



## Faculty of Agrobiological Sciences, Food and Natural Resources



# Who we are

With nearly 4,000 students and 300 employees, the FAFNR is the second largest faculty at the Czech University of Life Sciences (CULS) and the largest faculty with similar focus in the Czech Republic, recognized and respected both at home and abroad. Our buildings are well equipped with modern facilities and, due to a high level of continuous technical and personal development the faculty has prospered during its 110-year-long tradition of providing education and research in the field of agriculture, food and natural resources.

# What we offer

We provide high quality education in a wide range of bachelor, master and doctoral programmes. A number of study programmes are offered that focus on agricultural and horticultural production, garden and landscape architecture, breeding of companion animals, sustainable use of natural resources, food and human nutrition, and many others. We conduct extensive research, which is a precondition for accreditation of our degree programmes and allows a high level of practical training with active participation of students. We maintain close cooperation with the leading industry producers and service providers, where we implement the results of applied research and our graduates may find employment.

# Our long-term strategy

Our aim is to achieve excellence and broad recognition in the fields of our specializations. Therefore, we place significant investment in technical infrastructure. We advocate the continual pursuit of improved scientific and pedagogic qualifications of our employees, and support high quality outputs of work that are comparable with international standards. An increasing number and quality of scientific publications, highly employable graduates, stimulating demand for our participation in international consortia and networks, and maintaining permanent cooperation with industry leaders, are among our key objectives, and serve as important indicators for our future direction.



# A word from the Dean

Dear colleagues,

I am pleased that you are reading the information brochure of the Faculty of Agrobiolgy, Food and Natural Resources at CULS in Prague. I believe that you will not only browse through, but you will be intrigued by its content as well. Every year, we prepare various materials for applicants with detailed information about our study programmes, we introduce science and research at the faculty and give detailed information about all the significant activities of our departments in the Dean's report. The intent of this brochure is to introduce to you the faculty as an organic complex, as a well-functioning organism, and to divulge its long-term prospects.



The faculty is built on solid foundations and has a strong background, as its activities resonate with a 110-year-long history of agricultural education and research in Prague. Our faculty has been permanently seeking further directions whose potential can be utilized. Agricultural production is still a significant segment in the education and research at our faculty, however, in recent years, additional programmes focusing on the quality of agricultural products, food and human nutrition, horticulture and landscape architecture, breeding of companion animals, zoototherapy, natural resources, waste management, development of rural areas, and others have been successfully introduced.

Achievements of the faculty staff in science continue to grow significantly. In 2015, our research activities were manifested in more than 200 scientific papers in international journals with impact factor, which demonstrates our scientific potential. It is a great achievement, that some of the research areas developed at the faculty have occupied first places in the nationwide evaluation of research organizations of the Czech Republic. We are successful in raising funds for research from national and international grant agencies, and continue to successfully develop cooperation with several domestic and foreign companies where our experts fill the demand for professionals in their respective disciplines.

The faculty asserts itself also on the international forum, partly thanks to its membership in the prestigious university consortium, the Euroleague for Life Sciences, which brings together seven leading European universities with a similar focus. Our participation in the European programme Erasmus+ is of great value and importance, under which the faculty has concluded more than 80 agreements with universities throughout Europe. Two bachelor's, three master's, and seven doctoral programmes accredited in English also contribute to the development of internationalization, especially our double and joint degree programmes with universities in Austria and France. Faculty activities contribute to the good reputation of our university, which in its latest assessment by the prestigious Times Higher Education Rankings positioned in the top one-thousand of 22,000 globally ranked universities.

A great competitive advantage of the faculty can be attributed to its new classrooms, well equipped laboratories and modern facilities for practical and experimental activities, all in a unique university campus in Prague - Suchbát. Students, staff and research fellows work in an inspiring and peaceful environment, with many opportunities for cultural and social activities offered by the adjoining city of Prague.

You are cordially invited not only to read this booklet, but also to visit our faculty, to study on one of our degree programmes or to establish cooperation.

