# 2019 **ANNUAL REPORT**

#### FACULTY OF FORESTRY AND WOOD SCIENCES OF THE CZECH UNIVERSITY OF LIFE SCIENCES IN PRAGUE



Czech University of Life Sciences Prague Faculty of Forestry and Wood Sciences

Faculty of Forestry and Wood Sciences Czech University of Life Sciences in Prague **Annual Report for the Year 2019** 

# Introduction

### 1 Introduction

In 2019, a multi-annual period of major investments in new infrastructure building was completed. The completion of the High-tech Pavilion building was followed by technology installations and furnishing with equipment, which eventually enabled us to start teaching in these modern classrooms and laboratories in October 2019. The higher budget of the Faculty allowed for increased staffing, including scientific and research staff and postdocs. This of course does not mean that investment activities will not continue in the coming years. Given an increase in the number of staff members, postdocs and active doctoral students in recent years, it seems necessary to reconstruct and optimise the original facilities of the Faculty building. To that end, all construction documentation was prepared, and the building permit was obtained in 2019.

As regards education, we opened two new study programmes, which were attended by the first students. It is the Systematic Arboristics Bachelor's study programme and the Wooden Structures and Wood-based Constructions Master's study programme. In addition, since 2019, the lectures in two pivotal Bachelor's study programmes, Forestry and Wood Technology, have been provided in two specialisations to allow graduates to better shape their professional profiles. In the Forestry programme, they are represented by the Protection and Cultivation of Forest Ecosystems, and the Forestry and Wood Economics courses, while the Wood Technology programme offers the courses in Business in the Wood Processing and Furniture Industry, and Wood Processing. The number of paid merit scholarships and the number of students participating in the programme of young scientists continued to increase. We supported education quality enhancement, as we have been doing for several years in a row, by issuing new study materials and teaching both students and staff members higher-level English.

In the scientific and research field, emphasis has long been placed on publishing in high-quality, renowned journals. Priority is given to first-decile and first-quartile journals, including articles in the Nature Index journals. The involvement in international project consortia signified yet another important factor in the life of the Faculty. In order to prepare the publications and participate in consortia, the Faculty created the relevant conditions by promoting excellence and excellent teams. As a result, 42% of articles were published in the first-quartile journals, nearly 15% in the first-decile ones, 6 outcomes were in the Nature Index, and 7 consortia joining international calls have been created.

The Faculty was also developing significantly on the international field of activities. In addition to standard care for incoming and outgoing study-visit students, special attention was paid to the visits and lectures of experts from various countries in the world as well as to the trips of our staff



members to lecturing and research stays abroad. An increasing number of long-term research--based internships of our PhD students abroad and foreign students in our research teams marks also a positive trend.

In 2019, the headcount grew by 10%. It was mainly thanks to the implemented projects. In terms of the Faculty qualification structure, the share of professors and associate professors in the total number of academic staff remains above 45%, signifying an important factor in meeting accreditation standards. As regards human resources, the trend in recent years has been to increase the number of staff members from abroad who formed almost one quarter of all the staff in 2019. These are mainly the positions of scientists and postdocs. As the headcount rose, multi-source salary funds increased as well.

As the term of office of the FFWS Academic Senate members ended, the composition of members changed at the end of the year. The term of office of the Dean, who served in this capacity for the last 8 years, also ended. The new management would like to thank him for all he has done for the development of the Faculty. There is plenty to build on, enabling the new management to pursue its vision, which is: an internationally recognised, nationally irreplaceable, modern educational and research institution respected by various sectors and society in the field of forestry, wood technology and related applied sciences, with a stable status within the Czech University of Life Sciences, which is known for the quality of its graduates, scientific results, and application outputs. The Faculty shall direct all its steps and activities towards this goal in 2020.

> prof. Ing. Róbert Marušák, Ph.D. Dean of the Faculty





#### Full name and address of the Faculty

#### Full name:

Fakulta lesnická a dřevařská České zemědělské univerzity v Praze

#### **Faculty address**

Czech University of Life Sciences in Prague Faculty of Forestry and Wood Sciences Kamýcká 129 Postal code 165 00 Prague – Suchdol

#### English translation of the name of the Faculty

Faculty of Forestry and Wood Sciences Czech University of Life Sciences Prague

#### **Commonly used abbreviations**

FLD ČZU (in Czech) FLD CZU FFWS (in English) FFWS (in English)

#### COMPOSITION OF THE SCIENTIFIC BOARD, ACADEMIC SENATE AND OTHER FFWS BODIES

#### FFWS ACADEMIC SENATE

Senate members until 30 November 2019

#### Academic staff:

doc. Ing. Oto Nakládal, Ph.D. prof. Ing. Jaroslav Červený, CSc. doc. Ing. Ivana Tomášková, Ph.D. doc. Ing. Vítězslava Pešková, Ph.D. Ing. Peter Surový, PhD. doc. Ing. Milan Gaff, PhD. doc. Ing. Vlastimil Hart, Ph.D. Ing. Václav Bažant, Ph.D.

#### Students:

Ing. Radim Löwe Ing. Monika Sedmíková Ing. Lucie Hambálková Ing. Jan Rohla

#### Senate members as of 1 December 2019

Academic staff: doc. Ing. Oto Nakládal, Ph.D. prof. Ing. Jaroslav Červený, CSc. Ing. Roman Modlinger, Ph.D. Ing. Vítězslava Pešková, Ph.D. Ing. Peter Surový, PhD. Ing. Martin Jankovský, PhD. doc. Ing. Vlastimil Hart, Ph.D. Ing. Radim Löwe

#### Students:

Ing. Václav Silovský Ing. Anna Herrová František Čepický Samuel Gavaľa

#### FFWS STIENTIFIC BOARD

#### Internal members – FFWS staff:

prof. Ing. Marek Turčáni, PhD., Chairman until 14 December 2019 prof. Ing. Róbert Marušák, PhD., Chairman as of 15 December 2019 prof. Ing. Jaroslav Červený, CSc. doc. Ing. Milan Gaff, PhD. doc. Ing. Miroslav Hájek, Ph.D. doc. Ing. Vlastimil Hart, Ph.D. prof. Ing. Jaroslav Holuša, Ph.D. doc. Ing. Tomáš Kušta, Ph.D. prof. Ing. Milan Lstibůrek, Msc., Ph.D. doc. Ing. Vítězslava Pešková, Ph.D. prof. Ing. Vilém Podrázský, CSc. doc. Ing. Jiří Remeš, Ph.D. Ing. Peter Surový, PhD. prof. Ing. Miroslav Svoboda, Ph.D. prof. Ing. Luděk Šišák, CSc. doc. Ing. Ivana Tomášková, Ph.D.

#### INTERNAL MEMBERS – OTHER CZU FACULTIES AND DEPARTMENTS:

doc. Ing. Martin Hanel, Ph.D. doc. Ing. Václav Hejnák, Ph.D. doc. Ing. Milan Houška, Ph.D. doc. Ing. Bohdan Lojka, Ph.D. doc. Ing. Jiří Mašek, Ph.D.

#### **EXTERNAL MEMBERS:**

Ing. Jiří Boháček PhDr. Robin Böhnisch (membership terminated as at 27 February 2019) prof. Dr. Ing. Libor Jankovský, CSc. prof. RNDr. František Kačík, PhD. Ing. Ľudmila Marušáková, PhD. prof. RNDr. Ing. Michal V. Marek, DrSc., Dr. h. c. prof. Dr. Ing. Viliam Pichler Ing. Petr Pražan, Ph.D. Ing. Daniel VIkanova, Ph.D., MBA Ing. Josef Vojáček doc. Ing. Petr Zahradník, CSc. Ing. Martin Žižka, Ph.D.

#### MANAGEMENT OF THE FACULTY OF FORESTRY AND WOOD SCIENCES

#### Dean:

prof. Ing. Marek Turčáni, PhD., until 14 December 2019 prof. Ing. Róbert Marušák, PhD., since 15 December 2019

#### Vice-Deans until 16 December 2019:

prof. Ing. Róbert Marušák, PhD., First Vice-Dean, Vice-Dean for International Relations Ing. Jan Kašpar, Ph.D., Vice-Dean for Education and Quality Assessment doc. Ing. Tomáš Kušta, Ph.D., Vice-Dean for Research, Development and Doctoral Studies Ing. Radek Rinn, Vice-Dean for Development and Operational Programmes

#### Vice-Deans as of 17 December 2019:

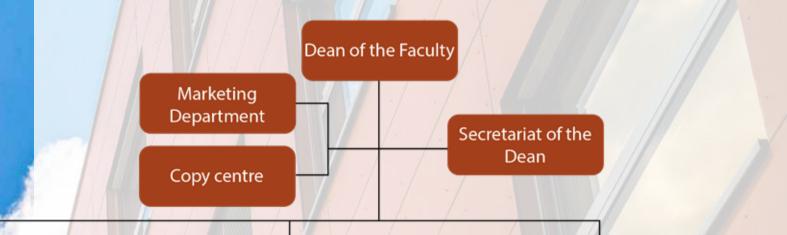
Ing. Radek Rinn, First Vice-Dean, Vice-Dean for Strategy, Development and International Relations Ing. Jan Kašpar, Ph.D., Vice-Dean for Quality of Educational and Creative Activities doc. Ing. Tomáš Kušta, Ph.D., Vice-Dean for Research, Development and Doctoral Studies Ing. et Ing. Markéta Kalábová, Ph.D., Vice-Dean for Education

#### Secretary:

Ing. Bc. Martin Prajer, Ph.D.

