



Czech University  
of Life Sciences Prague



# Faculty of Agrobiography, Food and Natural Resources





# **We are an important pillar of the Czech University of Life Sciences in Prague**

An excellent institution in agriculture and in the  
food industry.



# We are improving the quality of life in society

We have experts in the departments of:

- Agroecology and Crop Production
- Agroenvironmental Chemistry and Plant Nutrition
- Botany and Plant Physiology
- Ethology and Companion Animal Science
- Genetics and Breeding
- Chemistry
- Animal Science
- Microbiology, Nutrition and Dietetics
- Plant Protection
- Soil Science and Soil Protection
- Veterinary Sciences
- Water Resources
- Horticulture
- Landscape Architecture
- Zoology and Fisheries
- Food Science



Dear all,  
as the pace of life is getting faster, our faculty has to face new challenges such as the robotization of agriculture, research on food security, ethical ways of breeding animals or breeding new species better adapted to climate and developmental changes, finding alternative ways in crop protection and effective conservation of our natural resources. We are already internationally successful in several research and development areas. I would be delighted if you would read our brochure and see for yourself.

**prof. Ing. Iva Langrová, CSc.**

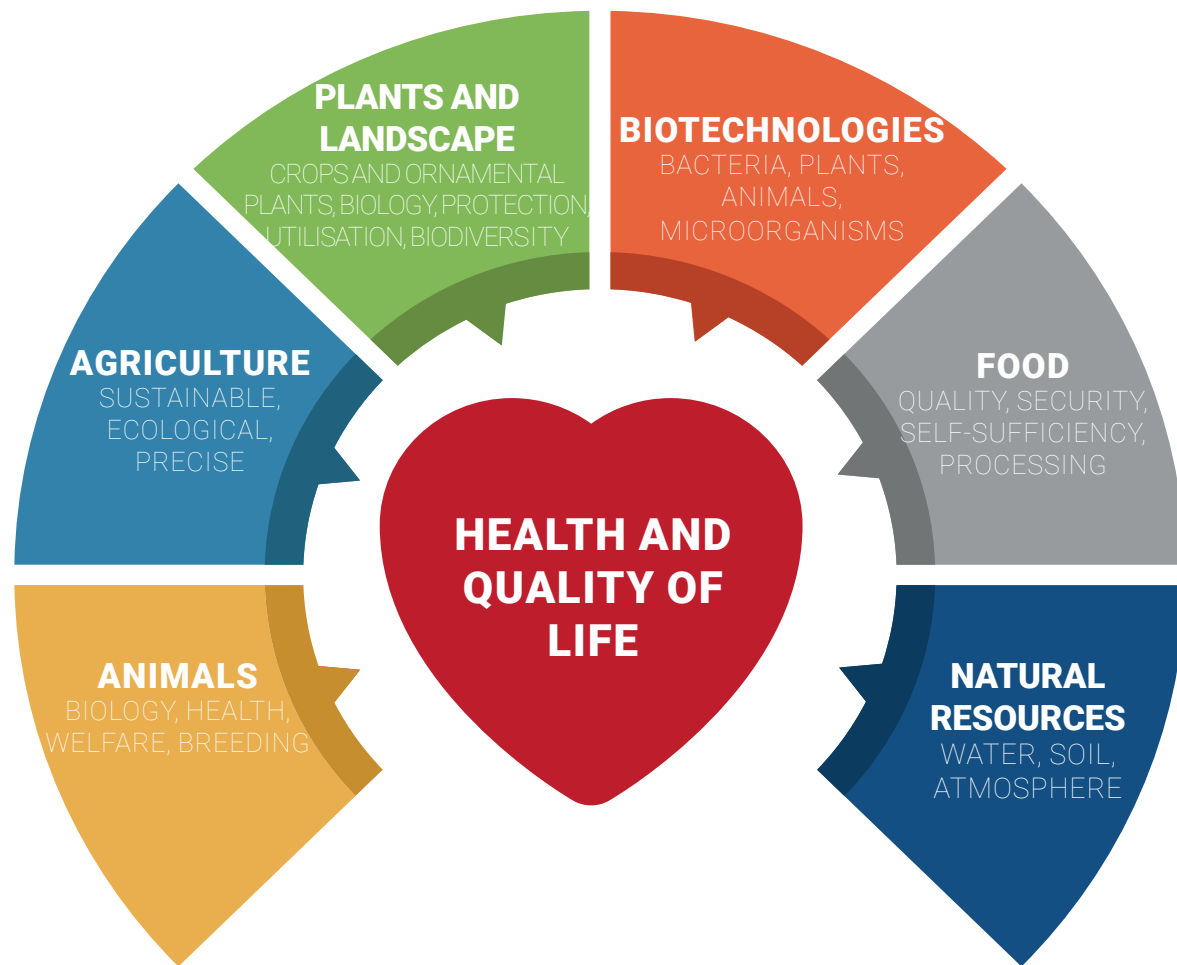
Dean of the Faculty

A large, leafy tree dominates the left side of the frame, with the sun shining through its branches, creating a bright starburst effect. The background shows a clear blue sky and a rolling landscape with green fields and distant hills. The foreground is a dirt path leading through grass.

## What are we focusing on?

Agriculture, food science, Earth sciences, biology, environment, landscape architecture and veterinary medicine.

# Many paths, one goal...





## **We replace synthetic substances with natural ones**

Results of our studies contribute to the production and commercialization of natural pesticide products.

# Agriculture

sustainable, ecological, precise



Agriculture shapes the landscape of the Czech Republic. The aim of our faculty is to contribute to ensuring good agricultural practices, taking care of the environment and support rural development.

## WHAT DO WE FOCUS ON?

- Livestock welfare
- Innovations in crop and livestock production technologies
- Ecology of weeds, pests, and diseases of crops
- Limiting the effects of stressors on field crops, vegetables, and fruits
- Resistance of crops to climate change

## STUDY POSSIBILITIES

AFTER RETRIEVING THE QR CODE YOU WILL BE TAKEN TO AN OVERVIEW OF RELATED STUDY PROGRAMMES

