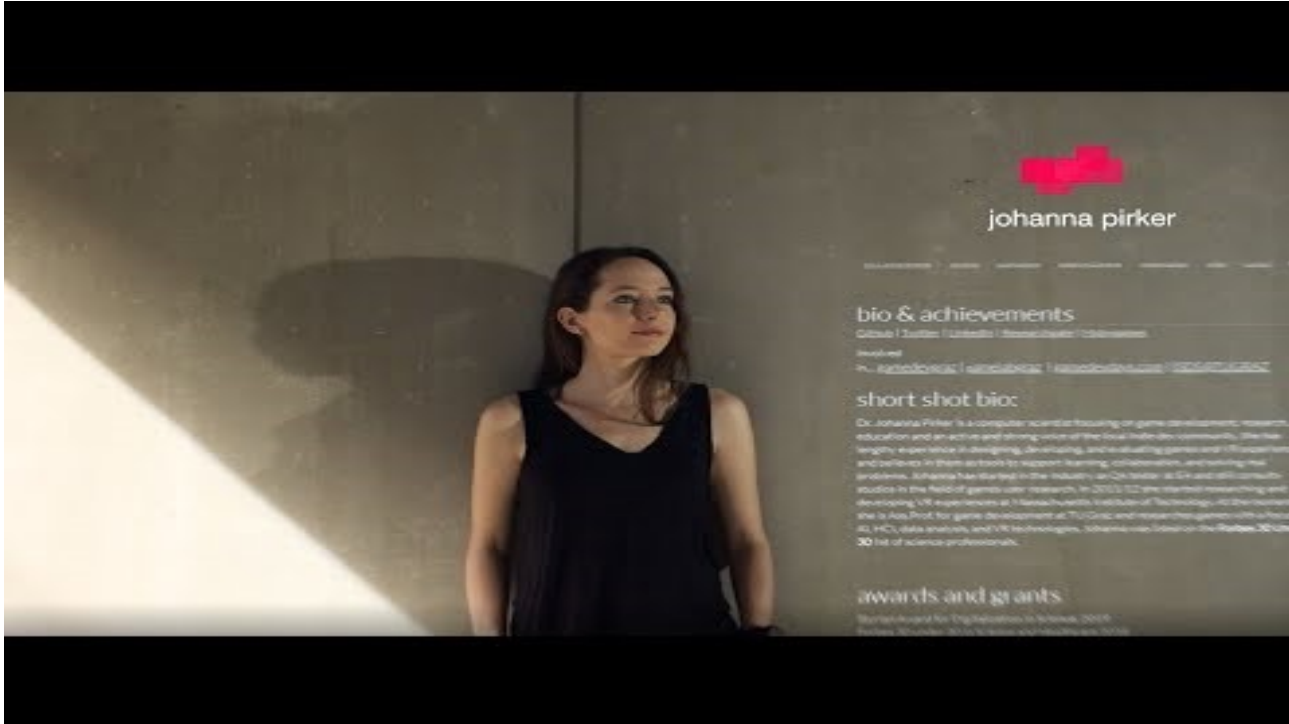


Graz University of Technology

- SCIENCE
 - PASSION
 - TECHNOLOGY
- > www.tugraz.at

Research and Teaching @ TU Graz



Seven Faculties of TU Graz

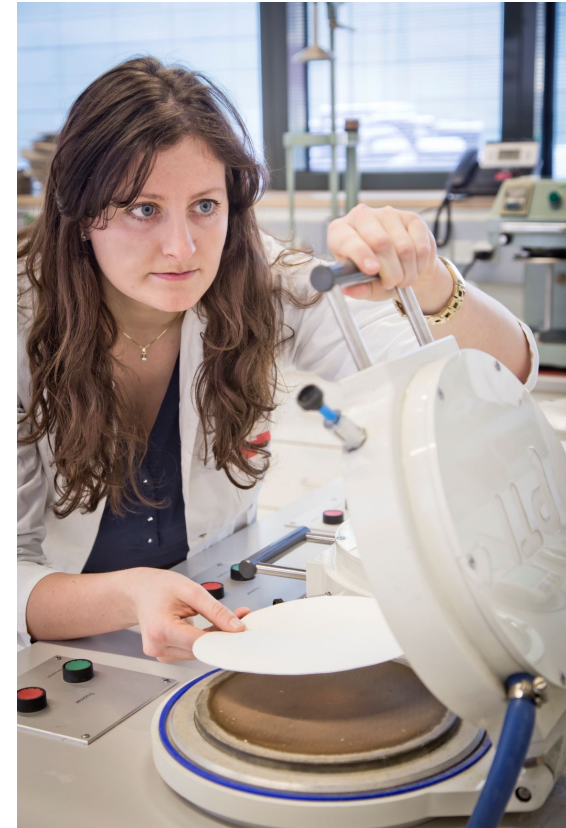
- Architecture
- Civil Engineering
- Mechanical Engineering and Economic Sciences
- Electrical and Information Engineering
- Mathematics, Physics and Geodesy
- Technical Chemistry, Chemical and Process Engineering, Biotechnology
- Computer Science and Biomedical Engineering



1, 3, 5, 6, 7: Lunghammer – TU Graz; 2: Franz-Georg Piki; 4: Oliver-Wolf/JS Österreich GmbH & Co. KG

Research at TU Graz

- 5 Fields of Expertise
- Leading position in Austrian Competence Centres (COMET programme) as cooperation of science and industry/business
- > 60 EU H2020 and Horizon Europe projects including
- 4 ERC Grants
- 15 Christian Doppler-Laboratories
- Research Centers und Cluster
 - Hydrogen Research, Machine Learning, Sustainable Construction, Railway Systems



Fields of Expertise

Five promising fields in research at Graz University of Technology characterised by

- Excellence-focused research
- Interdisciplinarity
- Intensive collaboration with business and industry
- Strategic partnerships with national and international scientific organisations
- Participation in scientific competence centres and research networks



Fields of Expertise



- Development of new materials and processes
