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Kraków 2018



JAGIELLONIAN UNIVERSITY
IN KRAKÓW

Faculty of Biology

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Mission

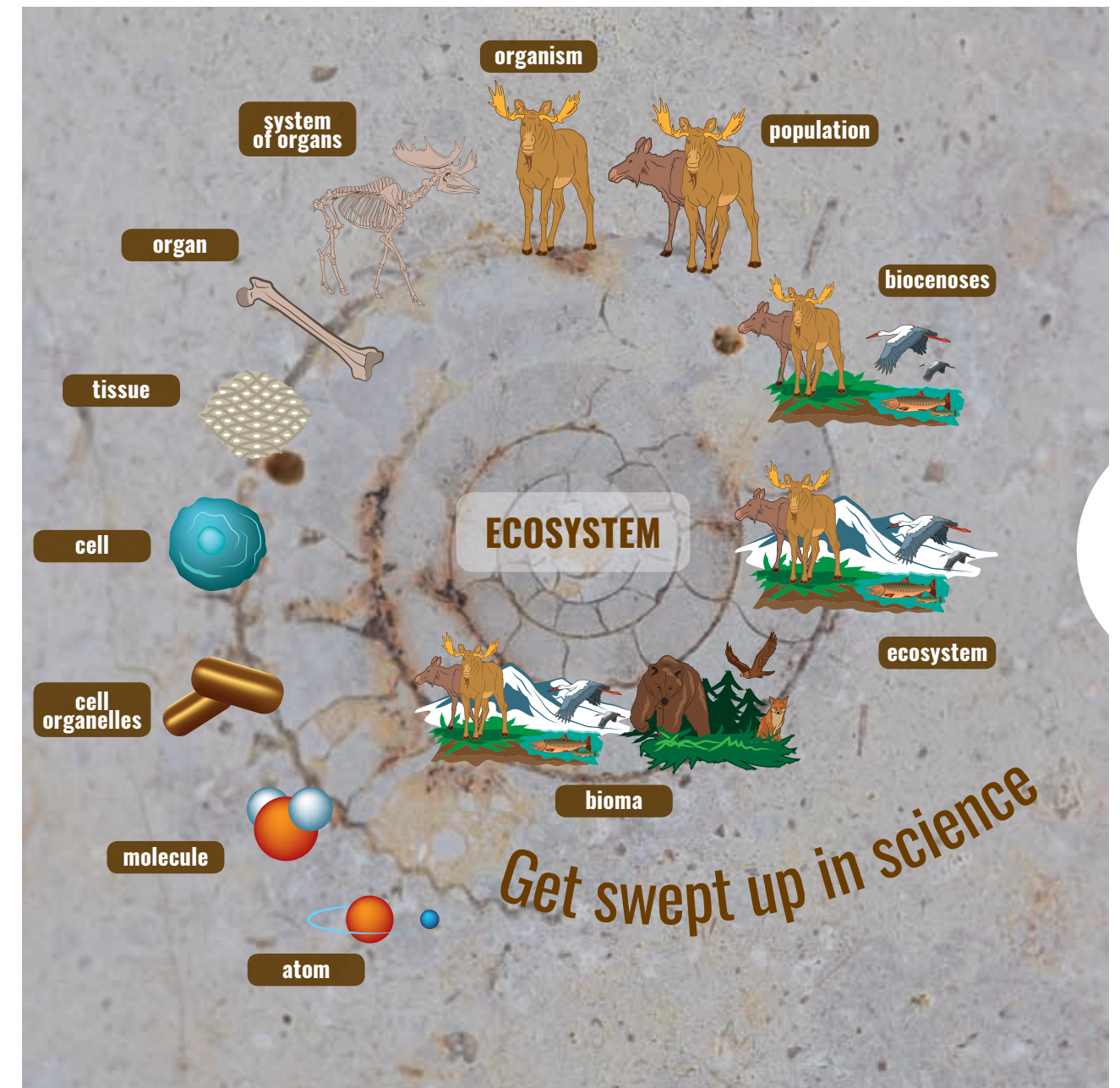
The mission of the Faculty of Biology is at one with that of the Jagiellonian University, stemming from the best University traditions, and combining modern research and teaching with an openness to the challenges of the future. The academic community of Faculty teachers, staff and students promotes research and teaching integrity to expand knowledge through science of the highest quality and the direct transfer of research achievements to the teaching process itself. This contributes to the sustainable socio-economic development of modern society by providing innovative solutions in education and research.

Motto

Get swept up in science

Guideline

Precise learning and exact teaching





The Dean's Message

**The legacy of the past has forged
a path towards our future**

The Faculty of Biology is located on the Jagiellonian University's 600th Anniversary Revival Campus, in short known also as the "Third University Campus". The Faculty is housed in modern buildings, equipped with all the necessary facilities for students and high-quality research.