### BACHELOR'S



### MASTER'S



### DOCTORAL



## WE ARE CURRENTLY RESEARCHING

### Cows and GHG

Besides milk and meat, cows give us a good portion of methane. Read the work of our scientists, who have tried to reduce emissions through dietary changes of the cow.

More on [agrofakta.cz](https://agrofakta.cz)



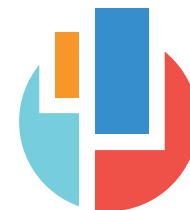
## **We investigate natural antioxidants**

We have found a way to prevent fungicides from creating harmful radicals from antioxidants.



# Plants and landscape

productive and ornamental, biology, conservation, use



Plants are biomass producers and an important landscape feature. The substances they contain are the basis of the entire life cycle. We are looking for new ways to protect them by testing harmless protective products.

## WHAT DO WE FOCUS ON?

- Floriculture, horticulture, and fruit production
- Urbanism, landscape planning and green management
- Integrated fruit and vegetable production
- Antioxidant and antimicrobial activity of medicinal plants
- Cannabis for medicinal use and hydroponics

## STUDY POSSIBILITIES

AFTER RETRIEVING THE QR CODE YOU WILL BE TAKEN TO AN OVERVIEW OF RELATED STUDY PROGRAMMES

### BACHELOR'S



### MASTER'S



### DOCTORAL



## WE ARE CURRENTLY RESEARCHING

### New technology inspired by the world of plants

Scientists from CZU have developed a completely new meso-porous silica-based material for controlled release of active substances.

More on [agrofakta.cz](https://agrofakta.cz)



## **We want good quality and safe food**

There is no need to destroy 99,99 % of bacteria and fungi, the majority is friendly. We safely modify the human microbiota.

# Food quality, safety, self-sufficiency



Primary agricultural producers, processors, traders, government authorities and consumers are all involved in ensuring and preserving safe food. We are looking for ways to ensure that food that is healthy and hygienic is also nutritionally valuable.

## WHAT DO WE FOCUS ON?

- Food quality and traceability
- Prebiotics and probiotics in human and animal nutrition
- Gut microbiota research
- Safe and functional foods
- Insects as an alternative food

## STUDY POSSIBILITIES

AFTER RETRIEVING THE QR CODE YOU WILL BE TAKEN TO AN OVERVIEW OF RELATED STUDY PROGRAMMES

### BACHELOR'S



### MASTER'S



### DOCTORAL



## WE ARE CURRENTLY RESEARCHING

### Food as a medicine. Or not?

The study has shown that palm oil and its main component - lauric acid may adversely affect the treatment of staphylococcal infections with certain types of antibiotics.

