



Embassy of the Czech Republic
Washington, DC

IN MENDEL'S FOOTSTEPS...

Czech Genetics Group

Mendel University, Brno
Palacký University, Olomouc

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TABLE OF CONTENTS

MENDEL UNIVERSITY IN BRNO 2

Mendel
University
in Brno



Ladislav Havel	3
<i>Rector and Head of Department of Plant Biology</i>	
Samuel Antwi Darkwah	3
<i>Vice Rector for International Relations</i>	
Václav Trojan	4
<i>Director of the Technology Transfer Center</i>	
Markéta Vaculovičová	4
<i>Researcher, Department of Chemistry & Biochemistry</i>	
<i>Head, Laboratory of Bioanalysis and Imaging</i>	

PALACKÝ UNIVERSITY OLOMOUC 5



Palacký University
Olomouc

Jaroslav Miller	6
<i>President and Rector</i>	
Vít Zouhar	6
<i>Vice-President and Professor of Music</i>	
Marian Hajduch	7
<i>Institute of Molecular and Translational Medicine</i>	
Ivo Frebort	8
<i>Founder and Director of the Center of the Region</i>	
<i>Haná for Biotechnological and Agricultural Research</i>	
Dalibor Mikulas	9
<i>Head of International Relations Office</i>	



Mendel University in Brno

Mendel University in Brno is the oldest independent specialized university in the Czech Republic. It was established as the University of Agriculture in Brno in 1919, and since 2010 it has been using the name Mendel University in Brno (MENDELU). The university proudly bears the name of J. G. Mendel, the founder of modern genetics, who conducted his famous experiments in the Augustinian Abbey of St. Thomas in Brno.

Presently Mendel University has five faculties and one institute:

- Faculty of AgriSciences
- Faculty of Forestry and Wood Technology
- Faculty of Business and Economics
- Faculty of Horticulture
- Faculty of Regional Development
- International Studies
- Institute of Lifelong Learning

In order to train students, to conduct research and to verify theoretical knowledge in practice, the MENDELU operates the University Plant and Animal Farm and the Forest Training Center. A new biotechnology building known as Mendel Pavilion provides superior facilities to students for their research in many well-equipped labs and ultramodern teaching premises for practical as well as theoretical lessons.

The complementary teacher training in technical subjects, courses for job trainers, education of senior citizens within the University of the Third Age and educational courses tailored to the needs of general public are all arranged by the Institute of Lifelong Learning, established in 2003. Both the botanical garden and the arboretum, as an integral part of the university campus, are freely accessible to the whole academic community for study or relaxation. The grounds boast of over 9,000 taxa of plants, including about 4,000 taxa of tropical orchids.

The university library and its center for academic information are centrally located on campus. In addition to books (including textbooks), it also provides quiet reading spaces and access to electronic sources. Administration of the student's path through the courses is automated via the University Information System maintained by the Department of Information Technology. The university runs an Eduroam network of Wi-Fi access points. The university account can be used for internet access on Eduroam networks world-wide. All the faculties offer three-year bachelor study programs. Bachelor's (BA, undergraduate) study programs are designed to take three years. Successful students can then continue their studies in a two-year master's (MA) program. The faculties also offer doctoral study (Ph.D.) programs, which usually take three years. Many courses and programs are offered in English. Approximately 11 thousand students study at the university, and 10 percent of them are international. The university has successfully and fully implemented the European Credit Transfer System (ECTS).

The university also participates in many academic exchange programs and organizes special workshops, conferences, seminars and summer courses. Most of these activities are offered in English. The International Students Club helps international students to network with their local colleagues and learn more about Czech culture and traditions. Throughout the year, they organize cultural events and trips and hold many other social events. The university's halls of residence with en suite facilities and a kitchenette can accommodate 3,200 students. All international students are guaranteed a place.

The university has its own Department of Physical Training, offering a large number of both indoor and outdoor sports courses and activities. The campus has extensive sports facilities, including those at residence halls. The large concentration of university students in Brno provides for a healthy competitive calendar.



Ladislav Havel, RNDr.

Rector and Head of the Department of Plant Biology

Ladislav Havel graduated in biology from Masaryk University in 1977. That same year, he became doctor of natural sciences, in plant physiology (RNDr.). His doctoral work was carried out at the Institute of Experimental Botany ASCR Prague (specialization in plant physiology, 1979-82). He concentrates on organogenesis, programmed cell death, responses to biotic and abiotic stress in plant cells, organs and whole organism, plant biotechnology. He is a member of scientific boards of MENDELU, Czech Agricultural University in Prague, Veterinary and Pharmaceutical University Brno, Faculty of Agronomy MENDELU, Faculty of Horticulture MENDELU, Faculty of Natural Sciences of Palacky University in Olomouc, editorial board of journal Plant, Soil, and Environment, Administrative Board of Mendel Museum in Brno.



