



# UNIVERSITY OF LIFE AND SUSTAINABILITY

Climate change, scarcity of resources & food security: The big questions of the future need answers. The field of science must address the problematic areas of politics, economics, management and NGOs today and find solutions which are understandable, relevant and usable. BOKU is the only university in Austria which has devoted all its research and teaching to the life sciences.





## **6 BOKU FIELDS OF EXPERTISE**

## RESEARCH



**ECOSYSTEM MANAGEMENT** AND BIODIVERSITY



AGRICULTURAL PRODUCTION AND FOOD



RENEWABLE RAW MATERIALS **AND NEW TECHNOLOGIES** 

💆 📅 🖫 🛣 🐼 😉



BIOTECHNOLOGY

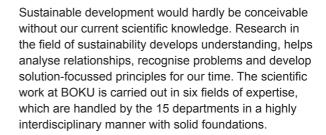


LANDSCAPE, WATER, HABITAT AND INFRASTRUCTURE

🐺 🖬 🔻 🐷 🐷 🖸 🛂



**RESOURCES AND SOCIETAL DYNAMICS** 



In 2015, UN member states adopted 17 Sustainable Development Goals (SDGs) which aim to make our world a better place to live in by 2030.

### **BOKUvision**

The University of Natural Resources and Life Sciences, Vienna is the only university in Austria able to work on wholly sustainable value chains – from production to consumption to disposal - continuously.





























## 15 DEPARTMENTS

- Material Sciences and Process Engineering
- Biotechnology
- ♦٥ Water, Atmosphere, Environment
- Nanobiotechnology
- Chemistry
- % Integrative Biology and Biodiversity Research
- Food Science and Technology
- Landscape, Spatial and Infrastructure Sciences
- Economic and Social Sciences
- Sustainable Agricultural Systems
- Civil Engineering and Natural Hazards
- Forest and Soil Sciences
- Crop Sciences
- Agrobiotechnology, IFA-Tulln
- Applied Genetics and Cell Biology

### **3 SCIENTIFIC CENTRES**

- -- Centre of Agricultural Sciences
- -> Centre for Bioeconomy
- → Centre for Global Change and Sustainability

### 8 CHRISTIAN DOPPLER LABORATORIES FOR

- → Sediment research and management
- → Growth-decoupled protein production in yeast
- → Production of new biopharmaceuticals in E. coli
- → Innovative immunotherapeutics
- -- Glycerol biotechnology
- Lifecycle-based robustness of fastening systems
- -> Biotechnology for skin ageing
- ⇒ Dynamics of mesoecosystems in regulated river landscapes

# RESEARCH

### 4 K+ CENTRES

- → FFoQSI Feed and Food Quality Safety and Innovation
- → ACIB The Austrian Centre of Industrial Biotechnology
- → Wood K Plus Kompetenzzentrum Holz GmbH
- → BEST Bioenergy and Sustainable Technologies GmbH

### **8 BOKU CORE FACILITIES**

- → Biomolecular & Cellular Analysis
- → Food & Bio Processing
- → Multiscale Imaging
- → BioIndustrial Pilot Plant
- → Mass Spectrometry
- → Analysis of Lignocellulosics
- → Bioinformatics
- → Bioactive Molecules Screening and Analysis

... and the
... and the
external site
external site
water Cluster
Water Cluster
Lunz in Lower
Austria

### SCIENTIFIC PERFORMANCE

- → 1,020 ongoing research projects
- → EUR 57.8 million R&D revenue
- → 1,117 publications in SCI and SSCI-listed journals, 775 of which with international co-authors
- → 894 lectures at scientific events
- → 36 patents pending

### **EUROPEAN RESEARCH COUNCIL PROJECTS**

- → 1 ERC Consolidator Grant
- → 1 ERC Advanced Grant
- → 8 ERC Starting Grants

More information: boku.ac.at/en/fos





## 7 BACHELOR PROGRAMMES

**TEACHING** 

- → Food Science and Biotechnology
- → Forestry
- Wood and Fibre Technology
- -> Environmental Sciences and Civil Engineering
- → Landscape Architecture and Landscape Planning
- → Environment and Bio-Resources Management
- -> Agricultural Sciences

3-PILLAR PRINCIPLE AT BACHELOR (6 SEMESTERS) 180 ECTS

25%
25%
25%
25%
4

Natural Sciences Technology and Engineering Sciences Sciences Sciences Sciences Sciences Sciences Sciences Sciences Sciences

The challenges and problems of our time are interconnected in various ways and can only be solved in an inter- and transdisciplinary manner. Thanks to the **3-pillar principle** in teaching, BOKU students gain the ability to develop solutions which will meet the ecological, technical and economic demands of today – and which will be expected by future leaders.

