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## FEBS Education

The FEBS Education Committee promotes education of the highest quality in biochemistry and molecular biology in Europe at undergraduate and postgraduate levels. A range of events organized in 2018 have enabled trends, challenges and ideas to be discussed among educators across the FEBS area, as well as research and career skills sessions to be offered to young scientists, as summarized below.

### **The 3rd FEBS Education Ambassadors Meeting** | 6–7 April 2018; Zagreb, Croatia

The Education Ambassadors Meeting provides a platform to share experiences in bioscience teaching across Europe and to establish educational strategies at the European level. Delegates from 24 FEBS Constituent Societies as well as members of the FEBS Education Committee gathered at the Zagreb meeting, kindly hosted by Jerka Dumić [Chair, FEBS Working Group on Integration (WGI)] at the Rector's Hall of the University. The meeting began with sharing of 'best practices' through short talks on education experiences and activities in several

countries (Xavier Coumoul, France; Vida Mildaziene, Lithuania; Gül Güner Akdoğan, Turkey; Diana Petkova, Bulgaria; Tatiana Borisova, Ukraine; Winnie Eskild, Norway). In addition, Gus Cameron (UK) was invited as an expert to share his experience on 'E-Biolabs', while Luciane Vieiro de Mello (UK) gave an enthusing talk on 'International students' and Angel Herráez (Spain) spoke on 'FEBS Networking'.

An important mission of the meeting was to continue face-to-face discussions of four working groups established at prior Education Ambassadors Meetings and addressing the following areas:

- 'Key Knowledge and Skills Expected from a Molecular Life Sciences Undergraduate' (Coordinators: J. Perret, F. Michelangeli, K. Elliott). This group is working on a minimum set of key knowledge and skills necessary for a core curriculum in molecular life sciences (subject matter, content, depth, stratification over the undergraduate course, 'mandatory' technical, transferable and soft skills).
- 'Good Practices on Education' (Coordinators: J-L. Souciet, W. Eskild). With awareness of the need for new educational strategies, this group is looking at

how to place the student at the focus of changes, encourage interactive education methods and improve interconnection between teaching and research.

- ‘Make Molecular Life Sciences Education in Europe Strong!’ (Coordinators: L. Dux, G. Güner Akdoğan). Recognizing that excellent science teachers are necessary to support training of excellent young researchers, this group is working on a campaign for decisions, systems and funding at the EU level to help make the region a leader in innovative science education.
- ‘Learning Resources’ (Coordinators: A. Herráez, F. Sagin). This group is aiming to share a collection, maybe a repository, of resources to be used by any instructor and also students. The FEBS Network Educator channel is a good start.

### Zagreb FEBS Education Workshop

4–5 April 2018; Zagreb, Croatia

This workshop, hosted by HDMB (the Croatian Society of Biochemistry and Molecular Biology) and coordinated by Jerka Dumić, gathered about 80 participants at the School of Pharmacy, Zagreb University. Several FEBS Education and other FEBS Committee members acted as lecturers and/or moderators of group discussions: Jean-Luc Souciet, France; Ferhan Sağın, Turkey; Jason Perret, Belgium; Keith Elliott, UK; Angel Herráez, Spain; Luciane Veirol de Mello, UK; Frank Michelangeli, UK; Beáta Vértessy (Chair, FEBS Advanced Courses Committee; Hungary); and Jerka Dumić (Chair, FEBS WGI; Croatia). In addition, Michael Mulvany (Denmark) and Gus Cameron (UK) were invited as experts.

The workshop was highly interactive, with lively discussions between faculty and young scientists, and included the following main themes: ‘Successful PhD training’, ‘Tips for success for PhD students and post-docs’, ‘Innovative learning methods’ (team-based learning, problem-based learning), and ‘PhD supervision’. Additional topics were practical work in the biomedical sciences, use of some educational technologies, and [Proteopedia](#).

### A Biochemical Society and FEBS Training Event: Evolving Molecular Bioscience Education | 13–14 April 2018; Chester, UK

Over 70 bioscientists convened at the University of Chester to take part in a mixture of talks, posters and small-group sessions covering current practice

and developments in bioscience education, organized by the Biochemical Society (UK) in collaboration with FEBS. It began with the presentation of the Biochemical Society teaching award to Dee Scadden (Cambridge, UK) and her interesting award lecture. The program was then themed around four areas: Sharing best practice through research and across Europe; Teaching large cohorts; Undergraduate research projects; and Teaching postgraduate and international students.