Samuel Antwi Darkwah, Ph.D.

Vice Rector for International Relations

Samuel Antwi Darkwah has been in the Czech Republic since 1981. He pursued all his studies at Mendel University and holds a Ph.D. degree in economics and management with an emphasis on international trade. He also has done extensive research in the areas of financial, business and development economics. He is a senior lecturer at the Faculty of Regional Development and International Studies at the university. In his eighteen years working at Mendel University in Brno, he has taught courses in financial management, business economics, entrepreneurship, EU policy on Agriculture and development challenges of Africa.

International Relations Office (IRO)

The International Relations Office is in charge of international development programs (bilateral agreements), seeking international partners around the world for collaboration in the areas of student and faculty exchange, collaborative research work and international development projects. Some of the successful projects undertaken by the department were NIKAZAM, which was sponsored by the Czech Ministry of Education to allow students to take internships in Nicaragua and Zambia, and the CARIBU project (Erasmus-Mundus project), which provides scholarships for ACP countries funded by the European Union. The department is also responsible for all Erasmus+ programs at the university (this includes incoming and outgoing students and academic and non-academic staff mobility and internships). Representatives from the International Relations Office attend educational fairs and actively recruits international students for the various faculties at the university. The office provides professional advice to international students already studying at the university and prospective students and organizes Orientation Week for new students upon their arrival to the university. IRO is also responsible for international visits to the university and plans the visits of the top management of the university to other institutions and partners.



MVDr. Ing. Václav Trojan, Ph.D.

Director of Technology Transfer Center

TTC MENDELU supports cooperation between the academic and commercial sector. It offers assistance in the protection of intellectual property (utility models, industrial designs, inventions, license agreements including those covering students' works). The aim of TTC MENDELU is to foster cooperation of the university with the application sphere and strategic partners. TTC MENDELU provides:

- transfer of technologies
- testing, measuring and advising in various fields of expertise
- use of special instruments and laboratory equipment of MENDELU
- utilization of students' dissertations in practice
- education in the area of technology transfer

Examples of outcomes:

"Use of saturated fatty acid mixture for inhibition of alcohol or low-alkali fermentation and reduction of dosing sulphur dioxide when producing wine" (the patent in RSA and application for a European patent).

Wheat flakes of purple wheat PS Karkulka, outcome in the year 2016 (flakes are produced by moistening and pressing winter wheat grains, while retaining most of the valuable substances, such as proteins, carbohydrates, unsaturated fatty acids, minerals, vitamins and fiber; used in hot and cold food preparation).



Markéta Vaculovičová, Ph.D.

Researcher, Department of Chemistry and Biochemistry; Head, Laboratory of Bioanalysis

Markéta Vaculovičová graduated from Masaryk University, Brno, Czech Republic (2005), studying analytical chemistry. She obtained her Ph.D. in analytical chemistry in 2009. From 2016, she served as head of the Laboratory of Bioanalysis and Imaging focused on development of analytical methods and analysis of biomolecules with special attention to luminescence detection with utilization of fluorescent nanomaterials.

She is author or co-author of 90 original scientific papers in ISI-indexed journals with more than 900 citations and h-index = 18 according to Web of Science, and 11 book chapters. She is also a board Member of the Grant Agency of the Czech Republic.

Laboratory of Bioanalysis and Imaging (LBI)

LBI is one of the nine laboratories at the Department of Chemistry and Biochemistry, Mendel University in Brno. LBI has two main areas of interest connected together by utilization of nanomaterials especially with luminescent properties. The first field of interest is the bioanalytical chemistry in particularly separation techniques mainly with fluorescence detection where luminescent nanomaterials are used as labels. The second target is the optical imaging exploiting the benefits of luminescent nanoparticles for diagnostic purposes as well as for tracking of drug delivery systems.

Main research areas

- Biosensing and development of bioanalytical methods
- Luminescence imaging, application of fluorescent nanomaterials for theranostic purposes
- Characterization of nanomaterials and monitoring of their interactions with biomolecules



Palacký University Olomouc

Palacký University Olomouc is a university with long-standing tradition. Founded in the 16th century, it is the oldest university in Moravia and the second-oldest university in the Czech Republic. Today, it is a modern higher education facility with a wide range of study programs and copious scientific and research activities. The university is one of the most important Central European centers of education and research, boasting achievements on the European and global levels in a number of disciplines. The university also plays a significant role in the region. It is one of the largest employers in the Olomouc Region and the City of Olomouc. The economic growth and development of the region would not be possible without the university.