#### **BOKUmission**

With a technical focus on teaching in the fields of "protection and improvement of livelihoods", "management of natural resources", "ensuring nutrition and health" and "sustainable societal and technical dynamics", BOKU has a clear, unique position in the Austrian university landscape.

## **27 MASTER PROGRAMMES**

### **German-taught Master Programmes**

- → Wildlife Ecology and Wildlife Management
- → Food Science and Technology
- → Landscape Planning and Landscape Architecture
- → Phytomedicine
- → Forest Sciences
- → Wood Technology and Management
- → Environment and Bio-Resources Management
- -> Civil Engineering and Water Management
- → Plant Sciences
- → Livestock Sciences
- -> Agricultural and Food Economy
- → Material and Energetic Exploitation of Renewable Resources (NAWARO)
- → Alpine Natural Dangers/Watershed Regulation
- → Viticulture, Enology und Wine Economics
- Organic Agricultural Systems and Agroecology (AgrEco-Organic) und Organic Agricultural Systems and Agroecology (EUR-Organic)

### **English-taught Master Programmes**

- → Biotechnology
- → Mountain Forestry
- → Water Management and Environmental Engineering
- → Applied Limnology
- European Master in Animal Breeding and Genetics (National degree)
- Organic Agricultural Systems and Agroecology (AgrEco-Organic) und Organic Agricultural Systems and Agroecology (EUR-Organic)

### **International Master Programmes**

- → Natural Resources Management and Ecological Engineering
- -> Limnology & Wetland Management
- → Environmental Sciences Soil, Water and Biodiversity (ENVEURO)
- → Animal Breeding and Genetics (Joint Degree)
- → Safety in the Food Chain
- → DDP MSc European Forestry
- → Horticultural Sciences

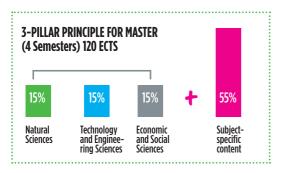
# **TEACHING**

## 9 DOCTORAL PROGRAMMES

- → Social and Economic Sciences
- → Natural Resources and Life Sciences
- → Biomolecular Technology of Proteins (BioToP)
- → Advanced Biorefineries: Chemistry and Materials (ABC & M)
- → Bioprocess Engineering (BioproEng)
- → Human River Systems in the 21<sup>st</sup> Century (HR21)
- → Transitions to Sustainability (T2S)
- → AgriGenomics
- → Biomaterials and Biointerfaces (BioMatInt)

More information:
boku.ac.at/en/studienangebot

- → Material and Energetic Exploitation of Renewable Raw Materials (NAWARO)
  - international Master Programme
     Biomass Technology
- → International Master in Soils and Global Change (IMSOGLO)
- → Viticulture, Enology und Wine Economics
- Organic Agricultural Systems and Agroecology (AgrEco-Organic) und Organic Agricultural Systems and Agroecology (EUR-Organic)
- → Sustainability in Agriculture, Food Production and Food Technology in the Danube Region



### 3RD MISSION

It is these main topics which run through all the fields of expertise in the area of sustainability that make BOKU so exciting and relevant to the public:

- → Climate Consequences, Environmental and Natural Risks
- → Bioeconomy of Renewable Raw Materials
- → Social, Environmental and Geology-focused Long-Term Research
- → Digitalisation of Land and Forestry
- -> Habitat of the Future
- → Food and Health Security

### **BOKU IN EXCHANGE WITH SOCIETY**









### BOKU in the media.

Coverage of BOKU has increased 80.8% online and 29.7% in print over the last 5 years. Top issues in 2020: Climate and Environmental Protection, Biotechnology and Sustainability.

Social Media. On Instagram, Facebook, Twitter and LinkedIn, BOKU is promoting scientific discourse on sustainability – including among the nonscientific community – and acts as a model of a future-orientated university.