#### **O**RGANISATIONAL STRUCTURE OF THE **FFWS**





Vice-Dean until 14 Dec 2019

> Vice-Dean for International Relations

Vice-Dean for Education and Quality Assessment

Vice-Dean for Research, Development and Doctoral Stu<u>dies</u>

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Vice-dean for Development and Operational Programmes Vice-dean since 15 Dec 2019

Vice-Dean for Strategy, Development and International Relations

> Vice-Dean for Education

Vice-Dean for Research, Development and Doctoral Studies

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Vice-Dean for Quality of Educational and Creative Activities Head of dean's Office

> Study Administration Office

Department of Research, Development and Doctoral Studies

> Department of International Relations

Department of Development

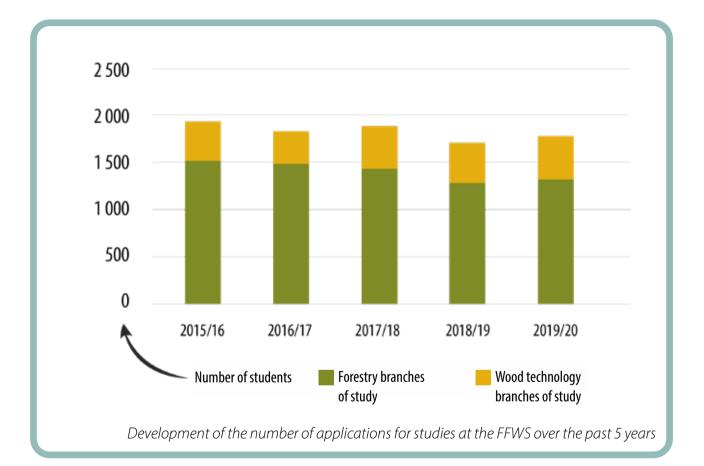
IT and Service Centre

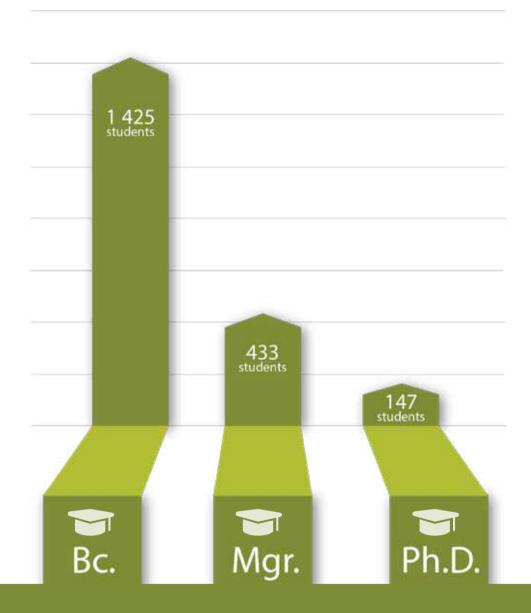
Department of Quality Assurance and Process Evaluation

# **Educational activities**

# **3** Educational activities

In the academic year 2019/20, the FFWS was also offering attractive branches of study in the entire spectrum of forestry-timber sector. The attractiveness of FFWS studies is evidenced by the stable numbers of applicants for studies in forestry and wood technology branches of study or newly accredited study programmes. Overall, **1,784 applications were received**, and **931 students** were subsequently enrolled in 2019.





As at 3110.2019, in total, 2,005 students studied at the FFWS in the Bachelor's (1,425), Master's (433) and doctoral (147) branches of study and study programmes.

259 students successfully completed their studies in 2019, including Bachelor's (166), Master's (93) and doctoral (11) branches of study. Placeability of FFWS graduates on the labour market is nearly 100%.

Development in the number of students in the existing accredited Bachelor's and Master's branches of study at the FFWS over the past 5 years (number of students as at 31 October 2019):

BRANCH OF STUDY	2015	2016	2017	2018	2019
Forestry*	477	565	582	466	225
Economic Administration Services in Forestry*	196	149	219	192	106
Operation and Game Management*	326	341	324	328	316
Wood Technology*	158	119	195	210	96
Business in the Wood Processing and Furniture Industry	117	130	130	141	73
Preservation of Natural Objects and Taxidermy	34	35	33	32	18
Forestry	13	9	14	13	11
Total Bachelor's branches of study	1321	1348	1497	1382	845
Forest Engineering*	355	393	331	288	289
Wood Engineering*	89	93	109	112	60
Forestry, Water and Landscape Management	5	9	14	13	10
Forest Engineering	-	1	5	1	1
Tropical Forestry and Agroforestry	1	4	3	6	8
Total in Master's branches of study	450	500	462	420	368

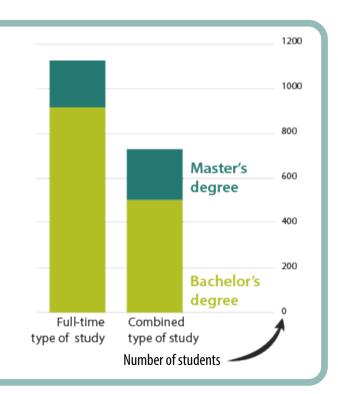
\*full-time and combined type of study

In 2019, students were admitted to newly accredited study programmes designed to respond to social and natural changes over the last decades. The existing offer of study programmes and specialisations at the FFWS reflects not only current scientific knowledge in the Czech Republic and abroad, but also attempts to respond in its form to current requirements of the practice. The theoretical education is supported by a range of field exercises and practical lectures. At the same time, students are required to have work experience in selected forestry and wood technology firms in order to verify their acquired knowledge in real-life situations. New study programmes were accredited in 2019. The number of students in FFWS Bachelor's and Master's study programmes in 2019 already accredited under the new rules (number of students as at 31 October 2019):

STUDY PROGRAMME	2019
Forestry Specialisation: Protection and Cultivation of Ecosystems*	234
Forestry Specialisation: Forestry and Wood Economics*	106
Wood Technology Specialisation: Wood Processing*	146
Wood Technology Specialisation: Business in the Wood Processing and Furniture Industry	42
Preservation of Natural Objects and Taxidermy	15
Systematic Arboristics	20
Forest Ecosystems Protection and Silviculture	0
Total in Bachelor's study programmes	580
Wood Engineering*	47
Wooden Structures and Wood-based Constructions	18
Total in Master's branches of study	65

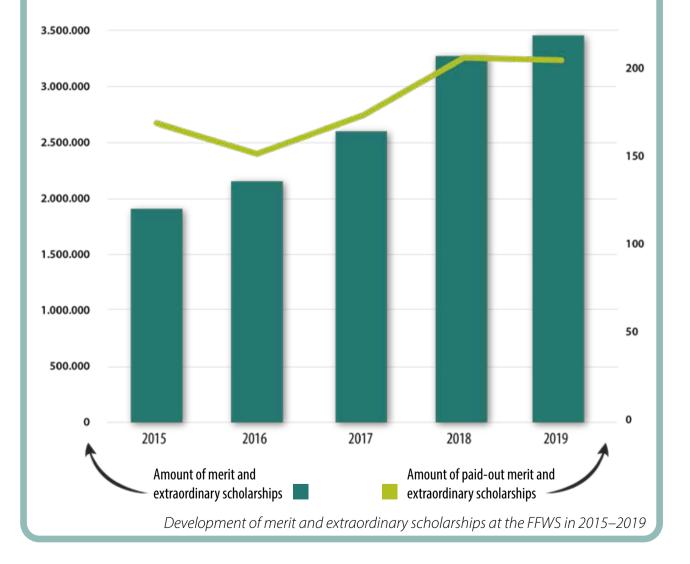
\*full-time and combined type of study

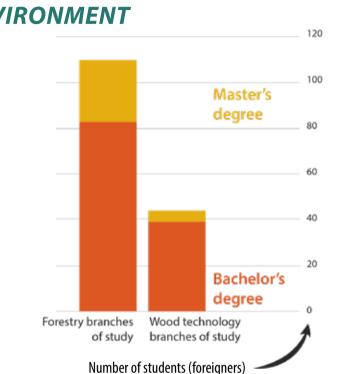
The FFWS has traditionally provided education in two forms. All the accredited programmes can be studied in the full-time form in which most students are enrolled. These students have all student benefits. Another option is the combined form of study for selected study programmes, which brings together elements of full-time and distance learning. The Faculty also organises the University of the Third Age every year where 98 students were enrolled in 2019.



#### **FUNDS** TO SUPPORT TALENTED STUDENTS rise every year in line with a long-term strategy

The FFWS continued to support students through a large-scale scholarship programme in 2019. This type of support includes: freshmen scholarship, merit scholarship, scholarship for young scientists, Dean's Award, housing, sports and social scholarships. In line with the long-term strategy, the level of funding has increased over the last 5 years as has the number of talented students supported through merit scholarship.





#### **MULTICULTURAL ENVIRONMENT**

The FFWS supports a multicultural environment. In total, there were 154 active students in both Czech and English branches of study and study programmes in 2019.

The number of foreigners studying in Czech and English branches of study and study programmes at the FFWS (number of students as at 31 October 2019)



#### **FACULTY FACILITIES**

In addition to a good source of information and a friendly team, the Faculty has a great advantage of its facilities which have been built for the students. In 2019, the High-tech Technological-educational Pavilion, which has state-of-the-art equipment, was opened. Students can use laboratories with cutting-edge microscopes, a CT scanner, a shooting simulator, or the latest drones.

Master's study programmes



Landscape cultivation and tree tending as an integral component of human existence and vital ecosystem which considerably absorbs CO2 from atmosphere.

#### **FORESTRY (CZ/EN)**

Protection and Cultivation of Forest Ecosystems

 Economics and Forest Management

> SYSTEMIC ARBORISTICS (CZ)

OPERATION AND GAME MANAGEMENT (CZ/EN)

PRESERVATION OF NATURAL OBJECTS AND TAXIDERMY (CZ) FOREST ENGINEERING (CZ/EN)

FORESTRY, WATER AND LANDSCAPE MANAGEMENT (EN)

TROPICAL FORESTRY AND AGROFORESTRY (EN)



Processing of wood as essential renewable energy and building raw material.