The eight faculties of Palacký University ensure 237 bachelor's, master's, and doctoral study programs. Applicants may choose from a broad variety of programs, ranging from theology, education, physical culture and sports, through the humanities, social sciences and arts, to natural, medical, and health sciences. The credit system at the university is fully compatible with the European Credit Transfer and Accumulation System (ECTS). The prestigious status of the university is confirmed each year by the vast numbers of young applicants, as well as mature students such as seniors and other interested persons.

Palacký University is a modern research university. New modern science and research centers with state-of-the-art equipment, collaborating with prominent institutes throughout the world, have been built within the city thanks to university projects.

The quality of provided study programs education and scientific output has been confirmed by international rankings, such as the *Times Higher Education World University Rankings*, *Center for World University Rankings*, and *U. S. News and World Report Best Global Universities Ranking*, according to which Palacký University Olomouc is one of the top universities in the country, achieving significant placement even on the international level.

The university collaborates with a number of partnership institutions abroad and strongly supports internalization in education, science, and research, and the international mobility of students as well as academic and scientific staff. Special attention is paid to the development of strategic international partnerships in education, science, and research.

The Olomouc alma mater has confirmed its status among important science and research institutes by the activities conducted at the Technology Park, which connects the University with industrial partners.

It also offers services business consultation services to students. The university provides a high-quality environment for its students and employees. Dozens of facilities have been newly built or renovated. Modern accommodation facilities, dining services, the university library, sporting facilities, and counseling services are available to all, including students with special needs.

Comprehensive counseling is provided by experts to all students, academic employees, alumni as well as applicants coping with difficult situations in life. The university houses a profession counseling center, a support center for students with special needs, and a guidance center for achieving a healthy lifestyle. The University also promotes the development of civic society in the Czech Republic; a number of its activities fulfill the ethos of the institution, that for which it was established.



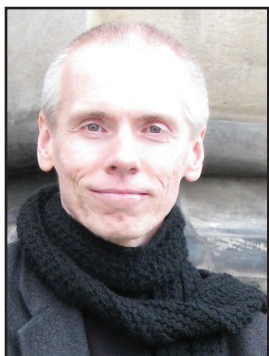


Jaroslav Miller, Ph.D.
President and Rector, Palacký University

Jaroslav Miller (1971) studied history and philology in Olomouc (Palacký University Olomouc), Budapest (Central European University) and Oxford. Among his tutors and teachers were noted academics, intellectuals and cutting-edge thinkers including Josef Jařab, Ralf Dahrendorf, Stephen Greenblatt and Robert J. W. Evans. Dr. Miller is also professor of history and former director of the Historical Institute at Palacký University Olomouc, Czech Republic. He pursued long-term research stays at top universities and academic institutions in Canada, the United States, Germany, United Kingdom and Australia. He was twice granted the prestigious Alexander von Humboldt Scholarship (2006 in Marburg, 2010 in Münster) and Andrew W. Mellon Scholarship (2004, 2010 Wolfenbüttel). In 2008, he received the Fulbright Fellowship at the University of Georgia, USA. During the 2010/2011

academic year, he held a Go8 Guest Professorship at the University of Western Australia in Perth. Nominated by the U.S. Ambassador, Dr. Miller has served since 2012 as the Ambassador of the Fulbright Commission in the Czech Republic.

Furthermore, Dr. Miller has published widely on urban and intellectual history. In 2008, his monograph *Urban Societies in East Central Europe, 1500 – 1700* has been published by the Ashgate. The book has earned him “The Best Urban History Monograph Award.” Recently, together with Lázsló Kontler, he edited the book *Friars, Nobles and Burghers – Sermons, Images and Prints: Studies of Culture and Society in Early-Modern Europe* (New York – Budapest: CEU Press 2010).