BOKU-Magazine.
Since 2020, BOKU
magazine has appeared as a special
issue depicting the
diversity of our own
research and teaching
on socially relevant
topics and providing a
platform for discourse
with the public.

# **PUBLIC RELATIONS**











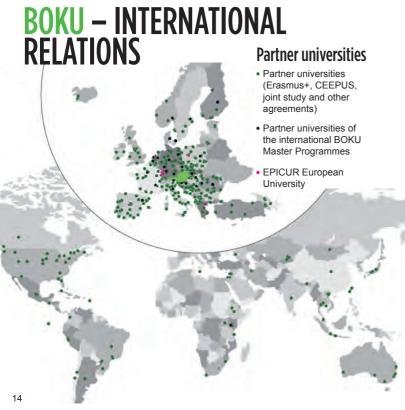
Grüner Salon. The new talk show provides BOKU researchers with a podium to discuss current societal issues publicly with representatives from the fields of politics, economics and other disciplines. Due to Covid. this is also livestreamed.

Lange Nacht der Forschung. As a regular safe bet. for a whole evening BOKU provides a broad audience with a look behind the scenes at its innovative research. In 2020. the "Lange Nacht der Forschung" [A Long Night of Research] took place digitally for the first time.

Climate referendum and climate strike. **BOKU** carries out research not only on scientific contributions to climate protection and its implementation, but also promotes appropriate initiatives in public - for decisive steps need to be implemented now.

Consulting expertise. Thanks to our notfor-profit status as an institution of further education, BOKU quarantees independent and sciencebased information together with transparent processes - for both private individuals and companies. klimaneutralität hoku ac.at/en

Citizen Science. Thanks to Citizen Science, everyone has the opportunity to get involved in science. The research offers currently available can be found on the "Österreich forscht" platform, which is coordinated by BOKU. citizen-science.at/en



Study abroad is an important opportunity for staff and students to develop their skills and expertise. At the moment, 25% of BOKU students come from abroad, 13 Master Programmes and 9 Doctoral Programmes can be completed entirely in English (see page 10/11). Thanks to its long-term participation in EU programmes such as Erasmus+ and its expertise, BOKU was also able to qualify as one of the first European Universities with EPICUR.

BOKU maintains 18 agreements in the form of network memberships and around 360 multi- and bilateral partnerships and cooperation agreements with universities and research institutions – 270 of which in Europe and 90 worldwide.

### IMPORTANT BOKU NETWORKS

# INTERNATIONAL



**European Partnership for an Innovative Campus Unifying Regions (EPICUR):** BOKU, together with the Universities in Strasbourg, Mulhouse, Fribourg, Amsterdam, Poznan, Thessaloniki and the Karlsruhe Institute for Technology, form a European University Network.



**AfricaUniNet**: Network of 20 Austrian and around 40 African universities and colleges (BOKU holds the presidency)



Association for European Life Science Universities (ICA) and ICA-CASEE: Union of over 60 European life science universities; ICA-CASEE has a focus on Central and South-Eastern Europe (BOKU holds the vice-presidency)



**Euroleague for Life Sciences (ELLS):** As part of this network for joint teaching and learning projects, student exchanges and quality assurance, 5 joint Master Programmes are offered. Furthermore, around 10 summer schools are held annually, as well as a large student conference.



**European Bioeconomy University (EBU):** The centre for bioeconomy at BOKU coordinates the activities of BOKU in the international alliance for bioeconomy.

### **BOKUunique**

BOKU is the first Austrian university which, since 2009, has systematically organised research for sustainable development and taken it up in in it's internationalisation and mobility strategy.



"Mutual appreciation is a key foundation for success and innovation. Therefore, we promote equal opportunity and are committed to diversity and inclusion in all areas of activity."

Ruth Scheiber-Herzog, coordinator for Equal Opportunities, Diversity and Disability at BOKU, together with Gerhard Mannsberger, Vice Rector for Organisation and Process Management.

### **BOKU DURING THE COVID LOCKDOWN**

# **ONLINE**

20,899 exercises: + 31.17%

1,199 video conferences (BigBlueButton): + 53,29%

> 10,120 online tests: + 916.10%

Examination activities: Online increase of more than 90%



From March 2020, around **11,000 BOKU students** had to work from home week after week during lockdown. Almost overnight, teaching was made virtual (from 0% to 85%) and seminars, exercises and excursions were completely redesigned. Even in performance assessment, BOKU relied on a variety of virtual systems during the pandemic.