The Faculty of Biology dates back almost two centuries to the establishment of the Chairs of Botany, Zoology, Comparative Anatomy, Plant Physiology, Geography and, later, Anthropology and Palaeontology at the Jagiellonian University – our *Alma Mater*. These disciplines are traditional strongholds of the Faculty thanks over the years to the work of a number of distinguished Professors. Historically, biological research was conducted at the Faculty of Philosophy, but in 1952 all biologically- and environmentally-oriented units were re-organized and the Faculty of Biology and Earth Sciences was established. The acceleration and expansion of research at the turn of the 21st century resulted in the partitioning of the original structure into three separate entities: the Faculties of Biochemistry, Biophysics and Biotechnology, the Faculty of Geography and Geology, and the Faculty of Biology. In consequence, research endeavours of the Faculty of Biology are now firmly anchored in life sciences, spanning a wide spectrum of disciplines from molecular biology and genetics, through morphology, taxonomy, phylogeny, the evolution of life strategies, biomedical research and environmental sciences.

The academic community of the Faculty strives for excellence in research and teaching. Every year we offer renowned educational and research opportunities for over a thousand students in "Biology" and "Neurobiology" (undergraduate and graduate programmes), "Ecology & Evolution" and "Environmental Protection & Management" (graduate programmes). We also offer English-language PhD Programmes in Biology and Ecology for candidates from all over the world, providing a sound basis for them to develop their own professional careers.

Małgorzata Kuch



Milestones

- **15th century** – beginnings of teaching the essentials of geography, knowledge on plants, animals and minerals at the faculties of medicine and philosophy of the Kraków University
- **1609** – Chair in Medical Botany as a part of the Medical Faculty
- **1780** – (active since 1783) the foundation of the Chair in Chemistry and Natural History
- **1783** – foundation of the Botanical Garden (the oldest in Poland) and the Natural History Unit
- **19th – 20th century** – foundation of the Chairs of Mineralogy and Geognosy (1811), Botany (1847), Geography (1849), Zoology and Comparative Anatomy (1850), Plant Anatomy and Physiology (1875), Comparative Anatomy (1892), Agricultural Chemistry (1891), and Anthropology (1908) along with the Geological Unit (1886) and the Paleontological Laboratory (1912)
- **1913** – the transfer from the Chair in Botany to the Institute of Botany
- **1918** – foundation of the modern Institute of Geography
- **1945** – separation of the Faculty of Mathematics and Natural Sciences from the Faculty of Philosophy
- **1952, February 11th** – official establishment of the **Faculty of Biology and Earth Sciences** by the Polish Ministry of Higher Education by the division of the Faculty of Mathematics and Natural Sciences; the Faculty specialises in natural sciences, such as biology, geography, geology, environmental science and molecular biology. The oldest institutes are: the Botanical Institute (1913, since 1970 the Institute of Botany), the Institute of Geography (1918, since 2000 the Institute of Geography and Spatial Management), and the Institute of Zoology (1963, since 2017 the Institute of Zoology and Biomedical Research)
- **1970** – establishment of the Institute of Molecular Biology
- **1972** – foundation of the Institute of Geological Sciences
- **1977** – establishment of the Institute of Environmental Biology (since 1999 as the Institute of Environmental Sciences)
- **2002** – separation of the Jan Zurzycki Institute of Molecular Biology from the Faculty of Biology and Earth Sciences and the establishment of the Faculty of Biotechnology (since 2006 the Faculty of Biochemistry, Biophysics and Biotechnology)
- **2017** – separation of the Faculty of Geography and Geology
- **2018** – change in the name of the Faculty of Biology and Earth Science to the **Faculty of Biology**