Vít Zouhar, Ph.D.
Vice President, Palacký University

Vít Zouhar (1966) is a composer, musicologist, professor of music, and Vice President at Palacký University Olomouc. He is the author and co-author of six operas (including *La Dafne*, *Coronide*, *Torso* and *Echo*) and more than sixty orchestral (including *Puerta del Sol*, *Close Encounters of those Wild at Heart*) and chamber works, sound installations and music games (including *Arcadi*, *GARDENME*, *Tastes*). His music is generally placed in the context of minimalism and postmodernism. Many of his compositions have been commissioned by prestigious institutions and ensembles such as the National Theater Prague, Prague Spring, Terezin Music Foundation, Berg Orchestra and Ensemble Damian, and are regularly performed and recorded in Europe. Zouhar’s theater works have been in the repertoire of National Theatre Prague (*Radúz and Mahulena*, *Monsieur de Pourcegnac*), National Theatre Brno (*La Dafne*, *Noci Dnem*, *Opening of the Wells by Alfréd Radok*), Ensemble Damian (*Coronide*, *Torso*, *Saeculum Coronatum*) and Opera Povera (*Echo*). As composer in residence, Zouhar served at the IEM Graz and at the Werkstatt Graz, and won various prestigious awards.

His research focuses on twentieth and twenty first century music (Bohuslav Martinů’s oeuvre, composing in the classroom). In 2001, he co-founded the *Slyšet Jinak* (Different Hearing) program, focused on new ways to encourage music education and group composing. He has published five books on music (including *Composing in the Classroom - with Ivo Medek and Jaromír Synek*; *Dear Friend. Bohuslav Martinů’s Letters to Zdeněk Zouhar*; and *Postmodern Music? German Debate at the End of the 20th Century*). His recent works include the critical edition of Bohuslav Martinů’s chamber cantatas (Baerenreiter, 2016) and his letters to Miloslav Bureš (PUP, 2017). Zouhar reconstructed the original version of *Poeme Electronique* by Edgard Varese for IEM-CUBE Graz, and has been contributing to *The Bohuslav Martinů Complete Edition*. Recently, he lectured at Berklee College of Music, Boston; University of California Davis; Shanghai Conservatory of Music; University of North Texas, Denton; California Institute of Arts. His research included projects at the University of Maryland, Paul Sacher Stiftung, Basel; and Getty Research Institute, Los Angeles.



Palacký University
Olomouc



Marian Hajduch

Director, Institute of Molecular and Translational Medicine, Palacký University

Marian Hajduch is a scientist mainly involved in molecular and translational medicine in the areas of oncology and infectious diseases. In addition to long-term experience in project management, he led R&D and technology transfer activities, including the construction and management of large research infrastructures. As a principal investigator, investigator or clinical site manager, he has been involved in 14 clinical trials, and actively participated in the research and/or management of more than 50 national and international projects. Dr. Hajduch published more than 300 papers, 26 books and chapters, and 30 patents.

He also established one of the major cancer research foundations in the Czech Republic, and has been involved in a spin-off company focused on the manufacturing of molecular diagnostics, and participated in the creation of a national network for personalized medicine and cancer management policies. Dr. Hajduch serves as a Chair of the Board of National Directors EATRIS-ERIC (European Infrastructure for Translational Research, www.eatris.eu) and Early Cancer Detection Europe (Member of the Steering Committee).

INSTITUTE OF MOLECULAR AND TRANSLATIONAL MEDICINE (IMTM) | www.imtm.cz

Palacký University and EATRIS

The IMTM's mission is basic and translational biomedical research with the goal to understand the underlying causes of cancer and infectious diseases and to develop future human medicines and diagnostics. The formation of IMTM concentrates, formalizes and integrates the long-standing cooperation of the various research groups in the Czech Republic and abroad under one umbrella.

Unique capabilities:

- The flexibility of our drug and biomarker discovery engine components to dynamically accommodate the project needs and create an optimal configuration is one of the greatest assets of the Institute. Strategically, it allows us as well as our academic and industrial partners to maximize drug and biomarker discovery resources for both exploratory and developmental projects. Industrial partners, especially large pharma can capitalize on such a flexible and adaptive research model that may be more difficult to practice in a large organization.
- Cancer research expertise with cutting-edge technology platforms complemented with clinical oncology programs at the University Hospital in Olomouc and other collaborating hospitals.
- Unique tissue/fluid biobanking complemented with clinical data.
- IMTM is the national node for EATRIS, thus has access to wide range of European research institutions and hospitals performing translational research.

Specialities:

cancer/oncology, drug development, biomarkers, uHTS/HCS, microbiology, translational medicine, molecular medicine, proteomics, genomics, metabolomics, DNA repair, inflammation, immunology, biotechnology, technology transfer, bioinformatics, chemoinformatics, and biostatistics



Palacký University
Olomouc



Ivo Frebort, Ph.D.