20,000,000 E-Mails, 100TiB Sync & Share space actively used on site in the BOKU drive: : + 200%, ~300.000 VPN-connections: + 500% traffic

~9,000 Users, ~100,000 Zoom meetings (between 3,000 and 17,000/month), over 60,000,000 meeting minutes with ~800,000 participants, 166 webinars with ~40,000 participants



### **GRADUATES OF BOKU**

Talented BOKU alumni of all generations have given back something to society with their work in a range of areas and left their mark on the world.

Today, an aspiring generation of younger students at BOKU is acquiring all the expertise they need to work globally in the future, in a networked manner and innovatively. Accordingly, the career prospects after study are excellent: The job offers listed on the alumni job board every year exceed the number of graduates.

AGRICULTURAL SCIENCES

(BOKU)

142 graduates

316

Alumni job board offers

512

425

FORESTRY AND WOOD AND NATURAL FIBRE TECHNOLOGY

102 graduates 253 Alumni job board offers

LANDSCAPE PLANNING

74 graduates Alumni job board offers

CIVIL ENGINEERING AND WATER MANAGEMENT

106 graduates Alumni iob board offers 356

FOOD SCIENCE AND

131 graduates BOKID 383 Alumni iob board offers

BIOTECHNOLOGY

Alumni job board offers

**FNVIRONMENT AND** Alumni-Data 2019 **BIO-RESOURCES** MANAGEMENT

**80** graduates

alumni.boku.wien/site/en/home

### PROMINENT BOKU GRADUATES





Florian Krammer, working as a virologist in New York, is one of the world's leading coronavirus vaccine experts. He is leading a research laboratory at the Icahn School of Medicine at Mount Sinai.



Sabine Herlitschka directs the semi-conductor manufacturer Infineon Technologies Austria AG with around 4,500 employees in Austria. The company is one of the best research units in Austria



Franz Fischler gained both international and national attention through his commitment to agriculture as Federal Minister and EU Commissioner and was President of the European Forum Alpbach.



Raffaela Schaidreiter is an Austrian radio and TV journalist. The forester has been working at ORF since 2013 and as EU correspondent in Brussels since 2017.



**Günther Apfalter** is a manager at Magna International Europe. The agricultural economist is one of the top players in the automotive supply industry with more than 60,000 employees in the region.



**Leopold Figl** was the first Chancellor of the Second Republic. The agricultural engineer led Austria to freedom by signing the State Treaty.



### **BOKU LOCATIONS**

The University of Natural Resources and Life Sciences. Vienna. not only teaches and researches in the field of sustainability, but lives it too. As a pioneer of the green economy, with all new projects - in accordance with the BOKU sustainability strategy it is following the philosophy of sustainable construction - with particular attention to energy efficiency, building material and indoor air quality, as well as comfort. For that reason, BOKU was awarded the klimaaktiv gold building standard and the State Prize for Architecture and Sustainability, the highest decoration of the republic for sustainable construction, among others.

### VIENNA / TÜRKENSCHANZE:

University of Natural Resources and Life Sciences. Vienna. University Administration, Central Organisational Units, BOKU Student's Union. Gregor-Mendel-Strasse 33, 1180 Vienna

#### VIENNA / MUTHGASSE:

University of Natural Resources and Life Sciences. Vienna. Muthgasse 18, 1190 Wien

#### LOWER AUSTRIA / TULLN:

University Research Centre Tulln (UFT), Konrad-Lorenz-Strasse 24. 3430 Tulln

#### **EXTERNAL SITES:**

- Water Cluster Lunz
- Forest Demonstration Centre
- Experimental Farm Gross Enzersdorf
- Hoher Sonnblick Observatory

#### VIRTUAL LOCATIONS:

instagram.com/boku.vienna

facebook.com/bokuvienna

linkedin.com/school/bokuvienna

twitter.com/bokuvienna

boku.ac.at











# **LOCATIONS**

VIENNA / HYDRAULIC ENGINEERING LABORATORY BOKU RIVER LAB