- Microanalytics and nanoanalytics, structure determination
- Materials modelling

- Urban and mobility planning
- Sustainable construction
- Future-oriented energy systems

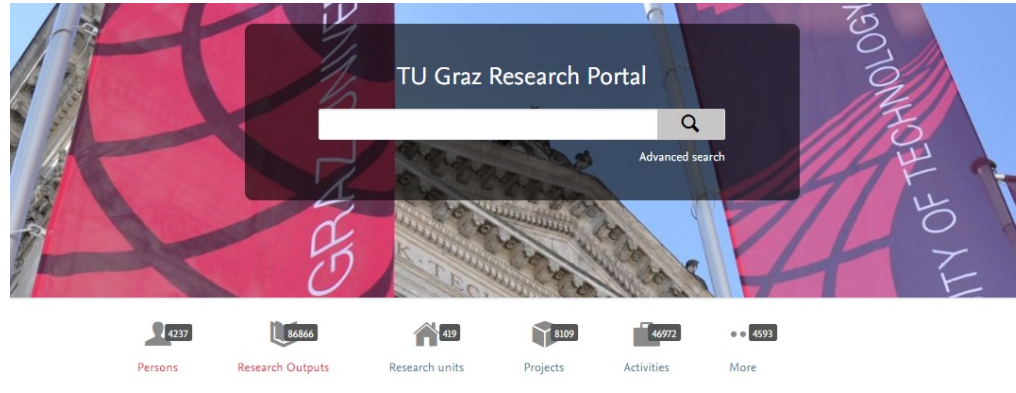
- Engine and Powertrain
- Electromobility
- Hydrogen-based mobility
- Active and passive safety
- Production and Process Technology

- Biomedical engineering
- Molecular biomedicine
- Industrial biotechnology
- Environmental biotechnology

- Algorithms and mathematical modelling
- Smart and dependable systems
- Intelligent communication and sensor systems
- Multimodal interfaces, applications
- Intelligent multimedia processes and structures

Die fünf Fields of Expertise der TU Graz
The five Fields of Expertise of TU Graz

TU Graz Research Portal



TU Graz Research Portal

Welcome to the TU Graz Research Portal. This portal showcases the scholarly expertise of the researchers at TU Graz. You can search by expert name, research unit, concept or free text to learn more about our scientists, their publications, projects and activities, and to visualize connections among our researchers across the world. Contact: service.bibliothek@tugraz.at

Link to Portal: <https://graz.pure.elsevier.com/en/>

International Office: Welcome Center

The Welcome Center of TU Graz supports international students, researchers and staff members, guests, as well as their hosting institutes before their arrival, during their stay and up to their departure.

