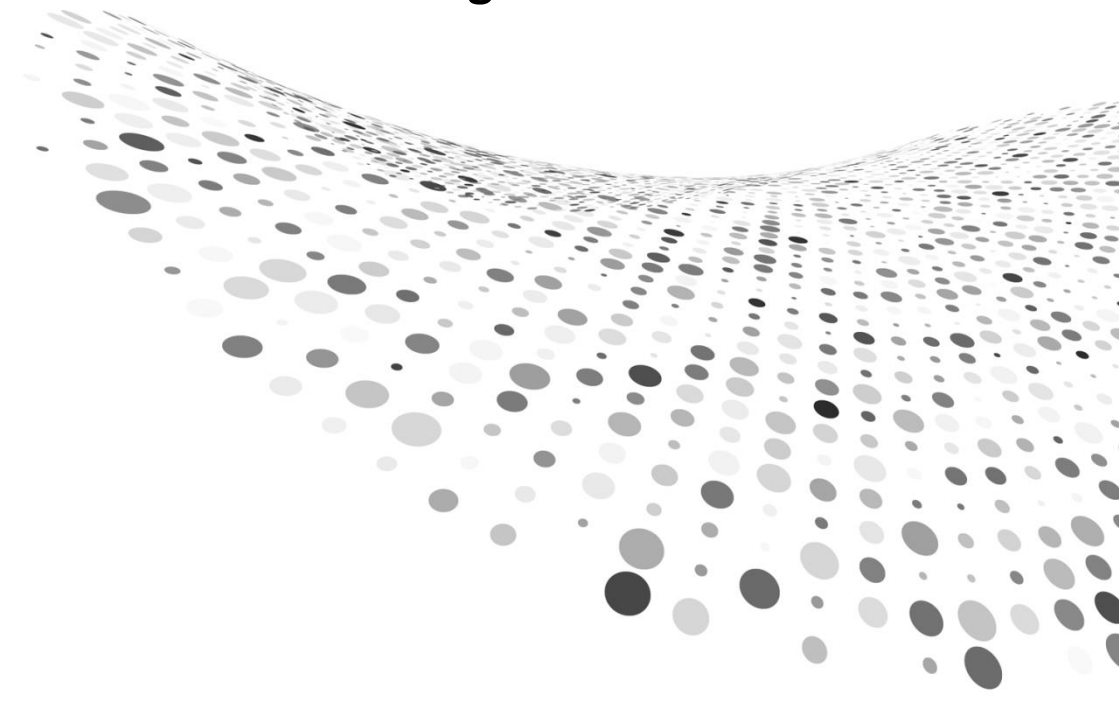
WORKSHOP ON EDUCATION

Programme and Abstracts



WORKSHOP ON EDUCATION

BETTER SKILLS FOR BETTER JOBS:

EDUCATION AND TRAINING FOR SUCCESSFUL RESEARCH CAREERS

organised by
the **Croatian Society of Biochemistry and Molecular Biology**

under the auspices and by the support of
the **Federation of European Biochemical Societies (FEBS)**

Dear colleagues,

It is our great pleasure to welcome you to the **Education Workshop: *Better skills for better jobs: Education and training for successful research careers***, organized by the Croatian Society of Biochemistry and Molecular Biology, under the auspices and by the support of the Federation of European Biochemical Societies (FEBS).

The increasing demands on academicians and scientists, especially young ones, as well as the increasing competition in the labour market and the development of new technologies, require the continuous development and improvement of various skills that enable successful dealing with these challenges. We hope that the prepared program will enable the participants to improve the skills they already have, but also help them to develop some new ones.

It is our great honour and pleasure that Prof Seamus Martin, the FEBS Journal Editor in Chief and Prof Robert Harris, the Academic Vice-President of Doctoral Education at the Karolinska Institute have accepted our invitation to participate. We sincerely thank them for being willing to share their knowledge and knowhow with us, thus contributing significantly to the success of the Workshop. We are also pleased that so many participants, especially young colleagues have recognized the importance of the career skills development and we kindly encourage them to participate actively in the program.

With great gratitude to FEBS for recognizing and supporting our efforts to contribute to the improvement and strengthening of the education and career skills development in the field of molecular life sciences in Croatia, we wish all participants a successful work.