Among the trends, tips and issues arising from the talks were the use of apps and ‘super groups’ to engage students alongside video in large cohorts, solutions for personalised feedback in large cohorts, challenges of engaging ‘commuter’ students, how best to support international students, and possibilities of providing meaningful research projects through industry and community collaborations. An international outlook at the event included consideration of how the teaching of postgraduate students is supported across Europe, and how to share educational research and best practice through opportunities provided by FEBS. Lastly, poster sessions provided valuable networking time and a chance to look at a wide range of approaches to delivering and supporting learning, from card games through spreadsheets to virtual labs. *[Thanks to Mark Roberts, UK for a [longer report](#) on which this summary is based.]*

### FEBS Congress Special Session on Education – Bioethics education in molecular life sciences | 9 July 2018; Prague, Czech Republic

This education session during the 43rd FEBS Congress addressed the significance of ‘bioethical education’ in molecular life sciences, principles of bioethics, guidelines on conducting biomedical research, and bioethics teaching experiences and implementation. The talks were from Chris Willmott, UK (‘Why teaching of bioethics matters’), Rolf Heinemann, Germany (‘Introduction of bioethics into molecular life science education: a timely requirement or just a personal opinion?’), and Hakan Ozer, Turkey (‘Institutional policy to implement bioethics principles in graduate education’). Faculty, postdocs and PhD students from all areas of molecular life sciences were among the 100 participants and joined in the discussion after the talks. An ensuing workshop coordinated by Chris Willmott and John Bryant, UK offered advice and training on developing bioethics case studies for use with molecular life science students.



### **Izmir FEBS Education Workshop**

5–6 September 2018; Izmir, Turkey

### **Izmir IUBMB Research and Career Skills Workshop for Young Scientists**

7 September 2018; Izmir, Turkey

These workshops, hosted by the Turkish Society of Biochemistry at the Izmir University of Economics, School of Medicine, were coordinated there by Ali Burak Ozkaya and co-chaired by Gül Güner Akdoğan (Chair of FEBS Education Committee, rotating out at the end of 2018) and Ferhan Sağın (newly elected Chair from the start of 2019). The special programs at the events were possible through lectures and support by most FEBS Education Committee members, as well as current and past members of the FEBS Executive Committee.

The Education Workshop (pictured above) attracted strong interest, with around 140 participants from all over Turkey. The program comprised presentations of topics from experts followed by break-out group discussions. The outstanding sessions were ‘Novel educational strategies and methods’ (including flipped classroom, team-based learning and interactive teaching in large classes) and ‘Using electronic technologies in education’ (including examples of E-med activities). In addition, the sessions on ‘Graduate education’ (including MSc studies, PhD training, transferable skills and effective supervision) and ‘Excellence in education, Excellence in research’ attracted great interest. There were 25 posters on education, from which four were selected for oral presentations. Four poster prizes were also given.

About 100 participants took part in a following Research and Career Skills Workshop supported by IUBMB, including MSc and PhD students as well as post-docs and junior/senior faculty working in the field of life sciences and medicine with a focus on biochemistry and molecular biology – the workshop aimed to help early-career scientists directly as well as providing faculty with a model program on training. The event focused on post-graduate academic skills (Beáta Vértessy, Hungary), industrial skills (Jerka Dumić, Croatia), transferable skills including CV preparation (Keith Elliott, UK), writing research proposals (Miguel De la Rosa, Spain) and scientific articles (Felix Goñi, Spain), and use of electronic tools to support career development (Ali Burak Ozkaya, Turkey). The event program was structured so that each speaker had the chance to interact in a smaller group of interested young scientists to discuss issues of importance to them.

### **Patras FEBS Workshop on Molecular Life Sciences Education**

3 October 2018; Patras, Greece

This workshop, organized by Nikos Karamanos (President, Hellenic Society of Biochemistry and Molecular Biology, and FEBS Education Ambassador from Greece), with support as part of the FEBS Education Ambassadors funding scheme, was dedicated to PhD and early-career research training and attracted round 100 participants. From FEBS, Gül Güner Akdoğan and Daniela Ruffell (*FEBS Letters*) gave lectures and led small-group discussions.

*Gül Güner Akdoğan*  
Chair, FEBS Education Committee