#### WOOD TECHNOLOGY (CZ/EN)

- Wood Processing
- Business in the Wood Processing and Furniture Industry

WOOD ENGINEERING (CZ/EN)



Long-term depositing of CO2 in wooden constructions and wooden products enhancing the quality of human life. WOODEN STRUCTURES AND WOOD-BASED CONSTRUCTIONS (CZ)

**AND MACHINERY IN FOREST MANAGEMENT** (CZ/EN)

**WOOD PROCESSING** 

**ECONOMICS AND MANAGEMENT OF AN ENTERPRISE (CZ/EN)** 

GLOBAL

**APPLIED GEOINFORMATICS AND REMOTE SENSING IN FORESTRY (CZ/EN)** 

**FOREST MANAGEMENT PLANNING (CZ/EN)** 

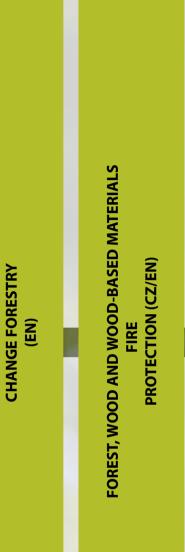
**FOREST BIOLOGY (CZ/EN)** 

**FOREST PROTECTION** 

**AND GAME MANAGEMENT** (CZ/EN)

**SILVICULTURE** 





Quality of educational and creative activities

# **4** Quality of educational and creative activities

As part of educational and creative activities quality assurance in 2019, attention was also paid to the preparation and acquisition of new accreditations of FFWS study programmes so that the Faculty could continue to provide educational activities.

In 2019, the Forestry, Water and Landscape Management Master's study programme and the Forest Management, Forest Biology, Silviculture, and Forest Protection and Game Management doctoral study programmes, including their English equivalents, were added to the study programmes accredited in 2018. The Faculty thus successfully managed to render educational activities within the framework of the acquired institutional accreditation of the CZU in Prague.

An important part of education quality assurance that continued in 2019 was further expansion of the range of lecture notes, university textbooks and other study materials. In 2019, the Faculty allocated more than CZK 516,000 for its own publishing activities, and more than CZK 175,000 for the purchase of university textbooks from external publishers.

#### MEASURES TO ENHANCE QUALITY OF SCIENTIFIC AND RESEARCH ACTIVITIES

One of the measures to enhance the quality of scientific and research activities is the reduction of academic inbreeding. It rests with filling of academic positions at universities with their own graduates, thus reducing the possibility of acquiring new ideas from external sources. International studies show that this proportion is generally high in the Czech Republic compared to, for example, universities in the USA. At the University of Princeton, the share of academic inbreeding is only 15% of graduates among researchers, more than half of the staff come from other universities in the country, and almost a third of university scientists come from abroad.

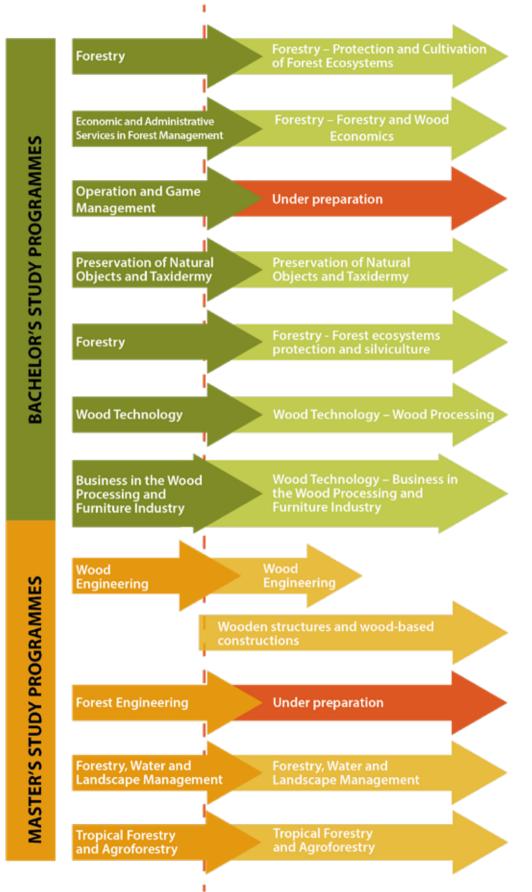
In the long run, the FFWS has been increasing the proportion of staff members recruited from other universities and from abroad. Only 38% of FFWS staff members commenced their career at the FFWS in 2019. The foreign staff members amounted to 30%, which is significantly more than the overall average of 9% in the Czech Republic (including the colleagues from the Slovak Republic).

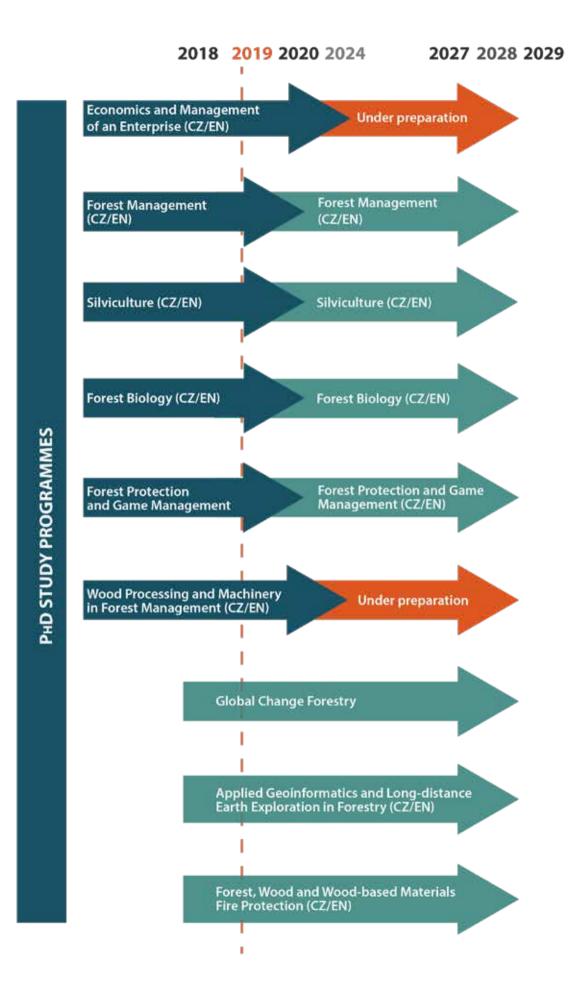
The situation is slightly worse in terms of women's representation in scientific and educational positions, which equalled 25% in 2019. However, this small proportion is largely influenced by the nature of the fields the FFWS deals with.



#### **2018 2019 2022** 2023

2028 2029

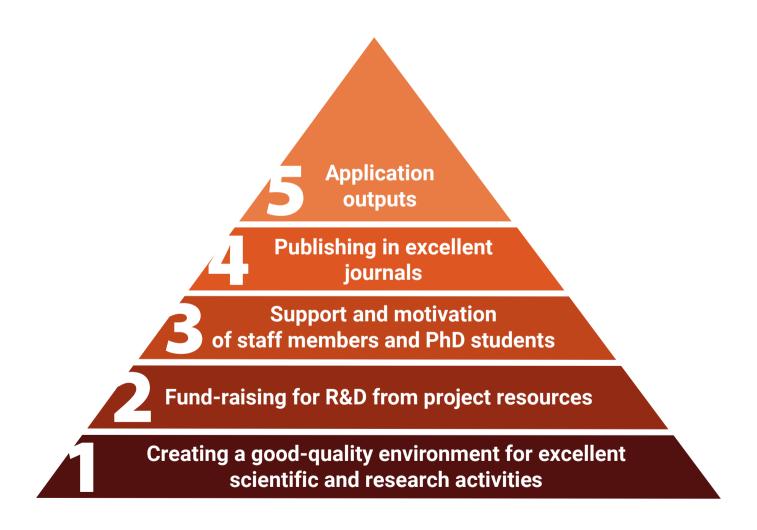




## **Science and research**

# **5** Science and research

In the field of science and research, activities were strategically directed primarily towards creating a good-quality environment for scientific and research activities, ensuring support and motivation for staff and PhD students, and raising funds from project resources. This resulted in considerable publishing activities of the entire Faculty, focusing on high-quality outputs often published in industry-leading journals, and creating application outputs that have the potential to be applied in practice.