More on [agrofakta.cz](https://www.agrofakta.cz)



## **We have discovered a new bacterial species**

An amazing discovery of the *Filobacterium felis* can save lives of cats all around the world.

# Animals biology, health, welfare, breeding



Animal husbandry is an ethical issue if we do it right. A happy life for the animals is our priority.

## WHAT DO WE FOCUS ON?

- Current problems of livestock breeding
- Animal ethology
- Ecology and biology of selected species
- Breeding of animals for the purpose of psychological or somatic therapy of humans
- Care of animal health

## STUDY POSSIBILITIES

AFTER RETRIEVING THE QR CODE YOU WILL BE TAKEN TO AN OVERVIEW OF RELATED STUDY PROGRAMMES

### DOCTORAL



## WE ARE CURRENTLY RESEARCHING

### Let's pop to see some horses

How many riders should a racehorse ideally have and when is it most successful? The relationship between rider and horse is unique. Unlike other domesticated animals, it is based on touch instead of verbal communication.

More on [agrofakta.cz](http://agrofakta.cz)



## **We protect our natural resources**

For the first time, we have detected thallium isotopes in contaminated soils from coal-fired power plants.

# Natural Resources

water, soil, atmosphere



The need to secure natural resources is increasing and has a significant impact on the environment. The environmental challenges facing our planet include pollution, erosion, water scarcity, land degradation and the application of the circular economy.

## WHAT DO WE FOCUS ON?

- Prevention of soil degradation
- Contamination of soils with hazardous substances and its remediation
- Degradation of pharmaceuticals and personal care substances
- Soil classification and digital mapping
- Safe use of waste

## STUDY POSSIBILITIES

AFTER RETRIEVING THE QR CODE YOU WILL BE TAKEN TO AN OVERVIEW OF RELATED STUDY PROGRAMMES

### BACHELOR'S



### MASTER'S



### DOCTORAL



## WE ARE CURRENTLY RESEARCHING

### The future belongs to biogas

It is used to produce heat and electricity, and the planned biogas plant should provide fuel for Prague's public transport in a few years. Biogas is produced by fermentation of biological material, but mixing the right recipe is not easy!

More on [agrofakta.cz](https://www.agrofakta.cz)



**Our scientists are succeeding in**

**obtaining patents** We are successful in the fields of fermentation, composting, degradation of hazardous elements from the soil, and manipulation with oocytes.



# Biotechnology

bacteria, plant, animal



The environment around us is changing dynamically and it is not only agriculture that needs to respond to these changes. We are increasing the resilience of crops to climate change and improving the reproductive capacity of livestock.

## WHAT DO WE FOCUS ON?

- Genetic resources - plants and animals
- Management of livestock reproduction
- Biology of gametes - oocytes and sperms
- Participation in the breeding of new varieties
- Treatment of biodegradable waste

## STUDY POSSIBILITIES

AFTER RETRIEVING THE QR CODE YOU WILL BE TAKEN TO AN OVERVIEW OF RELATED STUDY PROGRAMMES

### DOCTORAL



## WE ARE CURRENTLY RESEARCHING

### A recipe for immortality

Not so long ago, it seemed like science fiction. Cell transplants, revolution in CRISPR genetic engineering and even immortal individuals.

More on [agrofakta.cz](https://www.agrofakta.cz)

A smiling female scientist with long dark hair, wearing a white lab coat and clear safety goggles, stands in a laboratory. The background is filled with various pieces of scientific equipment, including blue and green cables, a computer monitor, and other lab instruments. The scene is brightly lit, suggesting a modern research environment.

## **We do excellent international research**

Our projects are on an international level and in many of them we are the only research institution in the Czech Republic.



