

Fields of Expertise

TU Graz's research activities are grouped into five strategic, forward-looking Fields of Expertise. Researchers engage in interdisciplinary cooperation and benefit from different approaches and methods, shared resources and international exchange.

● Advanced Materials Science

Editorial: Anna Maria Coclite,
Gregor Trimmel, Christof
Sommitsch

**Probing the Formation of
Nanomaterials and the Motion of
Single Water Molecules**
Anton Tamtögl

● Human & Biotechnology

Editorial: Gabriele Berg

**Soil Microbiome Diversity for
Biotechnology**
Samuel Bickel

● Information, Communication & Computing

Editorial: Kay Uwe Römer

**Using Machine Learning to
Improve the EMC of Electric
Vehicles**
Jan Carsten Hansen

● Mobility & Production

Editorial: Helmut Eichlseder

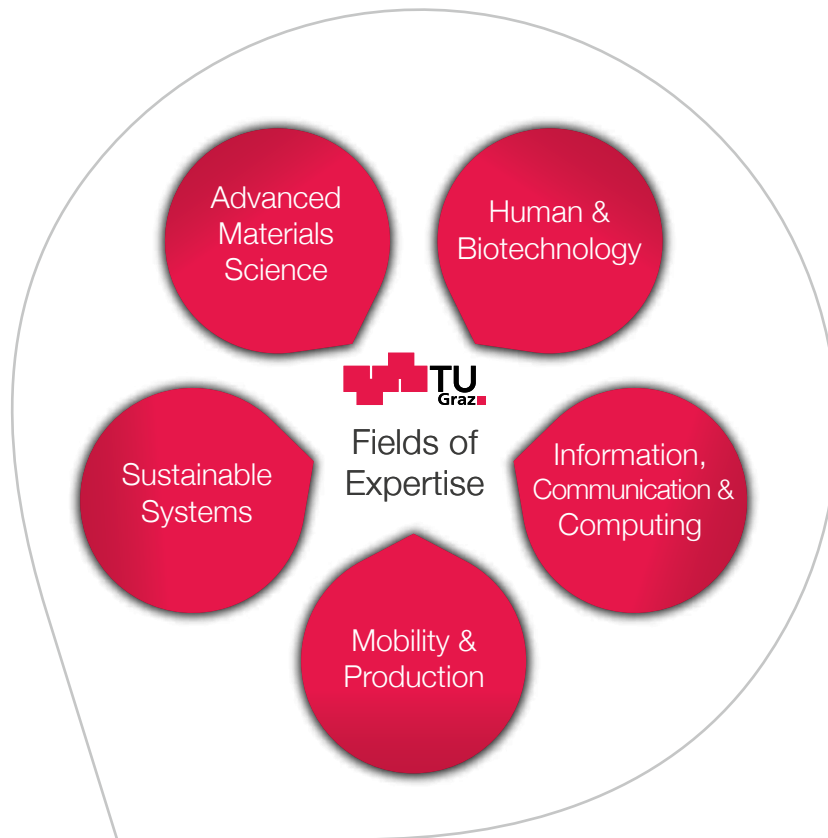
**Data Spaces as European
Format of a Data Economy for
Manufacturing**
Rudolf Pichler

● Sustainable Systems

Editorial: Urs Leonhard
Hirschberg

**Resource-Responsible Building
with Reinforced Concrete**
Dirk Schlicke





TU Graz has divided its research into five innovative areas: the Fields of Expertise. Researchers in the Fields of Expertise break new ground in basic research. They take part in interdisciplinary cooperation, gain support for outstanding projects and are based in the region as well as part of international networks. They also develop key technologies for industry and commerce, and perform research in the framework of company shareholdings and partnerships.

Source: TU Graz

● **ADVANCED MATERIALS SCIENCE**

Researchers aim to understand the smallest components in the structure and function of new materials, and develop and assemble them in special processes.

● **HUMAN & BIOTECHNOLOGY**

Researchers develop devices and methods for medical applications and therapies, and focus on using enzymes and living microorganisms such as bacteria, fungi and yeast in technical applications.

● **INFORMATION, COMMUNICATION & COMPUTING**

Researchers face challenges prompted by the information age, for example data security and efficient use of the ever-increasing volume of data.

● **MOBILITY & PRODUCTION**

Researchers investigate novel vehicle technologies, new drive systems and more economical product manufacturing processes.

● **SUSTAINABLE SYSTEMS**

Scientists focus on the complex challenges presented by a growing population and increasingly scarce natural resources.