**CREATING A GOOD-QUALITY ENVIRONMENT** FOR EXCELLENT SCIENTIFIC AND RESEARCH ACTIVITIES

Funds acquired for science and research – more than CZK 271 million CZK

Purchase of **TOP 277** instruments and pieces of equipment



#### **RAISING OF FUNDS** FROM PROJECT RESOURCES FOR SCIENCE AND RESEARCH

- Number of national projects: 36
- Number of international projects: 6
- Funds from research projects: 190 million CZK
- Funds from development projects: 70 million CZK

Funds from technology transfer projects: 10 million CZK

#### **SUPPORT AND MOTIVATION OF STAFF MEMBERS AND PHD STUDENTS**

#### **C**ALLS INVITED FOR:

- Support for publishing outputs in selected top journals on the Web of Science (WoS)
- Support for excellent teams

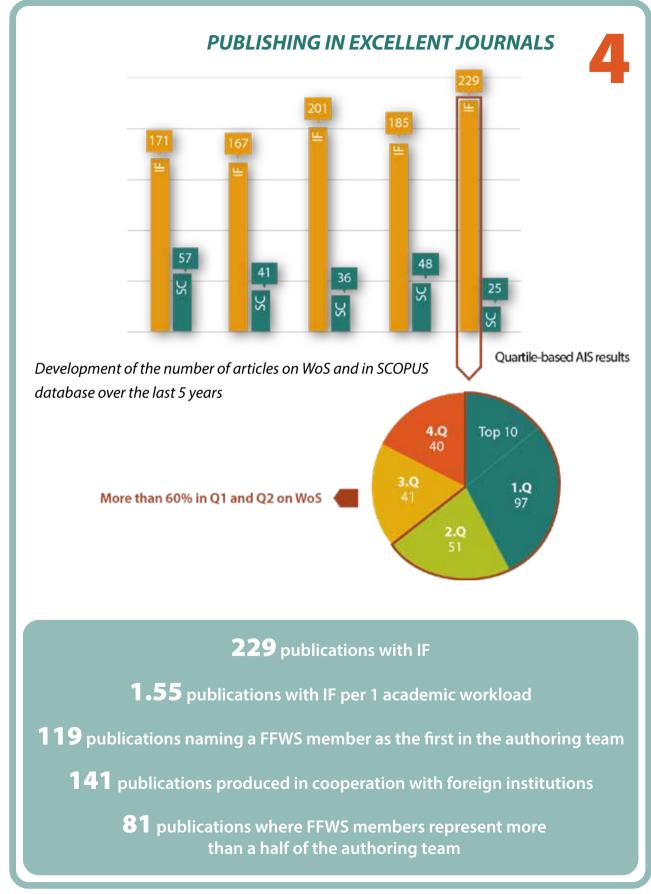
#### **A**wards announced for:

- Excellent publications received by scientific journals
- High quality outputs for practice and society
- Preparations and approval of international projects at FFWS
- Promotion of scientific outputs in the spheres of practice and society

#### **M**OTIVATING THE DOCTORAL STUDENTS AND INCREASING THE DOCTORAL STUDIES QUALITY THROUGH:

- Paying out of scholarships to the doctoral students totalling CZK 23.8 million
- Paying out extra scholarships
- Supporting of internship and conference trips abroad
- Appointing of new lecturers and consultants
- Holding of foreign experts' lectures
- Keeping of records of PhD students' activities
- Defending the first-year students' activities at the end of the academic year
- Review of publication activities by means of publishing plans
- Annual attestation of students
- Support from the Internal Grant Agency projects:

# IGACIGA20192019Drawing of CZK 7 960 950Drawing of CZK 519 30938 projects supported4 projects supported54 PhD students17 PhD students



### ARTICLES IN THE NATURE INDEX:

SCIENCE Global distribution of earthworm diversity Radim Matula

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA Tree diversity regulates forest pest invasion Andrew Liebhold

NATURE COMMUNICATIONS A meta-analysis of global fungal distribution reveals climate-driven patterns Martin Kopecký

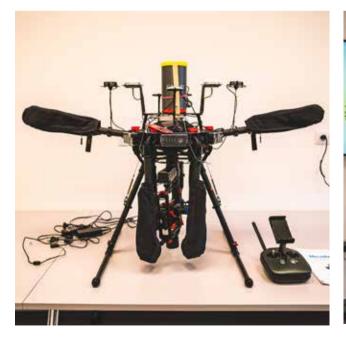
#### NATURE

Climatic controls of decomposition drive the global biogeography of forest-tree symbioses Miroslav Svoboda

PROCEEDINGS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES Population spatial synchrony enhanced by periodicity and low detuning with environmental forcing Andrew Liebhold

#### CURRENT BIOLOGY

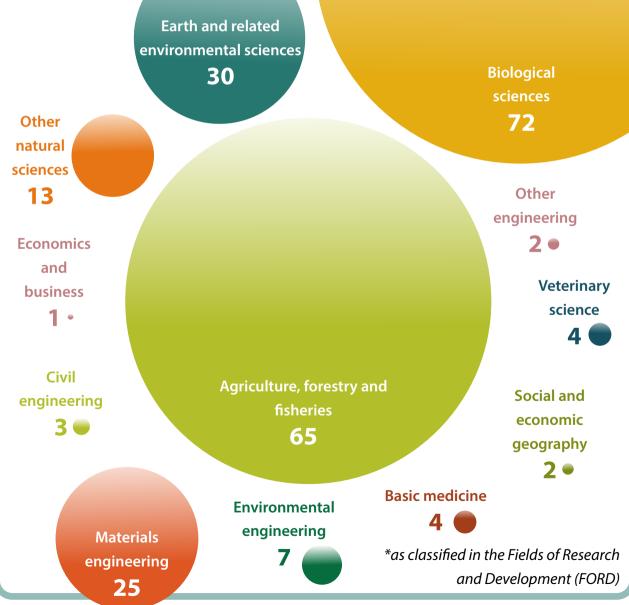
Evolution of Termite Symbiosis Informed by Transcriptome-Based Phylogenies Aleš Buček, Jan Šobotník, Shulin He, Thomas Bourguignon





### DEVELOPMENT OF INTERNATIONAL COOPERATION IN R & D

In total, articles by FFWS authors were published already in 134 various journals with IF in 2019. The FFWS also attributes great importance to an increase in the share and quality of articles published under the "Forestry" and "Material Science, Paper & Wood" categories on WoS – as these two represent pivotal areas of the research & science profile of the Faculty. In 2019, the FFWS published 65 articles in the Forestry category and 15 articles in the Materials Science, Paper and Wood category. Out of the total number of outputs on WoS with authors from all the relevant institutions in the Czech Republic the Czech University of Life Sciences in Prague placed first in the Forestry category as well as in the Materials Science, Paper and Wood category (with 149 and 39 publications in total, respectively).



### DOCTORAL STUDIES

147	total student count	41	students enrolled
18	students with a combined form of study	46	students of foreign nationality
129	students with a full-time form of study	11	successfully defended theses

# Newly acquired course accreditations:

- Forest Management
- Forest Protection and Game Management
- Forest Biology
- Silviculture

# New accreditation preparations have begun in:

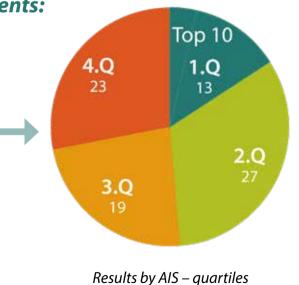
- Economics and Management of an Enterprise
- Wood Processing and Machinery in Forest Management

### First students enrolled:

- Applied Geoinformatics and Long--distance Earth Exploration in Forestry
- Forest, Wood and Wood-based Materials Fire Protection
- Global Change Forestry

#### Publishing by the doctoral students:

- **82** publications with IF (71 doctoral students in total)
- **48** publications with the doctoral student's name at the 1<sup>st</sup> **place** in the authoring teams of doctoral students
- **27** publications by doctoral students created in cooperation with foreign institutions



### **APPLICATION OUTPUTS**

# Total – 64 Application outputs:

- expert monographs
- 2 chapters in a book
- summary research reports
- audio-visual outputs

# patent verified technology results with legal protection (utility model, industrial design) functional samples certified methodologies and maps with specialised content other outputs

### **Borderless Forests film:**



BORDERLESS FORESTS / LESY BEZ HRANIC

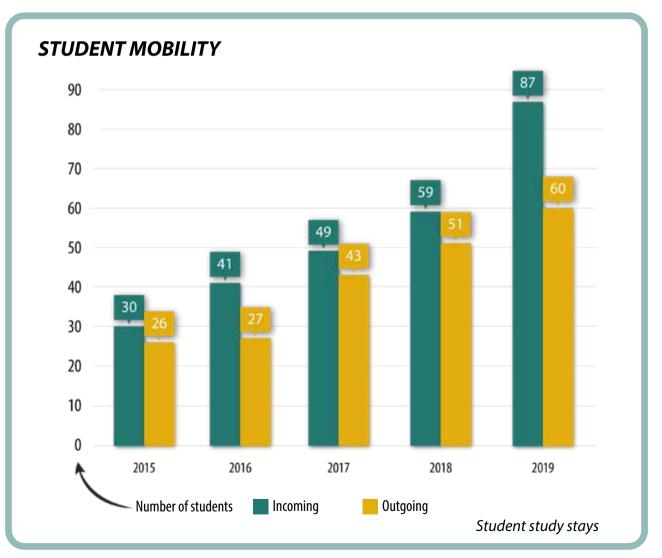
This documentary film was produced in 2019 within the SUSTREE project and it has received several awards at various festivals, including the university festival Life Science Film 2019. It is available for watching for free at www.youtube.com/FLDvPraze.

# Internationalisation

# 6 Internationalisation

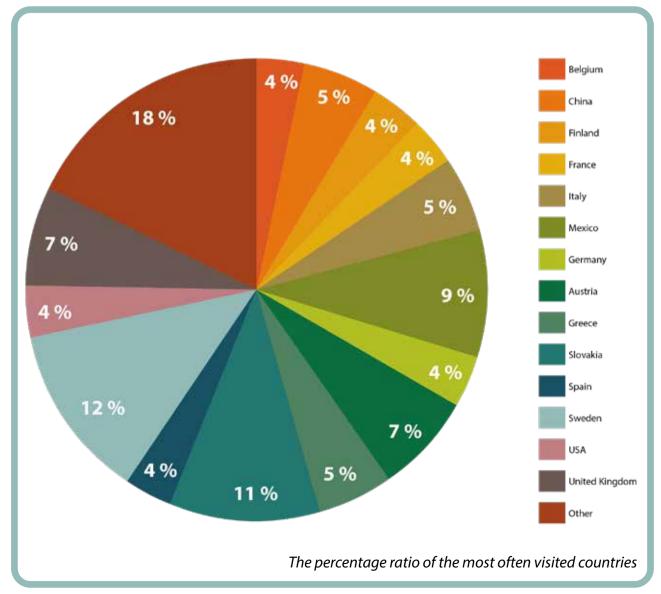
In 2019, the Faculty continued in deepening of international cooperation leading to an increase in the quality of educational, scientific and research activities. The area of internationalisation ranks among the top priorities across the whole spectrum of FFWS activities. All of the activities concentrated on establishing and developing of contacts with research and educational institutions, working in international organisations, and student and academic staff members mobility. Students and teachers have 72 universities in 24 countries to choose from.