## METROFOOD-CZ

[www.metrofood.cz](http://www.metrofood.cz)

we coordinate a national node of European infrastructure, the first in the Czech Republic focusing on agriculture, food and nutrition



## Nutrisk - center of excellence

[www.nutrisk.cz](http://www.nutrisk.cz)

Nutrient and toxicant interactions in the soil, plant, animal vertical



## EJP SOIL

[www.ejpsoil.cz](http://www.ejpsoil.cz)

The project brings together a group of 26 leading European research institutions focused on climate change mitigation

## DRIFT-FOOD

## DRIFT FOOD (ERA Chair project)

[www.driftfood.eu](http://www.driftfood.eu)

an international team of excellence focused on advanced innovative technologies in the food industry



# **Our university is full of life!**

The Czech university of Life Sciences is a modern, constantly developing and dynamic educational and research institution.

# Do you know, that...



## OUR UNIVERSITY

19 000 students from 80 different countries study at our university in 130 study programs.



## ECOLOGY COMES FIRST

The most ecological university in the Czech Republic and 53rd in the whole world.



## EUROPEAN CENTER OF EXCELLENCE

In the field of agriculture, forestry, and environmental sciences.



## EUROLEAGUE FOR LIFE SCIENCES

Member of the prestigious European university network.

A photograph of a modern building with a glass facade and dark panels. The building is multi-storied with many windows. The sky is blue with some clouds. The foreground shows a dark railing and a paved area.

## **Capacity for interdisciplinary collaboration**

We will always emphasize the advantage of the synergy of mutual cooperation of individual faculties.