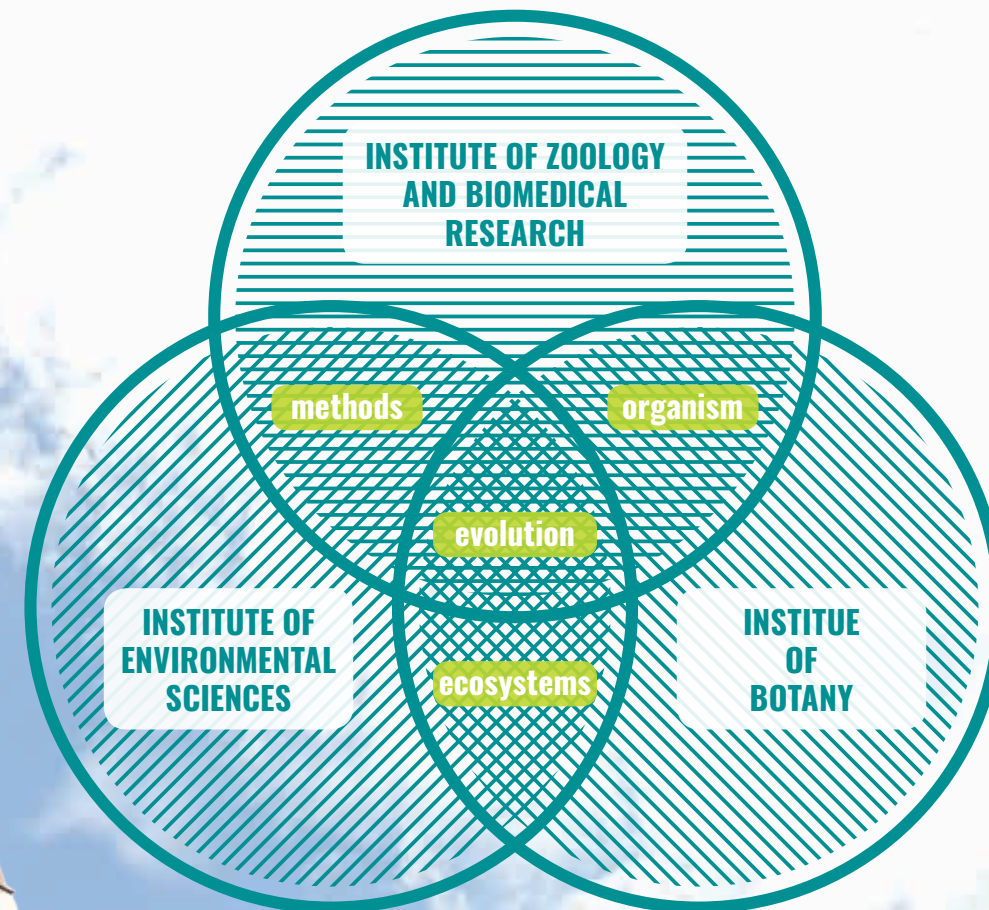


Structure



INSTYTUT ZOOLOGII
I BADAŃ
BIOMEDYCZNYCH

ZAKŁAD CYTOLOGII
I EMBRIOLOGII ROŚLIN
INSTYTUTU BOTANIKI



Professors **26**

Associate Professors **60**

Assistant Professors **32**

Assistants **8**

Senior lecturers **11**

Faculty & Staff

(Actually, as of March 31, 2018)



(Actual as of March 31, 2018)

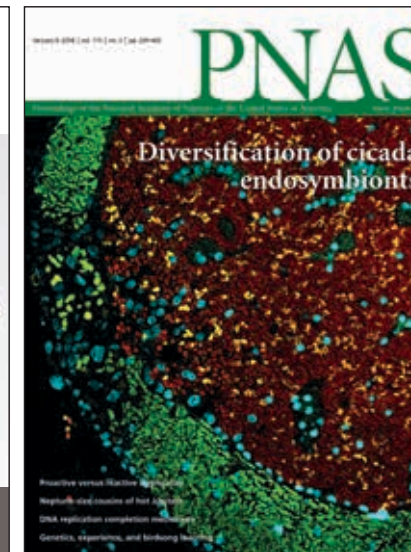
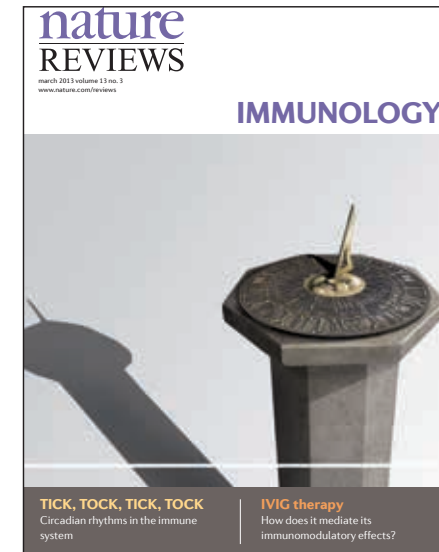
Quick facts

903 students **5** master's programs **100** national partners
50 (per year) research projects **3** doctoral programs
2 bachelor's programs **62** departments & laboratories **137** staff

Research

The highest quality of research performed at the Faculty of Biology has strong foundations in its world-class scientific, interdisciplinary, well-equipped, modern laboratories. Close cooperation with leading Polish and foreign research institutions and the public sector contributes to the development of fundamental and applied sciences as well as raising social consciousness.

The Faculty's research funding comes from the National Science Centre Poland, The National Centre for Research and Development, the Ministry of Science and Higher Education, the Foundation for Polish Science, EEA Norway Grants, Swiss Contribution and the Horizon 2020 Research Programme of the European Union.



