



Technische
Universität
Braunschweig



Universities of Technology addressing the challenges that planet earth is facing

Prof. Dr. Angela Ittel, President TU Braunschweig

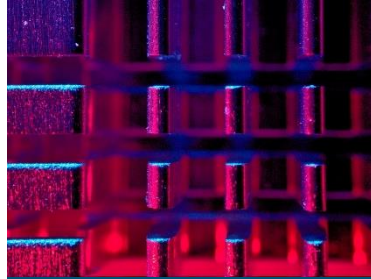
17 September 2021

TU Braunschweig's Core Research Areas



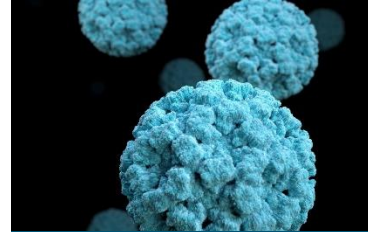
MOBILITY

- intelligent and interconnected mobility
- light-weight vehicles using non-fossil energies
- low-emission aircraft
- sustainable production



METROLOGY

- metrology for nanotechnology
- precision at the limits of measurability through quantum technologies
- quantum computing



INFECTION & THERAPEUTICS

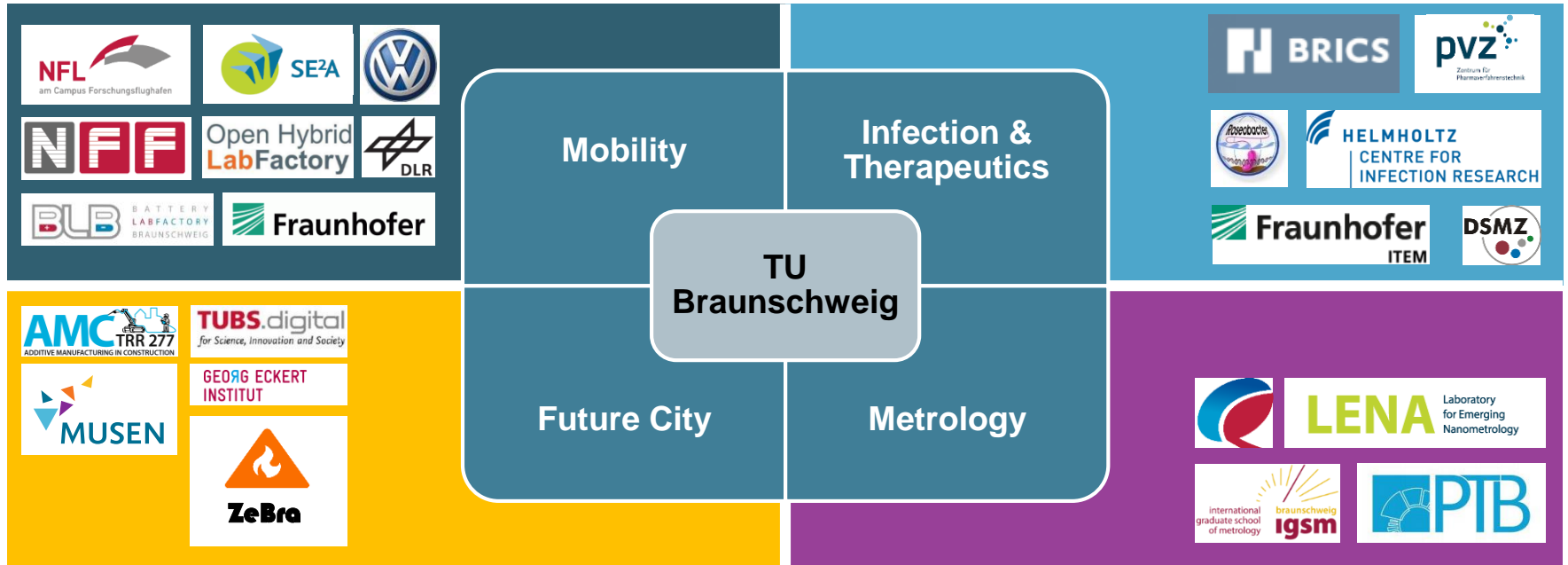
- active agents for combating infectious diseases
- manufacturing and processing of individualized drugs