Prof. Ing. Pavel Tlustoš, CSc.  
Dean

# Faculty Management

Dean	Prof. Ing. Pavel Tlustoš, CSc.
First Vice Dean, Vice Dean for International Relations and Information Systems	Prof. Ing. Josef Soukup, CSc.
Vice Dean for Science, Research and Doctoral Studies	Prof. Ing. Vojtěch Rada, CSc.
Vice Dean for Teaching and Learning	Doc. Ing. Václav Hejnák, Ph.D.
Vice Dean for Teaching and Learning	Prof. Ing. Iva Langrová, CSc.
Vice Dean for Development	Doc. Ing. Roman Stupka, CSc.
Head of the Faculty Administration	JUDr. Marie Krajhanzlová

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# Studies

The Faculty offers a three-tier education system fully accredited at all levels of university education - BSc, MSc and PhD. Graduates of all our bachelor study programmes are eligible to continue onto MSc studies. Outstanding students can continue into doctoral study programmes and conduct their own research under the supervision of experienced academic staff.



## We offer:

- A wide range of specialized study programmes, even for professional oriented students
- A balanced selection of general and specialized subjects, composed of theory and practical education
- Study programmes in English at all levels
- Great opportunities to study abroad, including in prestigious double degree and joint degree programmes with foreign partner universities
- The possibility to choose optional subjects from different faculties and universities
- All study programmes are supervised and taught by teachers with a wealth of experience in research, teaching and extension
- New comfortable lecture rooms are equipped with modern AV equipment
- A wide range of practical training in modern laboratories and working facilities
- Practical training in top-ranking companies at home and abroad
- Good possibilities to find employment for graduates, and support when looking for a job



# List of accredited study programmes

## Bachelor's studies

### Crop and animal production

- Crop Production
- Animal Production
- Crop Science
- Animal Science
- Plant Protection
- Organic Farming
- Agriculture and Food\*

### Natural Resources, rural and landscape development

- Landscape Conservation and Use of Natural Resources
- Public Administration in Agriculture and Landscape
- Rural Development
- Sustainable Use of Natural Resources\*

### Horticulture and landscaping

- Horticulture
- Market and Ornamental Gardening
- Garden and Landscape Architecture
- Garden and Landscape Maintenance
- Turf and Lawn Management

### Breeding of companion animals

- Horse Breeding
- Companion Animals
- Cynology
- Fisheries and Aquaristics

### Foodstuffs, nutrition and health

- Quality of Agricultural Products
- Nutrition and Foodstuffs
- Animal-assisted Therapies and Activities

## Master's studies

### Crop and animal production

- Animal Science
- Crop Science
- Plant Nutrition and Protection
- Plant Protection
- Agriculture
- Farming
- Organic Farming
- Sustainable Agriculture and Food Security (double degree)\*

### Biotechnologies and breeding

- Biotechnology and Plant Breeding
- Biotechnology and Animal Breeding
- Biotechnology of Reproduction

### Breeding of special animals

- Special Animal Raising
- Fisheries and Aquaristics

### Foodstuffs, nutrition and health

- Animal Nutrition and Dietology
- Farm Products Quality and Processing
- Nutrition and Foodstuffs

### Horticulture and landscaping

- Market Horticulture
- Garden and Landscape Architecture
- Garden and Landscape Planning

### Natural resources, rural and landscape development

- Development of Rural Areas
- Technology, Processing and Utilization of Waste
- Conservation and Use of Natural Resources
- Soil Assessment and Protection
- Natural Resources and Environment\*
- Natural Resources Management and Ecological Engineering (joint degree)\*

## Doctoral studies

- General Crop Science\*
- Special Crop Science\*
- General Animal Science\*
- General Animal Science\*
- Agricultural Chemistry\*

- Agricultural and Forestry Phytopathology and Plant Protection\*
- Exploitation and Protection of Natural Resources\*

*BSc, MSc and PhD study programmes marked by \* are fully taught in English.*

# Study programmes

The faculty offers a wide spectrum of study options, consisting of **23 bachelor-, 25 master-, and 7 doctoral study programmes**. This offer fully covers the contemporary requirements of education of specialized experts for different areas in for example, agricultural production, special breeds, horticulture and landscape architecture, food quality and safety, human nutrition, rural development, and natural resources and waste management. The majority of our study programmes are taught in Czech and are free of charge.