# The strength of the university lies in the diversity of the faculties



## Faculty of Agrobiology, Food and Natural Resources

3 881 students / 266 academic and researchers



## Faculty of Economics and Management

8 687 students / 221 academic and researchers



## Faculty of Engineering

1 298 students / 96 academic and researchers



## Faculty of Forestry and Wood Sciences

1 898 students / 184 academic and researchers



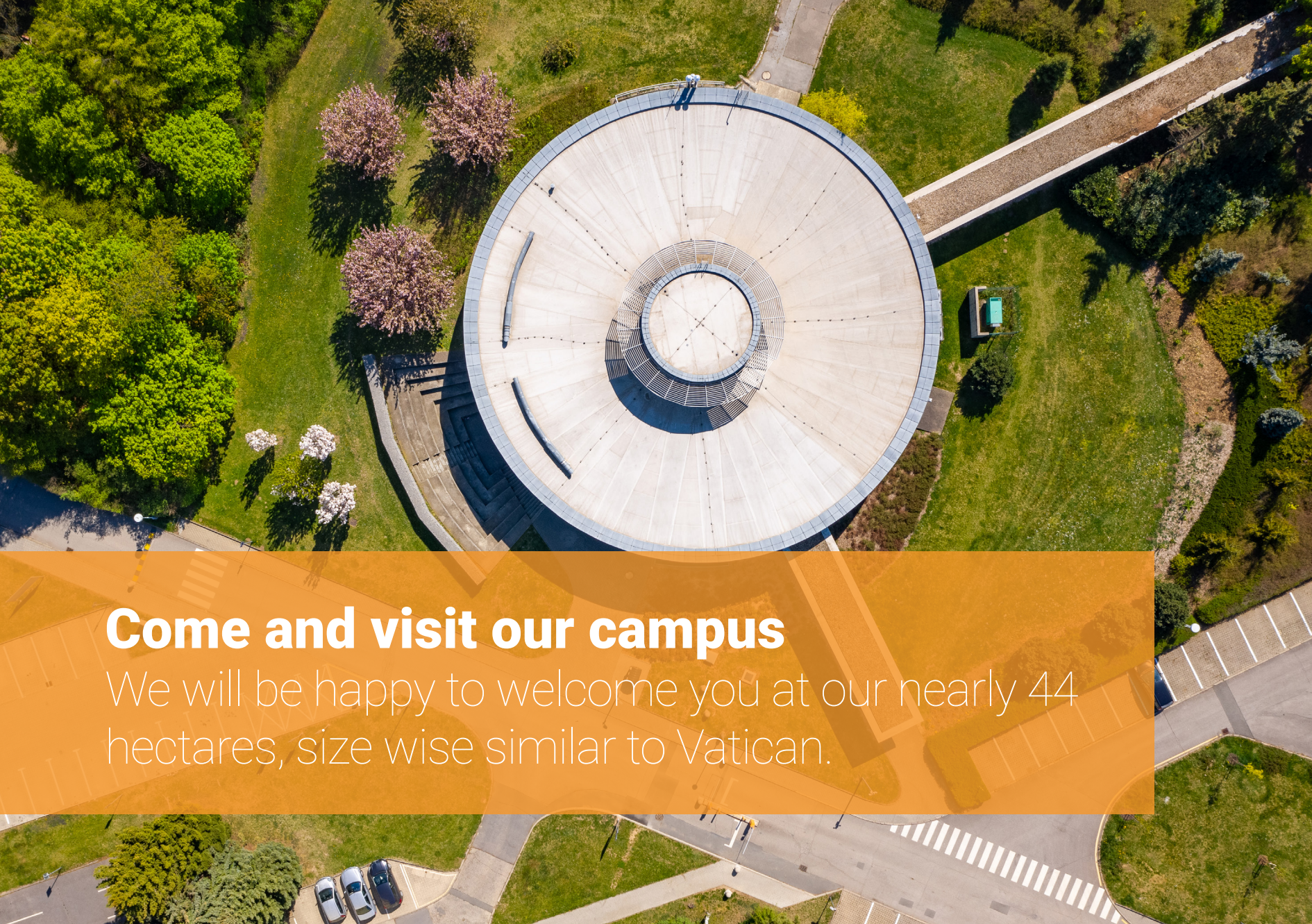
## Faculty of Environmental Sciences

2 837 students / 219 academic and researchers



## Faculty of Tropical AgriSciences

546 students / 32 academic and researchers



## **Come and visit our campus**

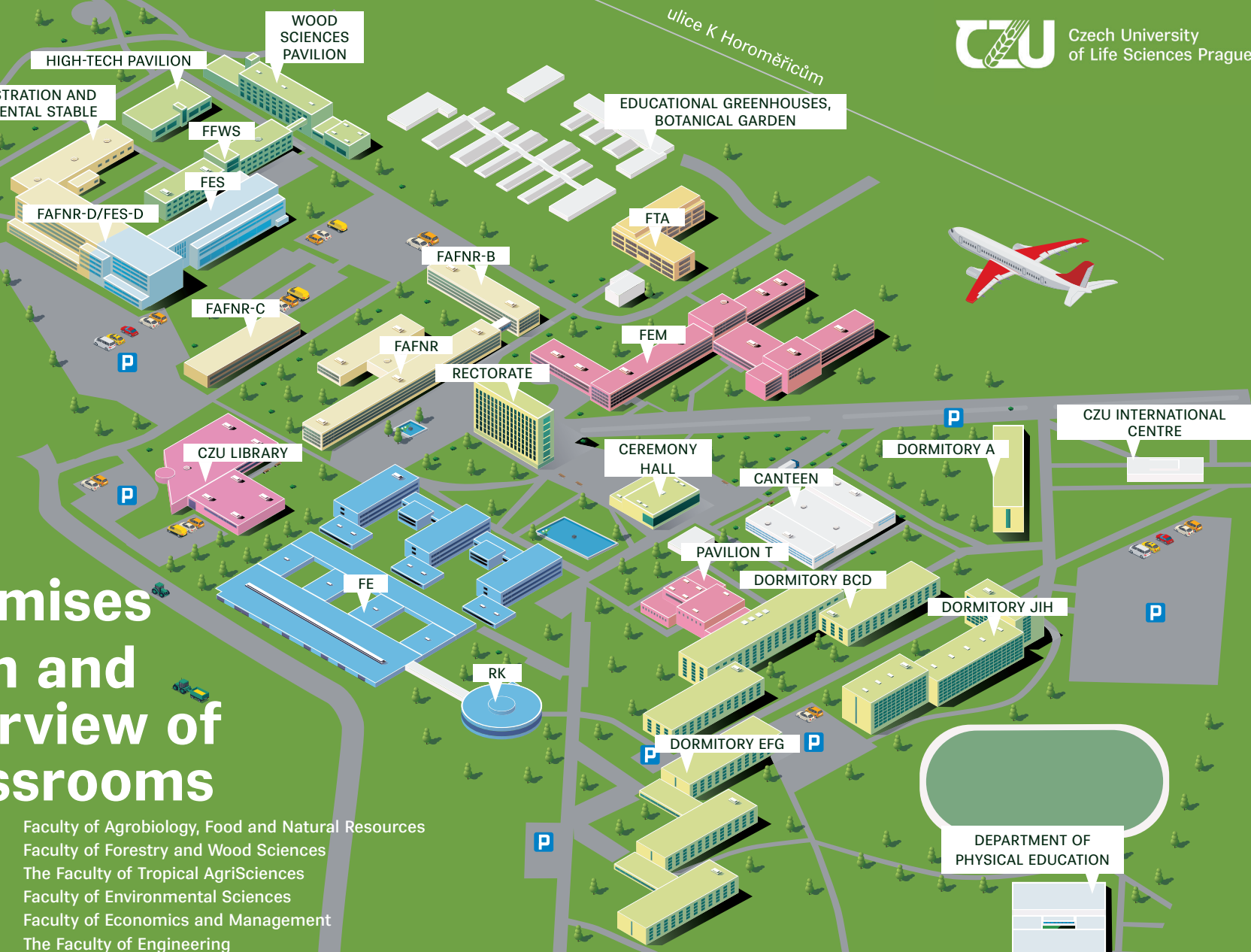
We will be happy to welcome you at our nearly 44 hectares, size wise similar to Vatican.



