs and educators increasing both expertise and capacity in biochemistry and molecular biology education.

The aim of introducing the fellowships was to:

- increase expertise and capability in biochemistry and molecular biology education;
- support engaged educators;
- promote change/innovation in approaches to education;
- improve student learning experiences, outcomes, and engagement with biochemistry and molecular biology;
- build an evidence base on which to make future recommendations on biochemistry and molecular biology education;
- support biochemistry and molecular biology education in developing countries.

There are two options for these fellowships: (1) universities/departments can apply for a nominated experienced biochemistry and molecular biology educator to visit their institution for a specific educational outcome or (2) educators can apply to visit institutions to learn and develop education practices and methodologies for specific educational outcomes. The fellowships are awarded for travel lasting up to 2 months.

The two successful applicants of the inaugural IUBMB Tang Education Fellowships were announced in May 2020, who are Prof. Paul Craig from the Rochester Institute of Technology, Rochester, NY and Dr. Mariana Pereyra from the University of the Republic (Uruguay), Montevideo, Uruguay. Due to the COVID-19 pandemic, these fellowships have been delayed but will hopefully proceed in 2021. Paul will visit Prof. Philip Poronnik at the University of Sydney, Australia with the focus of his project on developing resources and expertise in the use of virtual and augmented reality. The objective of Marianas' fellowship is to promote a change in the approach to science education of undergraduate students through innovation in teaching. In particular Mariana seeks to change the focus of traditional biochemistry laboratory courses.

Further information is available at <https://iubmb.org/guidelines-statutes/guidelines/tang-education-fellowships/>.

Another exciting development was the appointment of the first IUBMB Student Ambassador, Bri Bibel. Bri is a graduate student who contributes a series to the IUBMB social media sites (Twitter, Instagram, Facebook), called "Bri-fing from the Bench by The Bumbling Biochemist," and has her own webpage—"The Bumbling Biochemist" <https://thebumblingbiochemist.com/> devoted to explaining biochemistry. She recently collaborated with students around the world to translate one of her COVID-19 posts into 30 languages, which is described here: <https://network.febs.org/posts/64100-covid-19-knows-no-borders-neither-does-understanding-the-basis-of-covid-19-tests>.

#### 4 | RESEARCH TRAINING

Advanced training of PhD students and early and mid-career researchers is crucial for their careers, research outcomes, and productivity. IUBMB supports continuing education and training through research Fellowships and Advanced Schools.

IUBMB offers two research fellowships for researchers at different stages of their careers. The Wood-

Whelan Research Fellowships are designed to support biochemistry and molecular biology trainees (students and postdocs) while the Mid-Career Research Fellowship program was established in response to an increased demand for further training of mid-career biochemists and molecular biologists. The fellowships provide support to travel to international labs for short-term stays (1–4 months) to carry out experiments that require special techniques, to learn state-of-the-art techniques or for other forms of scientific collaboration or advanced training. There are two annual rounds of fellowships with application deadlines of April 1st (for travel in July–December the same year) and October 1st (for travel in January–June the following year).

IUBMB also sponsors and promotes Advanced Schools which provide advanced training in specialized areas. The schools bring renown scientists, early career scientists, and students together in a relaxed and engaging atmosphere <https://iubmb.org/activities/advanced-schools/>.

We hope you will look at these education and training opportunities and consider how you can become involved or let your colleagues know about them. If you have any questions or suggestions for IUBMB please contact us.

Janet Macaulay—Chair IUBMB Committee for Education and Training.

Alexandra Newton—President-Elect, IUBMB.

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