The [Welcome Center](#) answers questions on:

- Visa, entry and residence permits
- looking for flats and accommodation
- living in Graz
- networking and integration (events)



Research and Technology House

Project Support in Pre-award phase

- Funding advice and support in submitting grant applications:
 - selection of suitable funding programme – regional, national, EU, international...
 - matchmaking: contact to recently successful colleagues, in the same programme with related topic → sample proposal, proofreading
 - project costs calculation
 - structuring and advice for specific grant application chapters: IPR, dissemination concept, impact, management, gender aspects, also related to research topic
- Project management support (IPMA standards)

Contact:

Dr. Julirose Kourist

e-mail: julirose.kourist@tugraz.at

web: www.tugraz.at/go/ft-haus



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BIOTECHNOLOGY

Dr. Martin Trinker

Director Business
Development





ACADEMIA

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BIOTECHNOLOGY



INDUSTRY



SOCIETY

SCIENTIFIC
VALUE

ECONOMIC
VALUE

SOCIETAL
VALUE

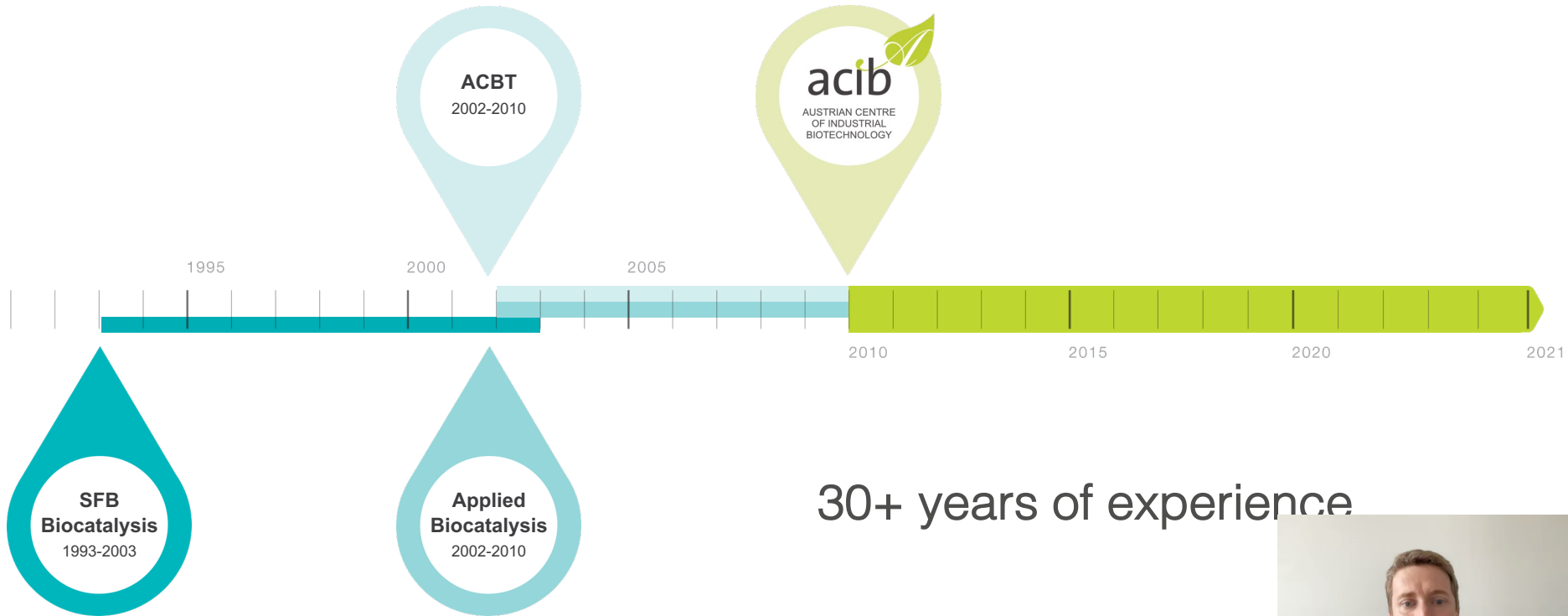
Our identity

- Break scientific ground
- Generate industrial value
- Fill industrial gaps
- Train next generations
- Create regional impact
- Live international community