For foreign students, students from our partner universities and also for Czech students willing to find a job in international institutions or/and in agrobusiness, **we offer international study programmes fully taught in English**. Graduates will acquire not only the expertise relevant to their chosen area of study, but also communication skills in professional language and will meet with students from all continents. In addition, it is possible to study these programmes as a double degree or even a joint degree at our partner universities. It means that after defending their thesis and passing a state exam, students will receive a second diploma from the partner university, which provides students a better position in the job-market. English taught programmes are designed in two specializations – education of experts in agriculture, food and nutrition, and in management of natural resources and ecological engineering.

Applicants interested in natural resources studies can select a combination of the bachelor study programme **Sustainable Use of Natural Resources** and one of the master study programmes **Natural Resources and Environment**, or **Natural Resources Management and Ecological Engineering**, designed as a Joint degree programme with BOKU Vienna University, Austria. For applicants interested in agriculture, food and nutrition there is a combination of the bachelor study programme **Agriculture and Food** followed by the master programme **Sustainable Agriculture and Food Security**, a double degree with the study programme **AgroFood Chain** taught at INP-ENSAT Toulouse, France.

All seven programmes of doctoral study are accredited both in Czech and English languages. This enables the involvement of motivated foreign students into the research easily.

On-line application for studies at our Faculty can be found under the following URL address: <https://is.czu.cz/prihlaska/?lang=en>



# Research and development

A high level of scientific activity is necessary for future development of the Faculty and it serves as an important criterion for University evaluation. It demonstrates expertise of teaching staff and their potential for the transfer of new and up-to-date information to students. Furthermore, research provides an important source of financing of university activities. The Faculty of Agrobiological Sciences has the highest position among other CULS faculties regarding the amount of financial resources raised for research and also from the point of view of recognized outputs of scientific and research activities.

Financial resources for research activities are obtained by the Faculty as an institutional support from the Ministry of Education of the Czech Republic, based on the evaluation of research outputs in previous years. Other important sources are competitive projects funded by different grant agencies and there is a growing share of research contracted by commercial and governmental institutions. Allocation of resources to research accounts for approximately 40% of the Faculty budget, which demonstrates well the importance of research activities for the Faculty life and its future perspectives.

## In which research areas are we the best?

Publications in international scientific journals with impact factor (IF) currently serve as the most important evaluated outputs of scientific work. The number and quality of published papers is increasing every year, which represents the increasing research activities of Faculty staff and the competitiveness of our outputs within the international scientific community. In 2015, we had 208 papers published in journals with IF and 45 papers in SCOPUS indexed journals, which corresponds to an average of 2-3 high-quality published papers for each academician per year. Practically oriented departments focus their publications also into farmer's magazines, and they organise many seminars and specialised public conferences. The results of applied research are published as certified guidelines for farmers and governmental organisations. A supported trend is also the patenting of results, their practical use and also the establishment of spin-off and start-up companies with the faculty participation, utilizing the know-how of the faculty staff and the enthusiasm of students and graduates.

Highly prestigious outputs of specialised research are produced by the departments of the Faculty with a focus on disciplines such as soil science and protection, agro-environmental chemistry, microbiology, applied ecology, crop and animal husbandry, crop and animal breeding, crop protection, zoology, veterinary sciences, human nutrition, climatology, and water resources. These departments are attractive partners for co-operative research together with national and international scientific institutions. In a rating of publication activities among scientific institutions in the Czech Republic according to the IDEA institute of the Czech Academy of Sciences, the Faculty ranked number one in the field of soil sciences, and placed in one of the three best institutions in fields of soil contamination and decontamination (including pesticides), crop husbandry, and crop breeding.