17
mln PLN
(per year)

Research Income
(2013 – 2018)

3 000
(per year)

Cited papers

260
(per year)

Publications

Departments & laboratories

Institute of Botany

Departments

- Botanical Garden
- Department of Cytology and Embryology of Plants
- Department of Plant Ecology
- Department of Polar Research and Documentation
- Department of Taxonomy, Phytogeography and Palaeobotany

Laboratories

- Computer laboratory
- Herbarium (KRA)
- Laboratory of Molecular Analyses II
- Laboratory of Molecular Analyses I
- Laboratory of Mycology and Soil Microbiology
- Laboratory of Plant and Mycorrhizal Fungi Cultivation
- Laboratory of Plant Histochemistry and Cytology
- Laboratory of Plant in vitro Cultures
- Laboratory of Plant Physiology
- Laboratory of Soil Chemistry

Institute of Environmental Sciences

Research Groups

- Aquatic Ecosystems
- Behavioural Ecology
- Conservation Biology, Wildlife Research, and Ecological Education
- Evolutionary Genetics
- Evolutionary Physiology
- Life History Evolution
- Mammalian Reproduction
- Molecular and Behavioural Ecology
- Physiological and Evolutionary Ecology of Invertebrates
- Plant-Microbial Interactions
- Population Ecology
- Terrestrial Ecosystem Ecology and Ecotoxicology

Main Laboratories

- Ecochemistry and Ecotoxicology Lab
- Molecular Ecology Lab

15 Subsidiary Laboratories

Institute of Zoology and Biomedical Research

Departments with dedicated laboratories

- Department of Anthropology
- Department of Cell Biology and Imaging
- Department of Comparative Anatomy
- Department of Endocrinology
- Department of Entomology
- Department of Evolutionary Immunology
- Department of Experimental Hematology
- Department of Genetics and Evolutionism
- Department of Glycoconjugate Biochemistry
- Department of Invertebrate Development and Morphology
- Department of Neuroanatomy
- Department of Neurophysiology and Chronobiology
- Department of Physiology and Toxicology of Reproduction

Shared Facilities & Laboratories

- Laboratory of Malacology
- Laboratory of Electron (Transmission and Scanning) and Confocal Microscopy
- Flow Cytometry core facility
- qPCR core facility
- Animal facility

Subject of our research

The research achievements of the Faculty of Biology are widely recognised both in Poland and abroad. The Faculty conducts ground-breaking research projects, ranging from cell biology, molecular genetics, cancer biology, neurobiology, immunology, toxicology and ecotoxicology, plant and animal physiology, evolutionary biology, through behavioural and population ecology and biodiversity. From large to small, from molecular to systemic, research at the Faculty of Biology continues to push the limits of what we know about the biology of plants, animals and humans. The three Faculty institutes focus on different areas of biology, while vividly cooperating on a number of projects





Institute of Botany

- ethnobotany and history of botany
- fungal biology and ecology
- general and forensic palynology
- lichenology and lichen bioindication
- palaeobotany and palaeoecology
- plant ecology
- plant embryology
- plant genetics and phylogenetics
- plant physiology
- plant taxonomy and phytogeography
- plant tissue culture
- polar biology



Institute of Environmental Sciences

- aquatic ecology
- behavioural ecology and sexual selection
- biology of reproduction and mating systems
- ecosystem ecology
- ecotoxicology and stress ecology
- evolutionary genetics and genomics
- evolutionary physiology
- life history evolution
- plant-microbe interactions
- population ecology
- social aspects of nature conservation
- wildlife research



Institute of Zoology and Biomedical Research

- animal and human physiology
- animal morphology and anatomy
- animal systematics
- anthropology
- biochemistry
- biology of cells, tissues and organs
- biomedical aspects of human disease
- cancer biology
- comparative and evolutionary biology
- developmental and reproductive biology
- endocrinology
- genetics
- hematology
- immunology
- integrative taxonomy
- neurobiology and chronobiology
- toxicology

Scientific achievements

The research findings of Faculty members have been published in some of the most prestigious international journals, such as *Science*, *Nature*, *Proceedings of the National Academy of Sciences of the United States of America*, *Cell Host & Microbe*, *Molecular Biology and Evolution* and *Molecular Life Sciences* to name a few.

Sample publications:

- Dzwonko, Z., Loster, S., Gawroński, S., 2015. Impact of fire severity on soil properties and the development of tree and shrub species in a Scots pine moist forest site in southern Poland. *Forest Ecology and Management* 342:56-63, Impact Factor: 3.064.
- Griesser, M., Drobniak, S.M., Nakagawa, S., Botero, C.A., 2017. Family living sets the stage for cooperative breeding and ecological resilience in birds. *PLoS Biology* 15, e2000483, Impact Factor: 9.797.
- Kolaczowska, E., Kubes, P., 2013. Neutrophil recruitment and function in health and inflammation. *Nature Review Immunology* 13: 159-175. Impact Factor: 39.932.