FUTURE CITY

- Intelligent strategies for the cities of tomorrow
- dealing with advancing urbanization, dwindling resources and climate change

Partners in Research and Industry



Challenge: Sustainability

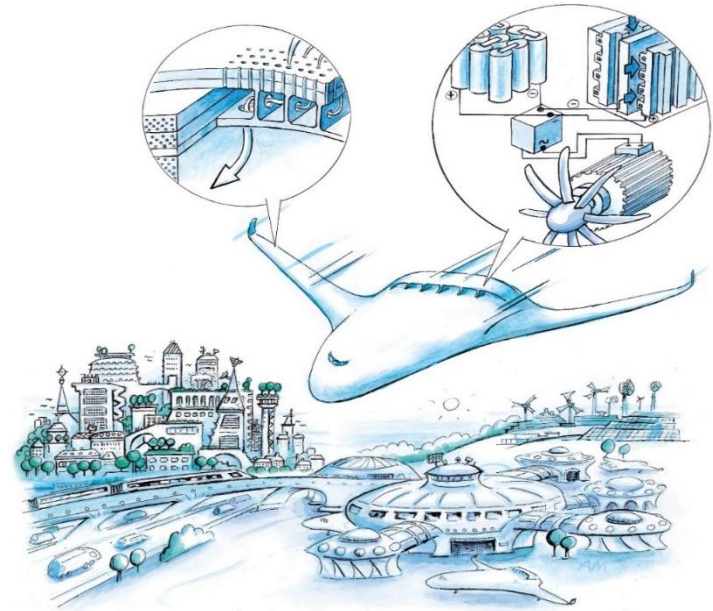
DFG Excellence Cluster SE²A – Sustainable and Energy-Efficient Aviation



- reduction of emissions and noise, recycling and life-cycle concepts for airframes
- improvements in air traffic management
- 38 Mio. € for 7 years, duration 2019–2025

Open positions Female Master programme:

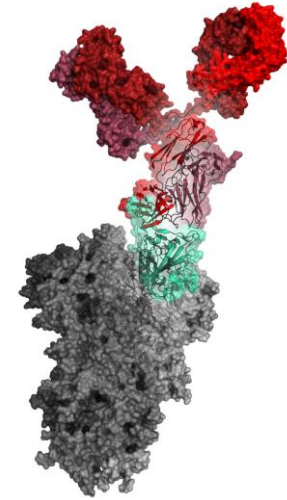
www.tu-braunschweig.de/se2a/open-positions/se2a-international-female-programme-international-masters-projects



Challenge: Pandemic

Prof Michael Hust and Prof Stefan Dübel succeeded in developing neutralizing anti-SARS-CoV-2 antibodies from immune cells of healthy donors published in Nature Communications, 2021

- July 2021: preclinical dataset on the development of the anti-SARS-CoV-2 antibody COR-101 published in Cell Reports
- COR-101 was developed in close cooperation of Technische Universität Braunschweig, the Helmholtz Centre for Infection Research (HZI) and the biotech company YUMAB GmbH in Braunschweig



Structure of COR-101 (red) binding to the receptor binding domain (green) of the spike protein of SARS-CoV-2 (grey). Figure: Thomas Klünemann/Helmholtz Centre for Infection Research

Challenge: living together in sustainable cities

Real Lab in the City

The Department of Architecture transformed the Hagenmarkt in Braunschweig into an exhibition and discussion space for the future topics of sustainability

From May to July 2021 Prof Folke Köbberling, Prof Tatjana Schneider and Prof Elisabeth Endres created various experimental spaces, structures and programmes to invite the public to engage with issues of sustainability, sufficiency and resilience in relation to their living spaces.



Challenge: Communicating Science

Prof. Melanie Brinkmann, Virologist,
TU Braunschweig Institute of Genetics and
Helmholtz Centre for Infection Research

**One of the most prominent scientists in
Germany explaining the Covid-19 pandemic**

- Member of the federal government's Covid 19 advisory panel
- Guest in talk shows
- Articles and interviews in the most important newspapers in Germany



What are we doing at our university

- Energy efficient campus
- Establishment of a green office
- Sustainability in teaching
- Signing of the CESAER sustainability declaration on 15 September 2021



We invite you to join forces and tackle the challenges together