Jerka Dumić
Workshop coordinator

Igor Stuparević
Workshop coordinator

Programme

Wednesday, September 25, 2019

12:00 - 13:00	Registration	
13:00	Opening remarks by Jerka Dumić and Igor Stuparević	
13:15	WS-L1	**Seamus J. Martin (Dublin, Ireland)** HOW TO WRITE A SCIENTIFIC PAPER
14:00	WS-L2	**Oliver Vugrek (Zagreb, Hrvatska)** HOW TO WRITE A SCIENTIFIC PROJECT
14:45	Coffee break	
15:00 – 16:45	Small group discussions	
Group 1 (coordinator S. Martin)		Group 2 (coordinator O. Vugrek)

Saturday, September 28, 2019

12:15	WS-L3	**Robert Harris (Stockholm, Sweden)** TRAINING OF PhD TRAINERS
13:00	WS-L4	**Jerka Dumić (Zagreb, Hrvatska)** CAREER IN NON-ACADEMIC RESEARCH INSTITUTIONS
13:45	Lunch break	
14:45 – 16:15	Small group discussions	
Group 1 (coordinator R. Harris)		Group 2 (coordinator J. Dumić)
16:15	General Discussion and Closing Remarks	

Abstracts

WS-L1
HOW TO WRITE A SCIENTIFIC PAPER
Choosing a strong research question and producing an excellent paper: what I wish I knew years earlier

Seamus J. Martin
The FEBS Journal Editorial Office, 98 Regent Street, Cambridge, UK
Molecular Cell Biology Laboratory, Dept. of Genetics, The Smurfit Institute, Trinity College, Dublin, Ireland
martin@febs.org

Writing an interesting and compelling manuscript is an essential part of the process of getting your work published. However, many authors lessen their chances of creating a great paper by failing to approach the process of manuscript preparation in a sufficiently well thought-out manner. As editor-in-chief of The FEBS Journal, as well as an active research group leader, I see numerous manuscripts, on a weekly basis, which contain very basic flaws that seriously undermine the impact and presentation of the science within. It is also surprising how frequently authors expect editors and referees to search for the message contained within their paper, rather than making this explicit from the title and abstract. Here, I will discuss the process of manuscript and figure preparation, as well as how journal editors decide whether to review your manuscript or not. I will also discuss an approach to manuscript preparation, that I use in my own research, which may help to produce more highly 'polished' research papers and increase the chance of getting your work published in top journals.

WS-L2
HOW TO WRITE A SCIENTIFIC PROJECT
Successful Grant proposal writing

Oliver Vugrek
Ruđer Bošković Institute, Zagreb
ovugrek@irb.hr

For many career paths in the non-profit sector, including academia, or small non-profit organizations, writing grant proposals can be anything from a nuisance, occasional annoyance to an overtime-inducing preoccupation. But what exactly is a grant? What is a proposal? And how are these two things related? A proposal is a written plan offering to conduct the type of work that is requested by the agency offering the funds. A proposal does three things, e.g. it states who you are and why you are qualified, it outlines your step-by-step plan to get the work done in required time, and, it requires a detailed budget of the work. To be able to write a successful grant means that first you must have a good idea. Grant writers need not be born creative, but effective grant writers do need to practice a lot to build their ability to be innovative. Grant writers must commit to a stringent form of technical and professional writing that conforms to the request for proposal, which is also sometimes referred to as the call for grant applications. Proposal writing is structured and well organized, and should contain elements of originality and uniqueness. Importantly, one needs to first locate reputable calls. Based on what type of project to get funded, one will narrow the search for grant agencies to those for which the writers' skills and expertise fit. To gather intelligence about how to develop and write successful grant proposals, one needs a group of supportive and experienced individuals. Helpful people include mentors with experience in garnering grant awards. Networking and attending workshops and seminars on grants development can also be quite useful. Some real life examples will be presented and discussed during the lecture.

WS-L3
TRAINING OF PhD TRAINERS
Supervisor Training at Karolinska Institutet - Reflective Practice and a Common Supervision Culture as a Means of Enhancing Student Training Experience

Robert A. Harris
Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden
robert.harris@ki.se

The provision of professional development to supervisors is an institutional responsibility (Salzburg Principles and Recommendations 2010). At Karolinska Institutet (KI) we have developed a comprehensive programme for doctoral supervisor training that has been running for 15 years. While a 1-week-long formal training course is mandatory for new supervisors of doctoral students, and a web course that is renewed every 5 years is required for all supervisors, an elective continuation course and short seminars to interested supervisors and leadership training for research group leaders are additional development opportunities. This training portfolio works both at an individual level, to encourage development of reflective practices by doctoral supervisors, and at the systemic level by facilitating support of a common culture of doctoral supervision at KI.
Central topics addressed are the roles and responsibilities of main and co-supervisors as well as those of the department and university. The individualized nature of supervision, the suitability of the research project to doctoral education, individually tailored learning outcomes and the need to monitor the doctoral student's progress both with official checkpoints and through continuous, informal feedback are included. A central aim of the training program is to promote a fruitful interplay of official requirements and individualized, flexible doctoral supervision. The opportunities and challenges inherent in international doctoral education and cultural diversity are discussed. Participants are introduced to different ways of dealing with intercultural dilemmas, including different value systems and different ways of relating to hierarchy, and characteristics of Swedish culture. Basic rules and regulations are mainly taught via the online course. In addition, workshops on legal aspects, research ethics, recruitment of doctoral students, equality and discrimination and sustainable development are part of the program.
The content, implementation and impact of doctoral training at KI will be discussed.

