Research in Germany – Possibilities for Cooperation

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1. The German Research Landscape

**Facts and Figures**

- approx. 750 publicly funded research institutions, about 130 research networks and clusters
- 529,000 staff in Research and Development, approx. 300,000 scientists and scholars
- bilateral, European and multilateral cooperations with more than 40 countries („WTZ-Abkommen“/Agreements on scientific and technical cooperation, also with the US and Canada)
- Gross Domestic Expenditure on Research and Development: 66.7 billion euro (in 2009)

Source: Federal Statistical Office (preliminary numbers for 2009)
1. The German Research Landscape

Different players

- Research at institutions of Higher Education
- Non-university research facilities
- Industrial research
1.1. Higher Education Institutions

Institutions of Higher Education

- 105 universities
- 211 universities of applied sciences
- 6 colleges of education
- 16 colleges of theology
- 51 colleges of art
- 29 colleges of public administration

Features of German universities

- Unity of research and teaching
- Broad range of subjects
- Theoretical orientation of research

1.2. Excellent non-university research institutions

- **Max Planck Society**
  (80 institutes and research centres; staff: 13,400; budget: 1.5 billion €)

- **Helmholtz Association of National Research Centres**
  (17 research centres; staff: 31,000; budget: 3.1 billion €)

- **Leibniz Association**
  (87 institutes and research facilities; staff: 16,100; budget: 1.1 billion €)

- **Fraunhofer Gesellschaft**
  (60 institutes; staff: 18,000; budget: 1.6 billion €)

Source: MPG, Helmholtz, Leibniz, Fraunhofer
1.2. Excellent non-university research institutions

- **Federal research institutions/Departmental research**
  (40 institutes funded by the Federal Ministries, staff: 19,000)

- **“Länder” institutions**
  (118 research organisations funded by Germany’s federal states/“Länder”, staff: 4,000)

- **Academies of Science**
  (about 10 publicly funded organisations)
1.3. Intensive Industrial Research

- Almost 70% of the research investments in Germany are spent by the industrial sector (approx. 45 billion euros)

- Numerous industrial research facilities and companies are closely cooperating with universities and other research institutions (networks and clusters)

- The German Federation of Industrial Research Associations (AiF) promotes research and development in all industry sectors

- Industries strong in research: Automobile industry, electrical engineering, chemical industry and mechanical engineering
1.4. Basic and Applied Research

- Max Planck Society
- Leibniz Association
- Helmholtz Association
- Universities
- Fraunhofer-Gesellschaft

- Public Funding
- Private Funding
- Industry
1.5. Expenditure on Research and Development

Research expenditure 2009 (in total): 66.7 billion euros

- Max Planck Society: 17.6%
- Helmholtz Association: 67.5%
- Fraunhofer Gesellschaft: 3.3%
- Leibniz Association: 0.0%
- Other public or private research institutes: 0.7%

Source: Federal Statistical Office (preliminary numbers for 2009)
1.6. Research Funding

Primary Sponsors

- Federal Government/Ministries
- “Länder”/States
- Industry & Foundations

Secondary Sponsors

- German Research Foundation
- German Academic Exchange Service
- Alexander von Humboldt Foundation
- Volkswagen Foundation
- etc.

Find out more: http://www.research-in-germany.de
2. Current Developments in Science and Research

2.1. Strategy for the Internationalisation of Science and Research

2.2. High-Tech Strategy

2.3. Excellence Initiative

2.4. Joint Initiative for Research and Innovation

2.5. Higher Education Pact

2.6. Seventh Framework Programme, European Research Council
2.1. Strategy for the Internationalisation of Science and Research

The strategy pursues four main goals:

- Strengthening cooperation between the best researchers
- Gaining access to international innovation potentials
- Sustainably strengthening cooperation with developing countries in the fields of education, research and development
- Assuming international responsibility to overcome global challenges

Source: Federal Ministry of Education and Research (BMBF)
2.2. The High-Tech Strategy

Initiative launched by the federal government to encourage the development of lead markets, enhance cooperation between science and industry, and improve framework conditions for innovations.