INNOVATIONS FROM NAT



We are acib: 200+ employees



acib locations in Austria



Tulln
Vienna



Innsbruck

Graz



Experience in EU projects

2021 - 2023

2021



H2020-BBI-JTI
€ 517,000

Enzy'cle looks for new enzymatic processes to treat and to recycle plastic fractions that could not be recycled before.

2021



H2020-MSCA-ITN
€ 730.000

The main objective of **ConCO₂rde** is to train Early Stage Researchers in different research disciplines that together allow the conversion of CO₂ by smart autotrophic biorefineries.

2021



H2020-NMBP-TO-IND
€ 780,000

Bionanopolys unites European experts in this field to transform bio-based materials to nano-scale and, moreover, develop an Open Innovation Test Bed (OITB) environment.

2021



UPLIFT
H2020-CE-BIOTECH
€ 600,000

The overall idea of **UPLIFT** is to biologically depolymerize bio- and fossil-based plastic packaging waste and convert it into more renewable and easily upcyclable products.



Experience in EU projects

2021 - 2023

2023



HE-MSCA-NIGHT
€ 150,000

The **Lis-Dig** project will organize two subsequent editions of „Life is Science“ in Austria. It will encourage all visitors to look behind the research scenes and try things by themselves in workshops dedicated to digital and life sciences.

2023



HE-MSCA-DN
€ 270,000

BiocatCodeEXPANDER will expand the diversity of functional groups in proteins by the use of non-canonical amino acids as building blocks, bringing together synthetic biology, biocatalysis, computational biology and organic chemistry.

2023



HE-EIC-Pathfinder
€ 224,000

Piezo4Spine aims to develop a novel multifactorial therapy for spinal cord injury (SCI). To tackle SCI complexity more accurately, we will focus on two pivotal aspects of neural repair: mechanotransduction and inhibitory scarring.



Research & publications

1000+ publications so far

Including
Top Journals



Some of our company partner



Our areas of expertise

Biocatalysis

This research field describes the **use of biocatalysts for the conversion and synthesis of molecules** and replacing traditional chemical processes by efficient and environmentally friendly approaches.

Prof. Robert Kourist

Microbial Biotechnology

The research field includes the **biotechnological utilization of microorganisms** (bacteria, yeasts, fungi) and their compartments for the production of proteins or important metabolites.

Prof. Diethard Mattanovich

Enzyme Technologies

In this research field we are dealing with **new enzymatic conversions in synthetic approaches** in order to close current gaps of enzymatic process applications, as well as the immobilization of enzymes.

Prof. Bernd Nidetzky

Protein Engineering

We **combine direct laboratory evolution with structure-based rational design** to optimize the activity, stability, affinity, solubility or expression of proteins from enzymes to biotherapeutics.

Prof. Bernd Nidetzky



Our areas of expertise

Cell line Development & Epigenetic

The projects carried out in this area deal with a **detailed, molecular understanding of the properties of production cell lines (e.g. CHO)** that are used for the manufacture of biopharmaceutical products.

Prof. Nicole Borth

Bioinformatic & Simulations

Genes, RNA, proteins and metabolites are the key players in biological systems. The sum of these parts is less than the whole, because these actors never act alone, but are integrated into complex and multi-layered networks.

Prof. Jürgen Zanghellini

Bioprocess technologies

The research area Bioprocess Technologies deals with the **development of improved or new biotechnological (continuous) processes**, flexible production and process intensification, as well as process analytical technologies.

Prof. Alois Jungbauer

Environmental Biotechnology & Bioeconomy

Optimizing recycling and the valorization of waste is an important topic at acib. From degradation of natural to synthetic polymers to bioleaching and valorization of waste streams, acib is in the driving seat of the new bioeconomy.

Prof. Gernot





acib

THANK YOU
FOR YOUR ATTENTION
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