A growing trend has been marked in the last five years in the area of student mobility. The year--on-year number of incoming as well as outgoing students has increased.



There has been an increase in interest in studies at the FFWS within the student mobility programmes. They were namely students in several programmes and activities. Majority of those were the students within the Erasmus+ programme, or Erasmus training experience internships. Several students within the intergovernmental programme CEEPUS scholarship were part of the mobility projects. Owing to the support of long-term internships, the numbers of incoming as well as outgoing students taking part in such internships are growing. The average number of months spent on the stays of incoming and also outgoing students has also been rising.

In 2019, the students were most often selecting Sweden and Slovakia for their internships. The said two countries were followed by a varied array of countries. In listing but a few of exotic destinations, Madagascar, Peru, or Indonesia may be mentioned.

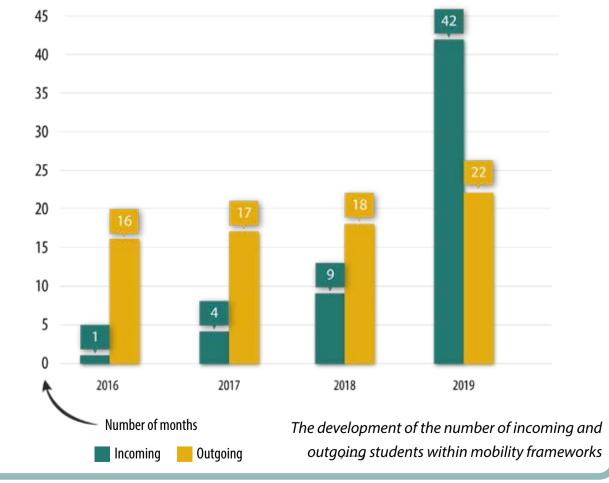


#### SUMMER SCHOOLS

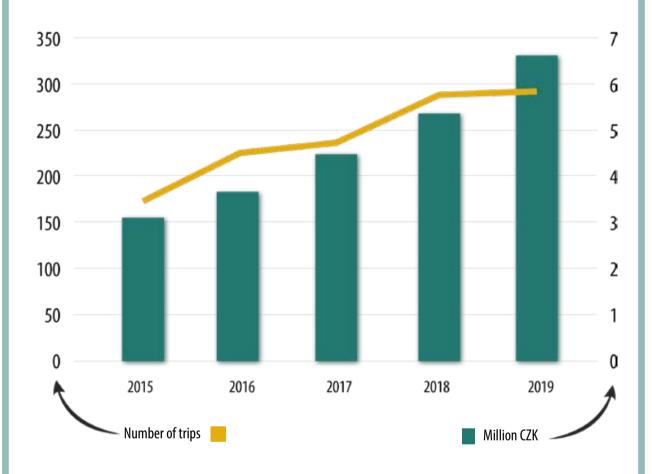
As usual, the summer schools contribute towards the internationalisation of studies at the FFWS. In 2019, the Faculty organised the summer school featuring the bioeconomy topics. In total, **18 students** not only from EU but also from African, Asian, and South American countries took part in this course. Another summer school programme was organised for **70 students from Poland**. Two short-term intensive courses and programmes were held for the FFWS students abroad. The first of those summer schools was held in Poland, the other in Germany. Overall, **85 FFWS students** 

#### STAFF MOBILITY

Traditionally, also in 2019 the trend continued in increasing of numbers of outgoing pedagogues taking part in stays abroad with the minimum length of 5–7 day. At the same time, there was a considerable increase in the number of incoming pedagogues invited to lecture at the FFWS.



In 2019, growth was marked in the number of other foreign trips under the framework of scientific and research activities. With the number of trips abroad exceeding 290, the expenses obviously grew proportionally, totalling over CZK 6.6 million.



The list of the most frequented countries on foreign business trips in 2019 did not differ much from the long-term average at the FFWS. Slovakia (16% of the trips), Austria (11%), and Germany (6%) rank among the most frequented countries. In 2019, a significant part belonged to Brazil especially thanks to the IUFRO World Congress where the FFWS was well represented by its members.

**Development of the Faculty** 

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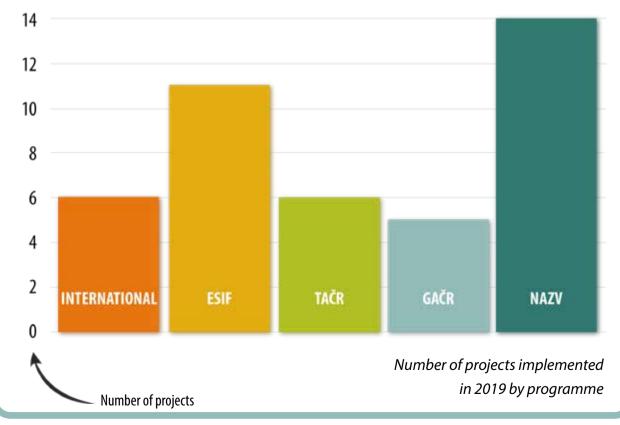
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# **7** Development of the Faculty

In 2019, the Faculty continued in implementing the projects funded from European as well as national resources and focused further on preparation and submitting of new project applications into international competitions.

# **IMPLEMENTED PROJECTS**

In 2019, the FFWS implemented in total **42 projects** with an annual budget totalling approx. **CZK 270 million** from which sum the ESIF projects represented the greatest share exceeding CZK 234 million. From the said sum, approx. CZK 70 million was used directly in the infrastructure development and building, especially the parts linked with the new pavilion structure and furnishing, CZK 10 million then for the transfer of technologies from the FFWS to the commercial sphere, whereas the remaining funds have been used namely for development and support of excellent science (e.g. projects EXTEMIT-K and EVA 4.0). As for the number of implemented projects, the highest number of those – 14 – is represented by the projects funded by the National Agency for Agricultural Research (NAZV).



Budgets of	implemente	ed projects	by project:		
Implemented projects	INTERNATIONAL	ESIF	TAČR	GAČR	NAZV
Budget (CZK)	4,087,520.00	234,768,701.00	3,222,800.00	4,134,400.27	25,949,040.00

The Faculty reached the greatest tangible achievement in the area of development at the beginning of the new academic year when it opened a brand **new building of the High-**-**tech technological-educational pavilion** co-financed from the Operational programme Research, Development and Education (OP RDE). Pavilion provides a range of laboratories equipped with the state-of-the-art technologies. The building boasts two lecturing halls with 3D projection equipment, 3D modelling laboratory, ergonomics studies and ballistics laboratory, forest and timber fire protection laboratories, or, among others, also electron microscopy and CT scanning laboratory. Moreover, the building also features built-in sustainable technologies, including green roof and energy recuperation system.



### **PROJECT APPLICATIONS IN PREPARATION** TO BE SUBMITTED INTO INTERNATIONAL COMPETITIONS

In 2019, altogether **7** projects were prepared and submitted to prestigious international competitions:

- 5 projects were submitted to the H2020 programme
- **1** to the Interreg CENTRAL EUROPE programme
- 1 to Interreg Danube

It was clear already before the end of the year that some of the submitted projects had qualified into the second round and the project **TEACHER-CE** (Interreg CENTRAL EUROPE) focusing on prevention of water-related risks and preparation of land-use measures to retain water was approved.

Regarding the future development, the management of the FFWS sees the importance namely in the deeper involvement of research teams in international consortia and projects. For that very reason, the FFWS, among other things, also joined the preparations of the inter-faculty project, the Office for the Support of International Projects, focused on Life Sciences within the European Research Area III (MEYS INTER-INFORM programme) which has successfully been approved and will thus enable the Faculty to use the funding for the preparation of international project applications.

Financial and personnel management



# 8 Financial and personnel management at the FFWS

# FINANCIAL MANAGEMENT

In total, the FFWS obtained the sum of CZK 158,720,224 into its budget for 2019 within the frameworks of subsidies per student, the institutional support for the Long-term Conceptual Development (DKR), and specific research.

### THE FACULTY AS A WHOLE ADHERED TO THE BUDGET AS PLANNED

The Faculty managed to have a budget surplus in its main operation – i.e. the operationaL funds – totalling CZK 26,448,433. 30. The said sum was transferred to the Operational fund as at 31 December 2019.

