Karlsruhe Institute of Technology KIT

Conference of Rectors of European Universities of Technology, Lyngby, DK
Pillars of science in Germany

System of science institutions in Germany

Institutions

# Institutions

- DFG: 117
- Universities: 15
- HGF: 80
- MPG: 84
- WGL: 58
- FhG: 58

Funding in % (Federal:State)

- DFG: 58:42
- Universities: 0:100
- HGF: 90:10
- MPG: 50:50
- WGL: 50:50
- FhG: 30% - 90:10
Ideal Preconditions in Karlsruhe

Research Centre Karlsruhe
- 15 Programs
- 21 Institutes
- 3,700 Employees
- 300 UKA-Members
- 300 Mio.€ Budget

University of Karlsruhe
- 11 Faculties
- 120 Institutes
- 4,000 Employees
- 18,500 Students
- 300 Mio.€ Budget

10 km, 15 min
KIT – One Entity, two Missions, three Tasks

One Entity

Two Missions

Three Tasks

research | education | innovation
The KIT-Triangle

Research & Development

Higher Education

Innovation

„… to form a novel Quality of Cooperation, and to overcome the Separation between Federal Research Facilities and State Universities …“

from: Eckpunkte-Papier
Institutional Strategy: Promotion of Scientists

- House of Competence
- Feasibility Studies
- Young Investigator Groups
- Young Investigator Network
- Shared Research Groups
- Shared Professorships
- New Field Groups
- Time – Space – Money
- Exc. Retired Scientists

Experience

Students  PhD  PostDoc  Jun.Prof.  Prof.  Retired Scientists

Age
30 Competence Fields in 6 Competence Areas

Matter and Materials (6)
- Elementary Particle and Astroparticle Physics
- Condensed Matter
- Nanoscience
- Microtechnology
- Optics and Photonics
- Applied and New Materials

Applied Life Sciences (4)
- Biotechnology
- Toxicology and Food Science
- Health and Medical Engineering
- Cellular and Structural Biology

Earth and Environment (4)
- Atmosphere and Climate
- Geosphere and Risk Management
- Hydrosphere and Environmental Engineering
- Constructed Facilities and Urban Infrastructure

Technology, Culture and Society (3)
- Cultural Heritage and Dynamics of Change
- Business Organization and Innovation
- Interaction of Science and Technology with Society

Information, Communication, and Organisation (6)
- Algorithm, Software and System Engineering
- Cognition and Information Engineering
- Communication Technology
- High-Performance and Grid Computing
- Mathematical Models
- Organisation and Service Engineering

Systems and Processes (7)
- Fluid and Particle Dynamics
- Chemical and Thermal Process Engineering
- Fuel and Combustion
- Systems and Embedded Systems
- Power Plant Technology
- Product Life Cycle
- Mobile Systems and Mobility Engineering
Research at KIT: Centers and Focuses

**KIT-Centers**
- Energy
- NanoMikro
- Elementary- & Astroparticle Physics
- Climate & Environment

**KIT-Focuses**
- COMMputation
- Optics & Photonics
- Mobility
- Man & Technology

**KIT-Schools**
- School of Optics & Photonics
- School of Energy
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<tr>
<th>Students</th>
<th>House of Competence (HoC):</th>
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<tr>
<td></td>
<td>• Integration of FZK employees into teaching (100 new professorial positions (W2/W3))</td>
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<td>• Foundation of KIT Schools (KSOP, School of Energy)</td>
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<td>• Special courses of study for excellent students</td>
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<td>• Research-based educational modules</td>
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<td>• KIT Scholarships for excellent students</td>
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<tr>
<th>Students</th>
<th>Karlsruhe House of Young Scientists (KHYS):</th>
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<tr>
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<td>• Mentoring and Services, Financing, Career Service</td>
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<td>• advanced training modules</td>
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<th>Advanced Training</th>
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<td>• Interdisciplinarity and Focus on Research</td>
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<td>• Didactical Competences</td>
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<td>• Development of an integrated program for advanced training</td>
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Three Dimensions of Innovation

First Dimension:
Innovation is Transfer of Ideas.

Second Dimension:
Innovation is Business Development.

Third Dimension:
Innovation is Exchange of Personnel.
Conjunction of Science and Economy

Cooperation opens up new perspectives for both sides. At KIT we set up:

11 Shared Research Groups
7 Shared Professorships
financed half-and-half
by KIT and Partners from Industry.
The KIT-Inequality

„Coming together is a beginning, keeping together is progress, working together is success.“
(Henry Ford)