- Konczal, M., Koteja, P., Orłowska-Feuer, P., Radwan, J., Sadowska, E.T., Babik, W., 2016. Genomic response to selection for predatory behavior in a mammalian model of adaptive radiation. *Molecular Biology and Evolution* 33: 2429-2440, Impact Factor: 6.202.
- Lumley, A.J., Michalczyk, Ł., Kitson, J.J., Spurgin, L.G., Morrison, C.A., Godwin, J.L., Dickinson, M.E., Martin, O.Y., Emerson, B.C., Chapman, T., Gage, M.J., 2015. *Sexual selection protects against extinction*. *Nature* 522: 470-473, Impact Factor: 38.138.
- Płachno, B.J., Świątek, P., Jobson, R.W., Małota, K., Bratkowski, W., 2017. Serial Block Face-SEM visualization of unusual plant nuclear tubular extensions in a carnivorous plant (Utricularia, Lentibulariaceae). *Annals Of Botany* 120: 673-680, Impact Factor: 4.041.
- Plech, M., Tomala, K., Tutaj, H., Piwcewicz, D.E., de Visser, J.A.G., Korona, R., 2017. Power provides protection: Genetic robustness in yeast depends on the capacity to generate energy. *PLoS Genetics* 13, e1006768.1, Impact Factor: 6.1.
- Rakus, K., Ronsmans, M., Forlenza, M., Boutier, M., Piazzon, M.C., Jazowiecka-Rakus, J., Gatherer, D., Athanasiadis, A., Farnir, F., Davison, A.J., Boudinot, P., Michiels, T., Wiegertjes, G.F., Vanderplasschen, A., 2017. Conserved Fever Pathways across Vertebrates: A herpesvirus expressed decoy TNF-alpha receptor delays behavioral fever in fish. *Cell Host & Microbe* 21: 244-253, Impact Factor: 14.946.
- Zubek, S., Rola, K., Szewczyk, A., Majewska, M.L., Turnau K. 2015. Enhanced concentrations of elements and secondary metabolites in *Viola tricolor* L. induced by arbuscular mycorrhizal fungi. *Plant and Soil* 390: 129-142, Impact Factor: 2.969.

The impact factor was given according to the year of publication.

In recent years, the Faculty of Biology has also increased its interest in applied research, which is reflected in the growing number of patent applications and patents granted to our academic staff members:

Examples of patents:

- US9422335 and EP 2751133 “Modified toll-like receptor 2 (TLR2) ligands as inhibitors of neutrophil recruitment”, authors: Elizabeth Long, Stephen Robbins, Paul Kubes, Elżbieta Kołaczkowska. **Granted:** 23.08.2016 (USA); 27.12.2017 (UE).
- EP 08848179.1 and PL383707 “The method of reducing the excessive growth of filamentous bacteria in activated sludge, the process of reducing the bulking of activated sludge and the use of naturally occurring organisms in the activated sludge to prevent its bulking”, authors: Agnieszka Pajdak-Stós, Edyta Fiałkowska. **Granted:** 04.09.2014 (EU); 22.11.2012 (PL). **Awarded:** Gold medal during XVII Moscow Salon of Invention and Innovation Technologies “ARCHIMEDES”, 2014 and Gold medal during International Invention and Innovation Show INTARG 2018.
- EP 14731401.7 “A method of mass culture of Lecane rotifers”, authors: Agnieszka Pajdak-Stós, Edyta Fiałkowska, Janusz Fyda, Wioleta Kocerba-Soroka, Mateusz Sobczyk. **Granted:** 04.05.2017.
- PL226061 “Pharmaceutical composition for fish treatment or prophylaxis”, authors: Wojciech Górecki, Wojciech Fiałkowski, Łukasz Pijanowski, Monika Komorowska. **Granted:** 30.06.2017.
Awarded: Bronze medal during 114th International Inventions Fair “Concours Lépine”, 2015.
AQUASAN®IMMUNO (ZOOLEK) is a commercially available product based on this technology.
- PL224514 “A method of scaffold/medium production for fast/efficient cell proliferation, and its application”, authors: Krzysztof Szczubiałka, Maria Nowakowska, Anna Maria Osyczka. **Granted:** 31.01.2017.



Sample research projects

- “ACTIFER An integrated system for activated sludge bulking control in wastewater treatment plants”, National Centre for Research and Development, 2014.
- “EcoStack Stacking of ecosystem services: mechanisms and interactions for optimal crop protection, pollination enhancement and productivity”, EcoStack Horizon 2020, 2018.
- “Endothelial injury during sepsis: do NET-attached proteases participate in this process? - NET-INJURY-IN-SEPSIS”, FP7-PEOPLE, 2012.
- “Engineering and functionalization of the delivery system with *Pelargonium sidoides* – a biologically active substance on an inflamed periodontal surface area”, European Union (REA): M-ERA.NET2 grant, 2017.
- “Expression and role of vaspin in the porcine ovarian function”, National Science Centre Poland, 2017.
- “Impact of climate change on biodiversity and the spread of invasive species - A study on Arion slugs”, Polish – Norway cooperation, WARION, 2013.
- “Insect Timing – INsecTIME”, FP7-PEOPLE, 2013.
- “It’s all in the family: the overlooked cradle of cooperative bird societies”, National Science Centre Poland, 2016.
- “Taxonomy and microevolution of feather grasses (Poaceae: *Stipa*)”, National Science Centre Poland, 2013.
- “The importance of cryptogams in the primary succession process on glacier forelands in Svalbard (CRYPTOGAM)”, INTERACT Transnational Access, 2017.