	Scholarship Fund	Reward Fund	FRIM	Operational Fund	Operational Fund after taxation	Donations from abroad
Balance as at 1 January 2019	3,914,652	160,480	8,346,651	49,407,986	1,822,550	2,650,432
Formation of the Fund	3,997,425	1,000,000	5,000,000	26,448,433	852,413	0
Fund withdrawals	3,914,007	875,276	11,599,623	7,606,045	2,025,821	0
Balance as at 31 December 2019	3,998,070	285,204	1,747,027	68,250,374	649,141	2,650,432

The total financial reserve of the Faculty

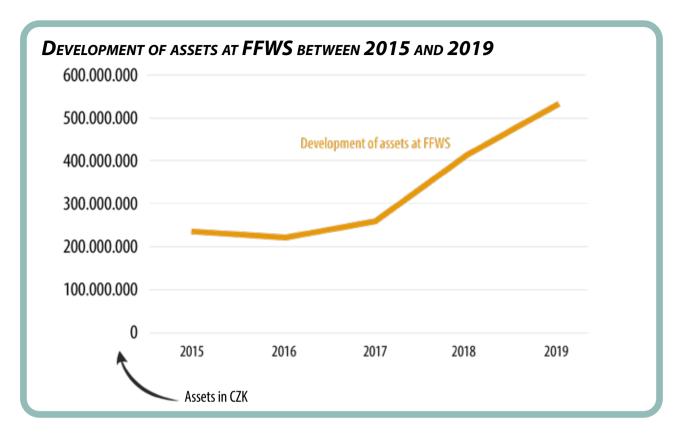
created by main business activity as at 31 December 2019 amounted to

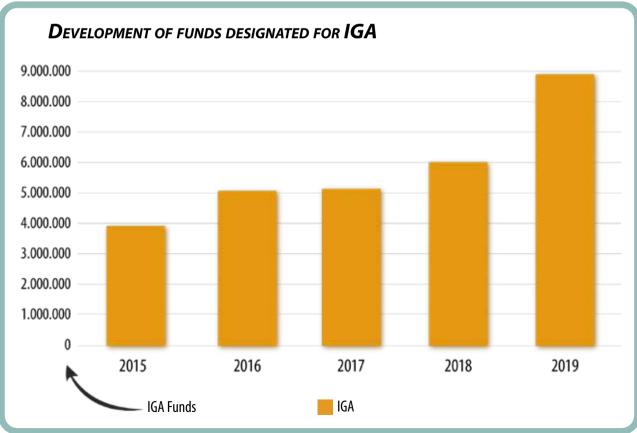
### CZK 73,296,975

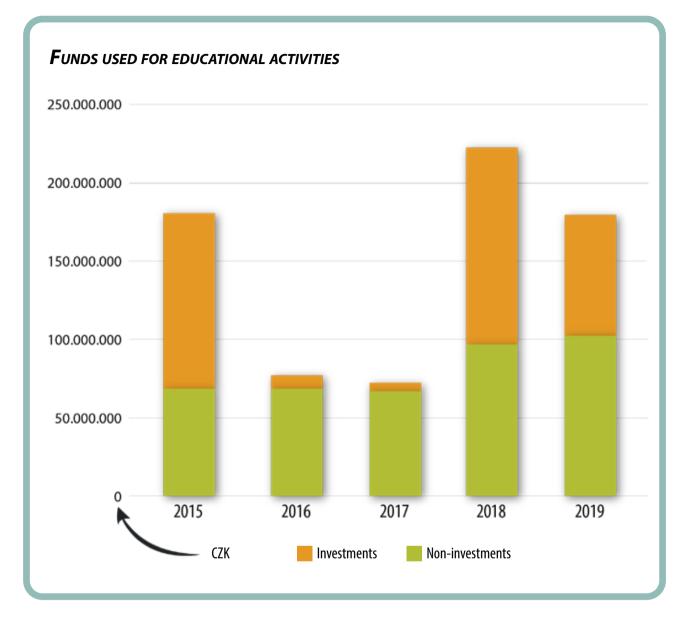
(FRIM, Operational Fund,

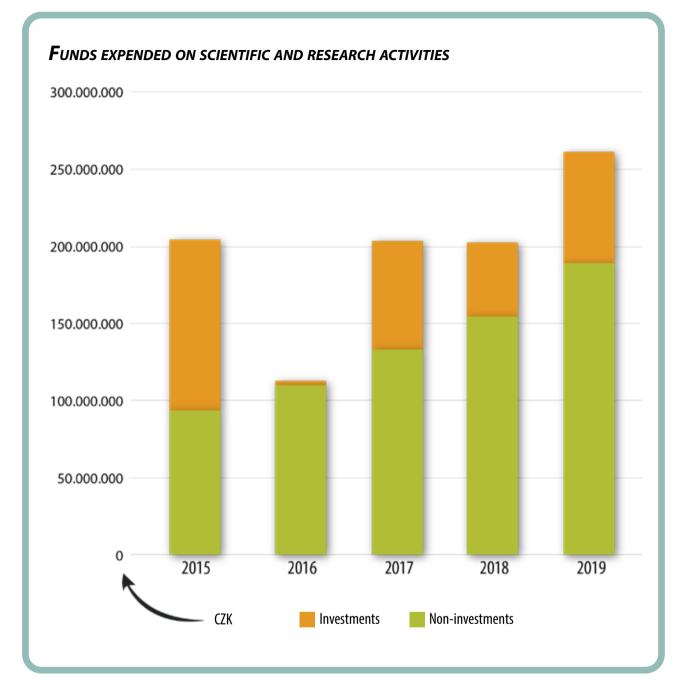
Operational Fund after taxation, balance in foreign donation).

In 2019, also the funds from investment institutional support in the total amount of CZK 5,164,135.54 were used in acquiring the tangible fixed assets and technical improvement of tangible assets.









Other sources of the FFWS activities funding were obtained through the means under the GA CR, TA CR, NAZV, and OP RDE projects, within the framework of contractual research and Faculty's own operations.

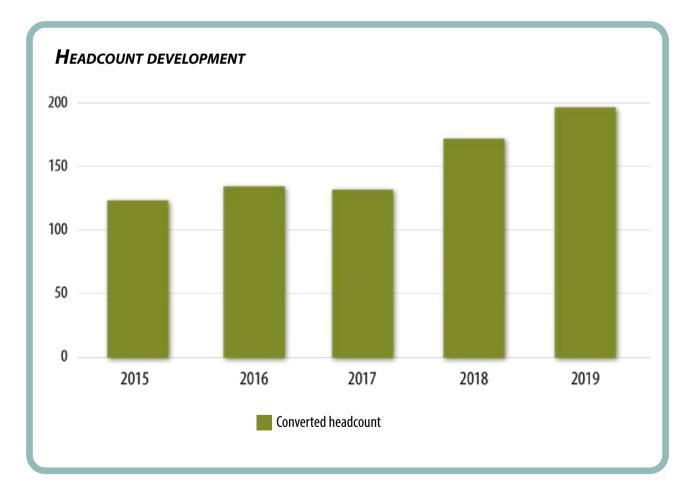
In 2019, the FFWS was administering non-investment funds totalling CZK 344,399,339.85 and realised investments worth in total CZK 151,538,799. 12.

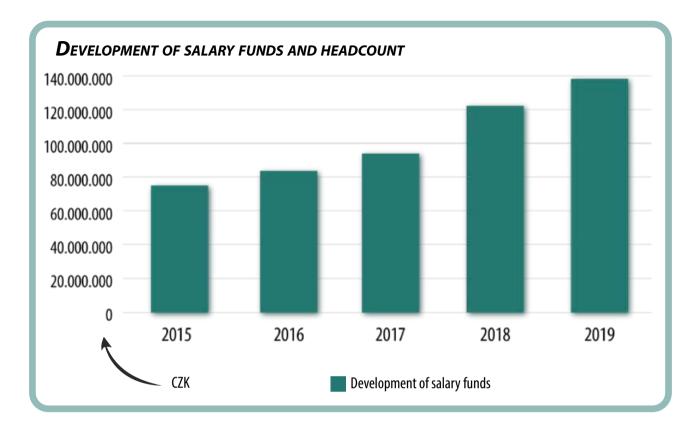
### FFWS ORGANISATIONAL STRUCTURE

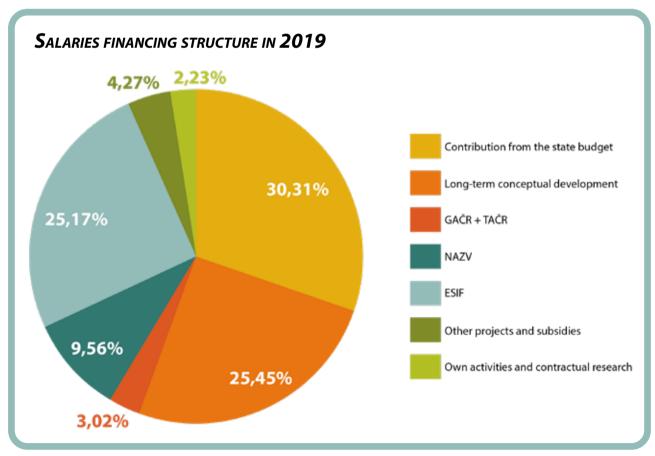
The changes in academic posts, especially the drops in numbers of calculated work loads of professors and associate professors, were caused by their participation in operational programmes, whereas on the other hand, the rise in numbers of researchers and scientists stems from accepting new as well as some current staff members into positions in operational programmes.

The structure of the Faculty in terms of qualifications, expressed by the ratio of the number of professors to the number of associate professors and the number of senior assistants to the number of assistants in 2019, equalled 19%: 29%: 52%. The goal set in the previous years – that is reaching the 45% share of professors and associate professors in the overall academic headcount – is being consistently achieved.

The calculated proportion of workload of academic staff of other nationalities than Czech comes to 22.7% out of the overall academic staff work load.







Marketing activities



### MARKETING DEPARTMENT AS PART OF THE FACULTY STRATEGY

One of the priorities at the Faculty is its promotion and public advertising. Every year, we organise and co-organise a large number of promotional events at which we advertise and promote studies at our Faculty, science, research, and other activities the Faculty takes part in. We managed to hold by 15% more events in 2019, most of which were addressing the general public and specialists, some though only for our staff members and doctoral students.

### **THE FACULTY CELEBRATED ITS ONE HUNDREDTH ANNIVERSARY BY** HOLDING AN INTERNATIONAL CONFERENCE

#### **S**CIENTISTS FROM THE WHOLE WORLD MET AT THIS CONFERENCE

In 2019, the Faculty celebrated one hundredth anniversary since establishing the forestry university type of educational institution in Prague, by holding a large international conference. On 16 March 1919, the first lectures in forestry were ceremonially open at the Czech Technical University in Prague.