WS-L4

CAREER IN NON-ACADEMIC RESEARCH INSTITUTIONS

Jerka Dumić
Faculty of Pharmacy and Biochemistry, University of Zagreb, Zagreb, Croatia
jdumic@pharma.hr

Tremendous development of different technologies e.g. artificial intelligence and machine learning, 3D printing, advanced materials and nanotechnology, advanced robotics, autonomous and drone transportation, (bi)Omics in the last decade, will strongly affect jobs of the future. Which skills will be necessary for the future professionals? How education system can respond to these challenges? How it will impact the future of higher education? The necessity of changes in curricula, introduction of novel teaching and learning methods, and the importance of development of soft skills will be presented during the lecture whereas the examples of good practices will be deliberated during the small group discussion.

ABOUT THE PRESENTERS

Seamus Joseph Martin, BSc, PhD, Smurfit Professor of Medical Genetics TCD

Seamus Martin holds the Smurfit Chair of Medical Genetics at Trinity College Dublin, Ireland (since 1999). He is interested in all aspects of programmed cell death (apoptosis), especially the links between cell death, inflammation and cancer. His group introduced annexin V-labeling, which has become the gold standard for measuring apoptosis, unravelled the apoptosis-associated caspase activation cascade, showed that Parkin activation can promote apoptosis and discovered the mechanism of activation of the IL-36 cytokines, which are important drivers of psoriasis. Seamus is the Editor-in-Chief and Chairman of The FEBS Journal, the major journal of the Federation of European Biochemical Sciences, published bi-weekly. He also serves on several other editorial boards including: Cell Reports, Science Signalling, Oncogene, The Journal of Biological Chemistry, Cell Death and Differentiation. He has authored (with Pete Delves, Dennis Burton and Ivan Roitt) the 11^{th}, 12^{th} and 13^{th} Editions of the classic Immunology undergraduate textbook 'Essential Immunology'.

Oliver Vugrek, BSc, PhD, Scientific Advisor, IRB

Oliver Vugrek is a molecular biologist with many years of experience in genetics of rare diseases. He graduated Biology at the Albert Einstein University in Ulm, Germany. He was a PhD fellow at the Max Planck Institute for Cellbiology from 1992 to 1995 and received his PhD in 1995 at the Karl Ruprechts University in Heidelberg, Germany. He spent two years at the Research School of Biological Sciences (RSBS) at Australia's National University (ANU) in Canberra as postdoctoral fellow from 1996 to 1998. At the Ruđer Bošković Institute, he is employed since 1999, and is currently head of the Laboratory for Advanced Genomics. His research interests are devoted to the introduction of new technologies for advanced DNA sequencing and analysis of genetic disorders. Worthwhile to mention is that OV led 7 research projects (EU, national and international level). The greatest achievement so far is the FP7 project InnoMol, the largest project ever conducted in Croatia in Natural Sciences, with a budget of 4.8 Mil EUR. By contracting EU funded projects worth altogether 5.3 million EUR OV has helped to introduce new technologies and valuable infrastructure in several life science departments at RBI. Subsequently, he has assembled a State-of-the-Art operational Next-Generation-Sequencing facility bringing genomics research at RBI to a new level. At present moment OV leads two national projects, and provides NGS BRCA 1 and 2 diagnostics through a commercial contract between the RBI and the a Croatian Hospital Center.

Robert Harris, BSc, PhD, Professor of Immunotherapy in Neurological Diseases

Robert Harris currently works at the Department of Clinical Neuroscience, Karolinska Institute, leading the Applied Immunology & Immunotherapy research group. The group's aims are to develop innovative medicines for translation into the clinic and treatment of chronic inflammatory conditions. Deputy Vice-President of Doctoral Education at Karolinska Institute (2019-present); President of ORPHEUS doctoral education organization (2014-present); Central Director of Doctoral studies at Karolinska Institute (2008-2018); Director of Doctoral studies at Department of Clinical Neurosciences, Karolinska Institute (2005-2018); Awarded Karolinska Institute's Pedagogy Prize (2014). Currently supervises 6 PhD students, co-supervises 5 PhD students, 1 Postdoctoral Fellow and one undergraduate student.

Jerka Dumić, BSc, PhD, Professor of Biochemistry and Immunology

Jerka Dumić has been holding a Professorship at the University of Zagreb, Faculty of Pharmacy and Biochemistry since 2011. Her scientific interest is focused on glycobiological aspects of different physiological and pathophysiological processes, particularly those involving inflammation. Chair of the FEBS Working Group of Integration; Member of the FEBS Executive Committee (2017-); Chair of the Education Committee of the HDBMB (2016-); Dean of the Faculty of Faculty of Pharmacy and Biochemistry University of Zagreb (2014-2016) ; Member of the Board for Science and International Collaboration of the University of Zagreb (2011-2018)