Awards

The academic staff of the Faculty have been honoured with a number of prestigious distinctions and awards, including the elite awards of the Foundation for Polish Science, the Polish Ministry of Science and Higher Education and of the National Science Centre:

Significant awards:

- Foundation for Polish Science Prize 2016 in the Life and Earth Sciences – Professor Jan Kozłowski.
- National Science Centre Award in the Life Sciences 2015 – Professor Wiesław Babik.
- Polish Botanical Society, the Professor Władysław Szafer Medal for scientific achievements and the development of scientific works in Tajikistan 2016 - Dr hab. Marcin Nobis.
- The Jagiellonian Laurel awarded by the Rector of the Jagiellonian University 2015 – Professor Barbara Bilińska.

Of note, professors from the Faculty are also Members of the Polish Academy of Sciences (7 members) and the Polish Academy of Arts and Sciences (12 members).

Moreover, young talented researchers are beneficiaries of grant-programmes ran by the Foundation for Polish Science and the Polish Ministry of Science and Higher Education.



International cooperation

The Faculty of Biology actively engages in international scientific networks and associations with about 80 foreign entities, and is a member of numerous international research projects.

The Faculty actively supports student and staff mobility, mainly through involvement in the Erasmus+ programme and bilateral agreements with foreign universities and other research institutions.



Partners in Europe

- Albania, University of Tirana
- Austria, University of Vienna
- Belgium:
 - University of Liège
 - Catholic University Leuven
- Bulgaria, Kliment Ohridsky University
- Czech Republic:
 - Palacky University Olomouc
 - University of Life Sciences
 - University of Ostrava
 - University of South Bohemia
 - Institute of Botany of the Czech Academy of Sciences
 - Nature Conservation Agency of the Czech Republic
- Finland:
 - LUOMUS Botany Unit, Finnish Museum
 - University of Helsinki
- France:
 - University of Montpellier
 - University of Caen Normandy
 - Louis Pasteur University Institute of Technology, University of Strasbourg
 - The Lille University of Science and Technology
 - SMIS beamline of SOLEIL synchrotron, Gif sur Yvette
 - French National Institute for Agricultural Research INRA

Partners in Europe

- Germany:
 - University of Cologne
 - The Senckenberg Museum of Natural History in Görlitz
 - Ruhr University Bochum
 - Technical University Braunschweig
 - NIOMECH - IIT GmbH, Bielefeld University, Bielefeld
 - The Max Planck Institute for Developmental Biology
 - The Max Planck Institute for Brain Research
- Greece, University of Ioannina
- Hungary:
 - Natural History Museum
 - Agricultural Institute of the Centre for Agricultural Research in Martonvasar
 - Hungarian Academy of Sciences
 - Kaposvár University
- Italy:
 - University of Pisa
 - University of Milan
 - University of Calabria
 - University of Verona
 - University of Messina
- The Netherlands:
 - Naturalis Biodiversity Center, Leiden
 - Vrije University Amsterdam
 - Wageningen University

Partners in Europe

- Norway:
 - Norwegian University of Life Sciences
 - University of Svalbard
 - University of Oslo
 - Norwegian School of Veterinary Science
- Portugal:
 - University of Lisbon
 - University of Porto
- Russian Federation:
 - Tomsk State University
 - Russian Academy of Sciences in St.-Petersburg
- Spain, Museum of Natural History
- Sweden:
 - Uppsala University
 - Karolinska Institute
 - Stockholm University
 - Lund University
- Switzerland, University of Zurich
- Ukraine, University of Lviv
- UK:
 - The Natural History Museum,
 - University of Sheffield
 - The Society for the History of Natural History
 - The Royal Botanic Garden in Edinburgh
 - School of Biological Sciences, University of East Anglia
 - University of Leicester