The conference titled "The Future of Forestry and Wood Sciences in the Changing World" was open exactly one hundred years later, on Friday, March 15. How to take part in reduction of the climatic change impacts, interaction between forestry and agriculture, supplying the raw materials to biologically oriented society, etc. are some of the topics addressed at the conference. The key speakers were Andrew Liebhold, a prominent scientist from the United States, whose research is focused on the ecology of invasive species in connection with the global change, and Bill Hansson, Director of the Department of Evolutionary Neuroethology at the Max Planck Institute for Chemical Ecology and Vice-President of the Max Planck Society.

From the Czech scientific community, Hynek Burda, world renowned specialist in animal ethology, namely in relation to sensory perception of geomagnetic and electromagnetic fields, and Petr Horáček who studies the possibilities and perspectives of replacing non-renewable natural resources by wood as unique renewable source, contributed to the conference.

# **OTHER EVENTS AND ACTIVITIES**

Forest pedagogy events organised by the Marketing Department go without saying. Thanks to those we are able to familiarise the general public with the fields of forestry and wood sciences. Through the international contest Young People in European Forests (YPEF), the Faculty finds opportunities to discover new enthusiasts for biology orientated sciences among the elementary and secondary schoolers and students. Over 300 of those arrived at the Faculty in the spring of 2019. Student associations based at the Faculty are also active in making the students feeling home whilst on the Faculty premises. Besides the regular activities, the Faculty supports societies and associations working with mentally and physically challenged people.





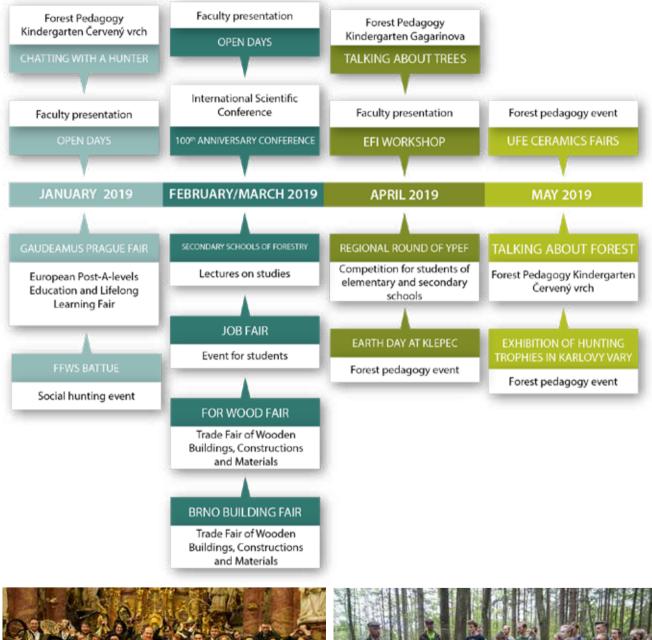






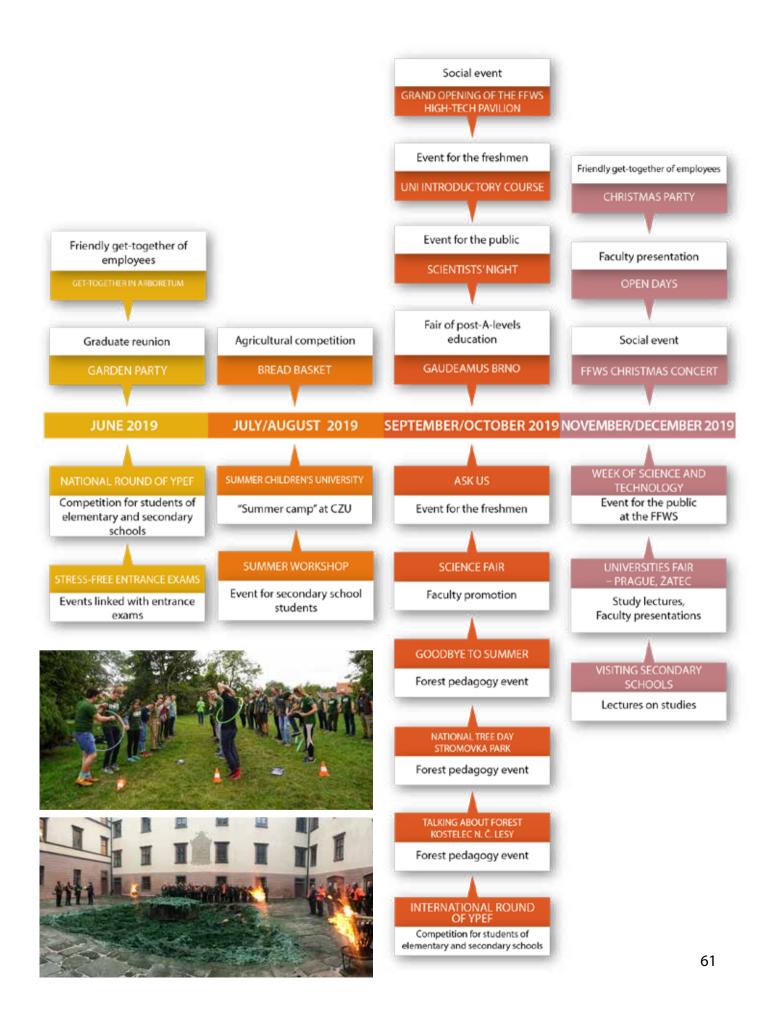


# **EVENTS DIARY**









# **10** Annexes

#### Tab. I. (Source: MEYS, Tab. 2.1): Accredited study programmes (number)

			Bakalářské studium		erské um	Navaz magisto studi	erské um	Doktorsk	CELKEM	
		Р	K/D	Р	K/D	Р	K/D	Р	K/D	
Fakulta lesnická a dřevařská										
Široce vymezené obory ISCED-F	kód									
Programy a kvalifikace – všeobecné vzdělání	00									0
Vzdělávání a výchova	01									0
Umění a humanitní vědy	02									0
Společenské vědy, žurnalistika a informační vědy	03									0
Obchod, administrativa a právo	04							1	1	2
Přírodní vědy, matematika a statistika	05									0
Informační a komunikační technologie	06									0
Technika, výroba a stavebnictví	07	1	1			2	1	1	1	7
Zemědělství, lesnictví, rybářství a veterinářství	08	1	1			1	1	2	2	8
Zdravotní a sociální péče, péče o příznivé životní podmínky	09									0
Služby	10									0
Fakulta celkem	Х	2	2	0	0	3	2	4	4	17

P = prezenční

K/D = kombinované / distanční

#### Tab. II. (Source: MEYS, Tab. 2.2): Study programmes in foreign language (number)

		Bakalářské studium		Magisterské studium		Navazující magisterské studium		Doktorské studium		CELKEM
		Р	K/D	Р	K/D	Р	K/D	Р	K/D	
Fakulta lesnická a dřevařská										
Široce vymezené obory ISCED-F	kód									
Programy a kvalifikace – všeobecné vzdělání	00									0
Vzdělávání a výchova	01									0
Umění a humanitní vědy	02									0
Společenské vědy, žurnalistika a informační vědy	03									0
Obchod, administrativa a právo	04							1	1	2
Přírodní vědy, matematika a statistika	05									0
Informační a komunikační technologie	06									0
Technika, výroba a stavebnictví	07	1				1				2
Zemědělství, lesnictví, rybářství a veterinářství	08	1				1		4	4	10
Zdravotní a sociální péče, péče o příznivé životní podmínky	09									0
Služby	10									0
Fakulta celkem	Х	2	0	0	0	2	0	5	5	14

P = prezenční

K/D = kombinované / distanční

# **Tab. III. (Source: MEYS, Tab. 2.6):** Lifelong learning courses in university environment (number of courses)

		Kurzy ori	entované n povolání od 16 do	a výkon více než		urzy zájmov od 16 do			
		do 15 hod			do 15 hod		100 hod	U3V	CELKEM
Široce vymezené obory ISCED-F	kód								
Programy a kvalifikace – všeobecné vzdělání	00								0
Vzdělávání a výchova	01								0
Umění a humanitní vědy	02								0
Společenské vědy, žurnalistika a informační vědy	03								0
Obchod, administrativa a právo	04								0
Přírodní vědy, matematika a statistika	05								0
Informační a komunikační technologie	06								0
Technika, výroba a stavebnictví	07								0
Zemědělství, lesnictví, rybářství a veterinářství	08							1	1
Zdravotní a sociální péče, péče o příznivé životní podmínky	09								0
Služby	10								0
CELEKM	Х	0	0	0	0	0	0	1	1

### Tab. IV. (Source: MEYS, Tab. 2.7): Lifelong learning courses in university environment (number

#### of participants)

		Kurzy o	rientované povolání	-	Kurzy zájmové					Z toho počet účastníků, jež byli přijímaní do akreditovaných studijních
		do 15	od 16 do	více než	do 15	od 16 do	více než			programů podle § 60 zákona o
		hod	100 hod	100 hod	hod	100 hod	100 hod	U3V	CELKEM*	vysokých školách
Široce vymezené obory ISCED-F	kód									
Programy a kvalifikace – všeobecné vzdělání	00								0	
Vzdělávání a výchova	01								0	
Umění a humanitní vědy	02								0	
Společenské vědy, žurnalistika a informační vědy	03								0	
Obchod, administrativa a právo	04								0	
Přírodní vědy, matematika a statistika	05								0	
Informační a komunikační technologie	06								0	
Technika, výroba a stavebnictví	07								0	
Zemědělství, lesnictví, rybářství a veterinářství	08							98	98	
Zdravotní a sociální péče, péče o příznivé životní podmínky	09								0	
Služby	10								0	
CELKEM*	Х	0	0	0	0	0	0	98	98	0

Pozn.: \* = Jelikož jsou vykazovány fyzické osoby, které se mohou účastnit i více kurzů není údaj celkem součtem předcházejících řádků či sloupců, ale odráží stav reálného celkového počtu účastníků kurzů.