### Connection between research, education, and extension

A significant attention is paid to the connection between research and education. All assistant professors must have Ph.D. degree, which guarantees their competence for independent scientific work and for supervising of student's bachelor and master theses. Students of doctoral study programmes are supervised by highly experienced and scientifically active professors and associated professors, who are approved by the Scientific board of the Faculty. Students are involved in the latest research programmes, and their results are presented in student competitions and at conferences, students will then publish their work later on as authors and/or co-authors in scientific papers. Student's research is supported by the University grant agency "CIGA", by the faculty grant agency, by research projects of their supervisors and also by the Rector's competition for the best theses. Our students are among the most active, and they often occupy the best positions in university publication competitions. Many research projects, especially those funded by grant agencies focused on applied research, are realised in cooperation with farmers and industry, and many diploma theses are conducted with them also in real conditions.



# International Relations

High-quality university education, science and research can be realised only in an international context, in international networks and through bilateral contacts. This enables communication between experts working in the same or similar areas of interest, mobility of teachers and students through different types of exchange, and presentation of results in the international arena.

## We belong to the club of prestigious universities

The educational process at the Faculty meets the highest international standards. The Faculty is a long-time member of the prestigious consortium, the **Euroleague for Life Sciences (ELLS)**, comprising respected European universities in the area of life sciences. Close cooperation with the University of Natural Resources and Life Sciences, Vienna, University of Copenhagen, Swedish University of Agricultural Sciences, University of Hohenheim, Wageningen University and Research Centre, and Warsaw University of Life Sciences enables coordination of activities, benchmarking of methods and quality of work, and periodical evaluation among partner universities. Our Faculty is very active in the ELLS subject areas of Environmental Sciences, Animal Sciences, Organic Agriculture and Safety in the Food Chain. ELLS supports the organization of summer schools, in which our teachers and students participate every year, mainly in areas of food safety and water resources. One of the most important ELLS activities is the annual student scientific conference, which in 2015, was held at the Czech University of Life Sciences.

The transfer of teachers and students is supported by the EU programme Erasmus+, enabling an exchange between participating European universities in the framework of bilateral agreements. The Faculty has more than 80 agreements with partners all over Europe, and both our national and international students take advantage of this programme. Our faculty is a destination for more than 250 international students every year. Erasmus+ gives students the chance to study in an international environment, to learn professional language, and to receive quality training for their future employment with for example, global companies. Subjects studied at partner universities are recognized through the European credit transfer system (ECTS) in the study plans of students. Thanks to a high level of organization of the mobility of participating students, and the implementation of a functional credit system at CULS, the Faculty takes advantage of the prestigious **ECTS Label certificate**, which ensures recognition of studies at our faculty all over Europe and even at non-European universities. Besides the Erasmus+ programme, our students and teachers have other opportunities to finance their travels in the frame of programmes like **CEEPUS, Aktion, Kontakt, Fulbright**, and others. Visits of foreign teachers and researchers make the lectures more attractive, enrich students and teachers with new approaches, stimulate the learning of languages, and give an overview about the status of the topic of concern abroad. For students enrolled in our English taught double degree and joint degree programmes, at least one semester of study at the respective foreign university is compulsory.

Cooperation in science and research with foreign partners is performed individually by faculty departments, where they participate in international projects, professional activities and short-term scientific missions. At the Faculty, 2-4 European Framework and Horizon 2020 projects and many projects of contract research are being continuously solved for global biotech, chemical, seed and other companies. Management of the faculty tries to increase the space for international cooperation in science and teaching with non-European universities as well.

# Facilities for practical training

It is a great advantage of the Faculty that all facilities for practical training are located either on or close to the campus, to be easily reached by walking. Practical seminars as a part of specialised courses and student practice take place at our Demonstrational and Experimental Unit, which is well-equipped with experimental plots, greenhouses, stables, a riding hall, and an arboretum and ornamental garden called "Libosad". The Centre for Dog Behaviour Research is also located on the campus. Located on the opposite side of the Vltava River is the Demonstrational and Experimental Station Troja, which is focused on education and research in the area of fruit and vegetable production, and includes a fruit and ornamental tree nursery. The complex of these facilities covers the requirements for effective practical training and enables students to conduct their experimental work for Master and Doctoral theses. To improve the practical training in study programmes related to food quality, food safety, and well-being, the new Centre for Food Technologies and Human Health is proposed to be built using European funds.





# Faculty of Agrobiological Sciences, Food and Natural Resources

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