Partners in Asia

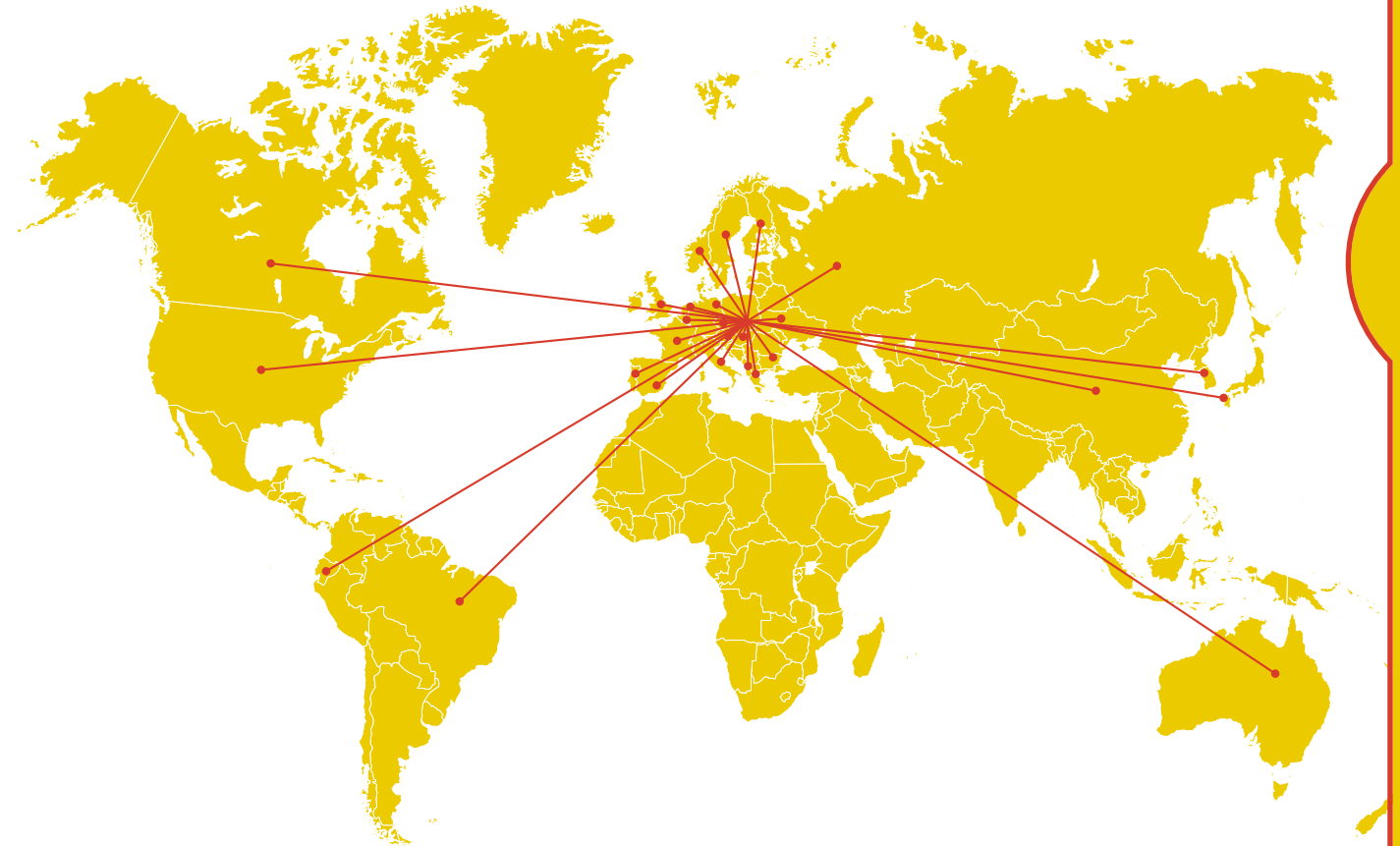
- China, Chinese Academy of Sciences in Beijing
- Japan, University of Okinawa
- South Korea, Seoul National University

Partners in the Americas

- Brasil, São Paulo State University
- Canada, University of Calgary
- Ecuador, National University Chimborazo in Riobamba
- USA:
 - Arizona State University
 - Stanford University
 - University of California Los Angeles
 - University of Illinois at Urbana-Champaign
 - The University of Texas
 - University of Pennsylvania School of Veterinary Medicine and School of Dental Medicine

Partners in Australia

- School of Biological Sciences, The University of Melbourne
- The Florey Institute of Neuroscience and Mental Health, Peptide Neurobiology Laboratory — Neuropeptides
- University of New South Wales



Education

The Faculty of Biology offers exceptional learning opportunities in virtually every aspect of the biological sciences. Modern teaching facilities guarantee a top-class learning experience, while its well-equipped laboratories provide an excellent research environment. The location of the campus on the city outskirts also enables on site field-based research. Our graduates regularly go on to pursue careers in research, public health, work as biology teachers, as well as employment in both the private and non-profit making sectors of pharmaceuticals, biotech research, and public policy.



Programmes

Bachelor's Programmes:

Biology

Neurobiology

Master's Programmes:

Biology

Neurobiology

Management of Natural Resources

Ecology & Evolution – *in English*

Environmental Protection
and Management – *in English*

PhD Programmes:

in the field of biological sciences, biology

in the field of biological sciences, ecology

PhD Programme in Biology – *in English*

Awards



Our Biology Programme was recognized in 2015 and 2018
as the best university programme in Biology in Poland in the Ranking
of Study Programmes published by the educational monthly magazine "Perspektywy".

Student Achievements



Diamond Grant is a unique programme supporting exceptionally gifted students to perform their own research projects. It helps us to discover real research talents – the true diamonds of Polish science. Receiving the grant has a double value for young scientists: it offers the opportunity to gain experience in managing and running research projects under the guidance of experienced senior scientists and gives the holders substantial financial independence. It is a way to start working on a doctorate right after graduating or after completing the third year of a 5-year study programme, and to accelerate a career path in science at this early stage.