Founder and Director, Center of the Region Haná for Biotechnological and Agricultural Research

Ivo Frebort (1965) is the founder and director of the Center of the Region Haná for Biotechnological and Agricultural Research (since 2010), member of the Executive Board of European Federation of Biotechnology (since 2012), and presently the Dean of the Faculty of Science, Palacký University Olomouc (2014-2018). His research covers broad areas in enzymology, molecular biology and biochemistry, with special focus on the enzymes of hormone metabolism in plants and possible biotechnological applications, including cloning and preparation of transgenic barley (WoS 100+ papers, 1500+ citation, h-21, 2 patents). His lecturing includes Molecular Biology and Structure and Function of Biomacromolecules. He was the principal investigator of a large infrastructure project (> 30 mil €) from EU structural funds and 30 other research projects.

Dr. Frebort holds a MSc. in Analytical Chemistry (1989) from Palacký University Olomouc, CZ; a Ph.D. in Biochemistry (1992) from Masaryk University Brno, CZ; a Ph.D. in Bioresources Science (1997), Tottori University, Japan; and completed a postdoc at the University of Tübingen, Germany (2001). He has been professor of biochemistry at Palacký University since 2005 and was a visiting professor at Osaka University in 2007.

CENTER OF THE REGION HANA FOR BIOTECHNOLOGICAL AND AGRICULTURAL RESEARCH



Genomics and genetics of cereals: flow sorting of chromosomes, genome optical mapping, sequencing, 3D modelling of the nucleus, uncovering the role of chromatin structure, proteomic analysis of DNA bound proteins; focus on the discovery of new stress responsive elements in barley.

Genome editing of barley: preparation of new lines with improved photosynthetic parameters and yield under stress conditions due to climate change, modulation of hormone metabolism through gene insertion, gene silencing and editing with CRISPR/Cas; focus on drought tolerance.

Plant/microbe interactions: molecular interactions between plants and beneficial or pathogenic microorganism, spatio-temporal resolution of plant signaling and induced cytoskeleton changes studied by advanced confocal microscopy; new knowledge for exploiting good microbes and fighting pathogens, barley and alfalfa.

Plant biostimulants: discovery of naturally occurring compounds with growth-regulating activity in plants including volatiles and other compounds produced by microorganism, vermicompost, screening using high-resolution mass spectrometry, preparation of synthetic analogues and their application in biotechnology and agriculture.

Monitoring environmental interactions of plants: automated plant phenotyping and biotests, new methods for testing the activity biostimulants and broad assessment of new transgenic lines, growth chambers with high-throughput automated phenotyping lines allowing simulations of environmental/stress conditions, robotic screening in the field.



Palacký University
Olomouc



Dalibor Mikulas, Ph.D.

Head of International Relations Office at Palacký University Olomouc

Dalibor Mikulas, Ph.D., is head of International Relations Office at Palacký University Olomouc, Czech Republic. Previously, he worked at two other universities as a Vice Rector for International Cooperation and Mobility, Vice-Dean for International Cooperation and Public Relations, Erasmus Institutional Coordinator and at the same time as a professor of English linguistics. He defended his thesis on the lexical issues of modern American English at Comenius University, Bratislava in Slovakia, and was a recipient of several scholarships and grants at e.g. the University of Notre Dame, Indiana, USA; University of Ottawa, Canada; University of Granada, Spain, etc. His research has focused on the issues of emigration from Central Europe to North America, particularly on the birth of Slovak lexicographic works published in North America in the 19th and 20th centuries. A member of the Czechoslovak

Society of Arts and Sciences (SVU), Dr. Mikulas participated in several SVU World Congresses and organized two SVU World Congresses in Slovakia (in 2008 and in 2012). In 2008, he received the SVU Presidential Citation 2008 Award for the Advancement of Czech and Slovak Studies, Worldwide, Fostering Cooperation between the Czech and Slovak Republics and Czechs and Slovaks Worldwide.

INTERNATIONALIZATION OF PALACKÝ UNIVERSITY, OLOMOUC

Palacký University Olomouc (UP) was founded in 1573. It has more than 23,000 students studying at eight faculties, covering fields from health sciences and medicine through modern and classical languages, philosophy, teacher training, sciences, law, and theology. The student population includes more than 3,000 international students from all over the world. UP is a modern higher education institution providing high quality teaching combined with high quality research, and supported by its facilities – research centers, libraries, computer facilities, laboratories, etc. It has fully developed research facilities and centers actively engaged in the European programs of science and research. It is ranked in *QS World University Rankings*, *Times Higher Education World University Rankings*, *U.S. News Best Global Universities Rankings*, and has almost 1,000 international agreements with higher education institutions throughout the world.



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