**Definition of 5 lead markets and priorities**

- Climate and Energy
- Health and Nutrition
- Mobility
- Security
- Communications

Source: Federal Ministry of Education and Research (BMBF)
2.3. Excellence Initiative

A common Initiative of the Federal Government and the German Länder

**Objectives:**

- Promote top-level research
- Improve the quality of German universities and research institutions
- Increase Germany’s international competitiveness
- Sharpen the profile of key players in academia and research

**Financial background:**

- Total of 1.9 billion euros in the first programme phase between 2006 and 2012
- A further 2.7 billion euros in the second phase until 2017

Source: German research Foundation (DFG)
2.3. Excellence Initiative

3 project-oriented funding lines:

- Research schools for young scientists offering structured PhD programmes in excellent research environments
  - 39 graduate schools

- Excellence clusters establishing internationally visible and competitive research beacons at universities
  - 37 excellence clusters

- Future concepts for top-class research at universities to further enhance the profile of the selected universities
  - 9 future concepts

Source: German research Foundation (DFG)
2.3. Excellence Initiative

9 German universities with excellent future concepts

- LMU Munich
- TU Munich
- Karlsruhe Institute of Technology (KIT)
- Free University of Berlin
- RWTH Aachen
- University of Göttingen
- University of Heidelberg
- University of Freiburg
- University of Konstanz
„Research in Germany“
German Centers for Research and Innovation: Worldwide

- Moscow (DAAD)
- New Delhi (DFG & DAAD)
- New York (DAAD, DFG)
- Sao Paulo (DAAD)
- Tokyo (HRK, DIHKJ)
- Cairo (DAAD)
About the Initiative

- German Federal Foreign Office Research and Academic Relations Initiative
- German Federal Ministry of Education and Research Internationalization Strategy
GCRI Website: www.germaninnovation.org

GERMAN CENTER FOR RESEARCH AND INNOVATION
DEUTSCHES WISSENSCHAFTS- UND INNOVATIONSHAUS

At the GCRI
NanoArt New York: Discover a little world of wonder when science and technology meet art. The exhibition brings nano images, taken directly from the labs of German research institutions, to the German Center for Research and Innovation. On view from April 13 to June 10. Read More »

Research Areas
Air traffic is increasing rapidly in Germany, creating new jobs but also more noise and environmental pollution. The EFFESYS collaborative project for eco-efficient aircraft aims at more environmentally-friendly air traffic through fuel savings and emissions reductions. Also, ... Read More »

News
IPF organizing international conference in Rosenheim / 280 attending from all over the world From 9 till 13 May over 280 scientists from all over the world will be exchanging their latest results in materials research for fusion devices. This traditional "International Workshop ... Read More »

"Effective, Immer Geradeaus, Groundbreaking. If you can make it here, you can make it anywhere! German Science meets New York City at The German Center for Research and Innovation."

Tricia Striano
Professor, Hunter College & Founder
HowBabiesLearn.com
2010:
- February 19 - Opening Event for the GCRI
- April 20 - Harnessing the Power of Life Sciences to Achieve the Millennium Development Goals
- April 22 - Careers in Germany
- May 5 - How Effective is the Current Patent System for Global Technological Innovation? Perspectives from the United States and Europe
- June 3 - The Bilingual Brain
- August 26 - Building your International Career: Translating International Experience into Career Success
- September 29 - Escape to Life: German Intellectuals in NYC – Conference Opening Event
- October 26 - Transatlantic Perspectives on Emerging Technology Management: Encouraging and Nurturing Internationally Competitive University Spin-Offs
- October 28 – 30 - Facing the four Elements: Developing a Transatlantic Approach to Sustainability
- November 3 - Mapping the Brain: Unlocking the Cerebral Cortex
- November 8 - The Widening Atlantic: Market Gap - War Gap - God Gap
- November 10 - Sustainable Cities and Urban Development - a Transatlantic Conversation
- November 18 - Focus: Smart Grid
- November 20 - Yes You Can...Advance Your Career with a European Grant
- December 8 - Plasma Medicine: Scientific Challenges and Technological Opportunities

2011:
- February 1 - Opportunities for Funding and Research in Germany
- February 10 – GCRI Student Outreach: How International Experience Can Enhance Your Career
- March 7 - German-American Energy Efficiency Roundtable
- March 22-25 – Bioinspired Design and Engineering of Novel Functional Materials
- March 31 - Tuberculosis: A Neglected Pandemic
- April 5 - Transatlantic Perspectives on Emerging Technology Management
- April 13 - Nanovation New York
- April 13 – June 10 - NanoArt New York
- May 9 - Science for Sustainable Societal Transformations: Towards Effective Governance
- June 6 - FOCUS: Export Control Reforms - What to Expect from Regulators in the U.S. and European Union
- June 28 – Data, Discourse, Dispute: Science and the Public in the U.S. and Germany
- July 5 - How can I leverage my Doctoral Degree and Network to get the Job that I Want?
Event Results: Plasma Medicine

- Agreement between INP Greifswald and Drexel Univ. to exchange graduate students
- Discussions about investment in plasma pen technology
- GCRI Plasma Medicine newsletter forwarded by speakers to over 50 individuals in the field
- INP applying for FDA approval with help of partner he met during event
Thank you for your attention!

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www.research-in-germany.de