The Faculty of Biology is proud to host four grantees, performing the following studies:

- Biological clock and epilepsy. Electrophysiological and immunohistochemical studies on the rat model of absence seizures – Łukasz Chrobok.
- Role of relaxin-3 in the control of feeding and stress-induced eating disorders in female rats - electrophysiological, immunohistochemical and behavioural studies – Alan Kania.
- Testing Wallace using tardigrades – patterns of the biodiversity and distribution of microscopic invertebrates – Piotr Gąsiorek.
- Reconstruction of the phylogeny of the order Apochela (Tardigrada: Eutardigrada) – Witold Morek.

Sample educational projects

“Meet the expectations of employers!”

Adjustment of the second-cycle (M.Sc.) education programmes of the Jagiellonian University in Biology, Natural Resources and Management, and Ecology and Evolution to the needs of the socio-economic environment of Southern Poland. With the involvement of prospective employers, new courses are being developed and existing courses are modified to increase our graduates' competitiveness. Thanks to the active participation of employers, our students have access to modern, well equipped laboratories outside the university to deepen their knowledge in narrower specialties and develop skills not taught on regular university courses.

“Biogeotraining: High quality professional training sessions for Biology and Earth Sciences students at the Jagiellonian University”

About 40 students of the Master Programmes in Biology and Management of Natural Resources will participate in 16-week training sessions in different companies and institutions, such as the

Polish Academy of Sciences, hospitals, municipal authorities, etc. Each student has a personal training programme, approved by the student's employer and their university tutor, to obtain the best learning outcome, skills and social competences, enhancing their competitiveness on the labour market. The programme is funded by the European Union via the European Social Fund and the National Centre for Research and Development. The total programme value is ca. 270 000 EUR; with the major part of this money going on student salaries and accommodation costs during the training programme.

“EMN-Online Programme”

The Euro-Mediterranean master's degree in Neuroscience and Biotechnology, with the Faculty of Biology as one of the partners. Our consortium goal is to train high-level scientists with the ability to develop a Euro-Mediterranean collaborative network in higher

education and research, in particular in the field of Neuroscience. The proposed curriculum is based on the courses offered by 14 partner universities, 9 in Europe (Bordeaux, Aix-Marseille, Nice, Turin, Castellon, Valencia, Krakow, Strasbourg & Trollhättan), and 5 in the South-Mediterranean area (Alexandria in Egypt, Saint-Joseph and Saint Esprit de Kaslik in Lebanon, Marrakech in Morocco and El Manar in Tunisia).



Erasmus+

Programme

- Witaj! • Bienvenue! • Welcome!
- Willkommen! • Welkom! • Benvenuto!
- Shalom! • Fòonying! • Vítáme tě!
- Kalōsorisate! • Suswagatam! • Yōkoso!
- Bemvindo! • Bienvenido! • Marhaban!
- Zdravstvuyte! • Ahlan wa-sahlan! • Vitaju Vas!

Erasmus Coordinators at the Faculty of Biology:

Institute of Botany:
Prof. dr hab. Bartosz Płachno
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Institute of Environmental Science
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e-mail: m.godzinska-jurczak@uj.edu.pl
phone: +48 12 664 5202

Institute of Zoology and Biomedical Research
Dr hab. Agnieszka Rak
e-mail: agnieszka.rak@uj.edu.pl
phone: +48 12 664 5003

Courses taught in English:

- Advanced ecology
- Animal genetics with elements of epigenetics
- Animal mating systems
- Behavioural ecology
- Biology of amphibians
- Biomedical Research Methods: from antigen to antibody
- Diversity and evolution of plants
- Ecology of fungi
- Ecology of invertebrates
- Ecophysiology of insects
- Effective research communication
- Evolution
- Evolutionary and physiological animal ecology
- Evolutionary aspects of comparative immunobiology
- Experimental design, data analysis and presentation
- Host – parasite interaction – ecology and application in biological control
- Island biogeography
- Malaria – a global problem exemplified practically on the avian model system
- Methods of secondary data analysis on society and environment
- Molecular ecology
- Practical aspects of environmental conservation
- Progress in ecology and evolution
- Social and economic aspects of nature conservation
- Stem cells – biology and application in organ and tissue regeneration
- Structure and function of the cerebral cortex
- The ecology and conservation of Carnivora
- Tropical ecology – afield course



Student Activities

Student conferences:

- Anthropologists Conference
- Conference of Young Evolutionary Biologists
- Genomica
- International Congress of Cell Biology
- Neuronus IBRO Neuroscience Forum

Student scientific clubs:

- Anthropologists
- Cell Biology
- Genetics
- Neuronus
- Scientific Naturalists Students of the Jagiellonian University
- Student Research Projects and Nature Education

Popularization of science:

- Biologists' night
- Małopolska night of science
- Museum Night
- Science festival