#### Tab. V. (Source: MEYS, Tab. 3.1): Students in accredited study programmes (number of courses)

		Bakalářské studium		Magist studi		Navaz magist studi	erské	Doktorsk	CELKEM	
		Р	K/D	P	K/D	P	K/D	Р	K/D	
Fakulta lesnická a dřevařská										
Široce vymezené obory ISCED-F	kód									
Programy a kvalifikace – všeobecné vzdělání	00									0
Vzdělávání a výchova	01									0
Umění a humanitní vědy	02									0
Společenské vědy, žurnalistika a informační vědy	03									0
Obchod, administrativa a právo	04	0	0	0	0	0	0	14	7	21
Přírodní vědy, matematika a statistika	05									0
Informační a komunikační technologie	06									0
Technika, výroba a stavebnictví	07	280	56	0	0	65	45	0	0	446
Zemědělství, lesnictví, rybářství a veterinářství	08	614	398	0	0	140	151	117	11	1431
Zdravotní a sociální péče, péče o příznivé životní podmínky	09									0
Služby	10									0
Fakulta celkem	Х	894	454	0	0	205	196	131	18	1898

P = prezenční

K/D = kombinované / distanční

#### Tab. VI. (Source: MEYS, Tab. 3.2): Students – private payers\*\* (number of courses)

				Magist	orská	Navazující magisterské				
				-		-			<i>.</i>	05.05.0
		Bakalářské				studium			é studium	CELKEM
		Р	K/D	Р	K/D	Р	K/D	Р	K/D	
Fakulta lesnická a dřevařská										
Široce vymezené obory ISCED-F	kód									
Programy a kvalifikace – všeobecné vzdělání	00									0
Vzdělávání a výchova	01									0
Umění a humanitní vědy	02									0
Společenské vědy, žurnalistika a informační vědy	03									0
Obchod, administrativa a právo	04							1		1
Přírodní vědy, matematika a statistika	05									0
Informační a komunikační technologie	06									0
Technika, výroba a stavebnictví	07									0
Zemědělství, lesnictví, rybářství a veterinářství	08									0
Zdravotní a sociální péče, péče o příznivé životní podmínky	09									0
Služby	10									0
Fakulta celkem	Х	0	0	0	0	0	0	1	0	1

Pozn.: \*\*= Samoplátcem se rozumí osoba (student), která si své studium v cizojazyčném studijním hradí v plné výši sama a vysoká škola ji nevykazuje v počtech studentů P = prezenční

K/D = kombinované / distanční

#### Tab. VII. (Source: MEYS, Tab. 3.3): Fail rate\* of freshers\*\* (in %)

	Baka	Bakalářské studium			jisterské stud	lium	Navazujíci	í magistersk	é studium	Dok			
	Р	K/D	CELKEM	Р	K/D	CELKEM	Р	K/D	CELKEM	Р	K/D	CELKEM	CELKEM
Fakulta lesnická a dřevařská	58,9%	54,5%	57,4%				18,3%	32,0%	25,4%	11,9%	0,0%	10,9%	48,6%

Pozn.: \* = Studijní neúspěšností se rozumí podíl počtu studií započatých v kalendářním roce n a součtu neúspěšných studií této kohorty v kalendářních letech n a n+1. Viz Metodika.

Pozn.: \*\* = Jedná se o všechny studenty, kteří se zapsali ke studiu na dané vysoké škole v kalendářním roce n, ať jde o poprvé zapsané na vysokou školu či nikoliv. P = prezenční

K/D = kombinované / distanční

Hodnota CELKEM není součet ani průměr předešlých hodnot (např. pro P a K/D v určitém typu studia). Pro každé pole v tabulce je třeba provést samostatný výpočet.

#### Příklad:

V roce 2018 (v období od 1.1. do 31.12.) bylo na fakultu zapsáno 500 prezenčních bakalářských studií. V témže a následujícím roce jich bylo z této kohorty neúspěšně ukončeno 180. Studijní neúspěšnost této kohorty v 1. ročníku je 180/500=0,36, tedy 36 %.

#### Tab. VIII. (Source: MEYS, Tab. 4.1): Graduates of accredited study programmes (number of

#### finished programmes)

		Bakalářské studium		Magisterské studium		Navazující magisterské studium		Doktorské studium		CELKEM
		Р	K/D	Ρ	K/D	Р	K/D	Р	K/D	
Fakulta lesnická a dřevařská										
Široce vymezené obory ISCED-F	kód									
Programy a kvalifikace – všeobecné vzdělání	00									0
Vzdělávání a výchova	01									0
Umění a humanitní vědy	02									0
Společenské vědy, žurnalistika a informační vědy	03									0
Obchod, administrativa a právo	04							2	0	2
Přírodní vědy, matematika a statistika	05									0
Informační a komunikační technologie	06									0
Technika, výroba a stavebnictví	07	78	3	0	0	10	7	0	0	98
Zemědělství, lesnictví, rybářství a veterinářství	08	88	51	0	0	74	36	16	0	265
Zdravotní a sociální péče, péče o příznivé životní podmínky	09									0
Služby	10									0
Fakulta celkem	Х	166	54	0	0	84	43	18	0	365
Z toho počet žen na Fakultě 2	х	61	22	0	0	26	12	8	0	129
Z toho počet cizinců na Fakultě 2	х	56	2	0	0	36	0	9	0	103

P = prezenční, K/D = kombinované/ distanční; vykazují se počty úspěšně absolvovaných studií (nikoliv fyzické osoby) v období 1. 1. – 31. 12.

#### Tab. IX. (Source: MEYS, Tab. 5.1): Interest in university studies

		Bakalářské studium				Magisterské studium				Navazující magisterské studium				Doktorské studium			
		Počet uchazečů (fyzické osoby)	Počet přihlášek	Počet přijetí	Počet zápisů ke studiu	Počet uchazečů (fyzické osoby)	Počet přihlášek	Počet přijetí	Počet zápisů ke studiu	Pocet uchazečů (fyzické osoby)	Počet přihlášek		Počet zápisů ke studiu	Počet uchazečů (fyzické osoby)	Počet přihlášek	Počet přijetí	Počet zápisů ke studiu
Fakulta lesnická a dřevařská																	
Široce vymezené obory ISCED-F	kód																
Programy a kvalifikace – všeobecné vzdělání	00																
Vzdělávání a výchova	01																
Umění a humanitní vědy	02																
Společenské vědy, žurnalistika a informační vědy	03																
Obchod, administrativa a právo	04													3	3	2	2
Přírodní vědy, matematika a statistika	05																
Informační a komunikační technologie	06																
Technika, výroba a stavebnictví	07	352	366	192	192					85	98	65	65				
Zemědělství, lesnictví, rybářství a veterinářství	08	1 0 3 0	1 110	546	546					205	210	132	128	69	72	51	37
Zdravotní a sociální péče, péče o příznivé životní podmínky	09																
Služby	10																
Fakulta celkem	Х		1 476	738	738		0	0	0		308	197	193		75	53	39

P = prezenční K/D = kombinované / distanční

**Tab. X. (Source: MEYS, Tab. 8.2):** Specialists in the sphere of application\* taking part in education process and in the practical application training in accredited study programmes (number)

	Osoby mající pracovně právní vztah s vysokou školou nebo její součástí			Osoby nemající pracovně právní vztah s vysokou školou nebo její součástí			
		Počet osob podílejících se na		Počet osob podílejících se na	Počet osob podílejících se na	Počet osob podílejících	
	se na výuce	vedení závěrečné práce	se na zajištění praxí***	výuce	vedení závěrečné práce	se na zajištění praxí***	
Lesnická fakulta	14	4				95	
z toho ženy	2					6	

Pozn.: \* = Odborníci z aplikační sféry podílející se alespoň z jedné třetiny časového rozvrhu na výuce alespoň jednoho kurzu nebo jsou vedoucími závěrečné práce studenta. Pokud daný pracovník je kmenovým zaměstnancem dané vŠ/fakulty, měl by mít minimálně stejně velký úvazek i mimo vŠ/fakultu.

Pozn.: \*\*\* = Jedná se o osoby mající přímou zodpovědnost za výkon odborné praxe studenta.

# **Tab. XI. (Source: MEYS, Tab. 8.3):** Study branches/programmes\*\*\*\* designated as mandatory in the professional practice training\*\*\* at least one month in length\* (number)

		Počty aktivních studií						
	Počty studijních	Bakalářské studium		Magisterské studium		Navazující magisterské		
	oborů/programů****	Akademický profil	Profesní profil	Akademický profil	Profesní profil	Akademický profil	Profesní profil	
Lesnická fakulta	9	1052	0	0	0	16	0	

Pozn.: \* = Doba trvání jednotlivých povinných praxí mohla být i kratší, ale v součtu musela dosahovat alespoň 1 měsíce.

Pozn.: \*\*\* = Povinnou praxí se rozumí taková, která je součástí akreditace daného studijního oboru, přičemž se může jednat o součást některého z předmětů či o samostatný předmět. Jedná se o odborné profesní praxe.

Pozn.: \*\*\*\* = VŠ uvede údaj vztahující se k nejnižší akreditované jednotce - promírně studijní obor, pokud studijní program se nedělí na studijní obory, tak údaj za studijní program

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