ulice K Horoměřicům

# Premises plan and overview of classrooms

- FAFNR Faculty of Agrobiolgy, Food and Natural Resources
- FFWS Faculty of Forestry and Wood Sciences
- FTA The Faculty of Tropical AgriSciences
- FES Faculty of Environmental Sciences
- FEM Faculty of Economics and Management
- FE The Faculty of Engineering



DEPARTMENT OF  
PHYSICAL EDUCATION

## We can do it!

An integral part of the cooperation with practice is the offer of services in the field of instrumentation, faculty laboratories, specialized software and test stations. We have a large number of the most modern or more commonly used instruments at our disposal and we would be happy to cooperate with you or with your company.

An important part of FAFNR's activities is contract research. The aim of the individual departments is to use contract applied research to introduce the latest scientific knowledge into companies within Czech agriculture and to solve problems with the help of the newest approaches.

[pristroje.agrobiologie.cz](http://pristroje.agrobiologie.cz)



## We publish

In the comparison of the publication performance of research organizations in the Czech Republic, including universities, the FAFNR is the leading department in the field of Soil Science and one of the three leading departments in the fields of Contamination and decontamination of soil including pesticides, Plant cultivation and seeding practices, Plant breeding, Breeding of livestock and husbandry.

We want the results of our work to reach institutions and individuals in the respective fields as much as possible.

[metodiky.agrobiologie.cz](http://metodiky.agrobiologie.cz)

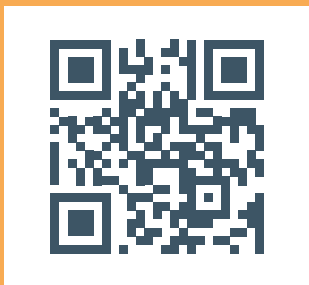


## Agroprace.cz

A unique portal with job offers from the field of agriculture, food, and forestry activities. We have the ambition to develop the whole project into a European dimension and to make it easier for people to find and offer temporary jobs, internships, volunteering and conventional work.

More than 500 employers from the Czech Republic have sent their offers during the period of operation and the portal has a monthly traffic of around 5,000 people. The portal is free, primarily for our students and funded by faculty resources.

[www.agroprace.cz](http://www.agroprace.cz)



## International Relations Office

### Jitka Kloučková

tel.: +420 224 384 577

e-mail: [klouckova@af.czu.cz](mailto:klouckova@af.czu.cz)

e-mail: [iro@af.czu.cz](mailto:iro@af.czu.cz)

room: FAPPZ/AF120

### Dagmar Brožová

tel.: +420 224 384 577

e-mail: [brozova@af.czu.cz](mailto:brozova@af.czu.cz)

e-mail: [iro@af.czu.cz](mailto:iro@af.czu.cz)

room: FAPPZ/AF120

## Social Networks

-  [af.czu.cz/en](http://af.czu.cz/en); [universityin.eu](http://universityin.eu)
-  [facebook.com/af.czu.cz](https://facebook.com/af.czu.cz)
-  [instagram.com/af.czu.cz](https://instagram.com/af.czu.cz)
-  [twitter.com/agro\\_czu](https://twitter.com/agro_czu)



**Faculty of Agrobiology, Food and Natural Resources**  
Czech University of Life Sciences Prague