



HELMHOLTZ ASSOCIATION OF GERMAN RESEARCH CENTRES



HELMHOLTZ MISSION

Strategic Research for National Needs

- **Solving grand challenges** with cutting-edge research
- **Think big, act big:** Developing and operating **complex infrastructure** and **large-scale facilities** for the national and international scientific community
- **Wealth creation** for society and industry by knowledge transformation and innovation

FACTS AND FIGURES

- 30,000 Staff
 - 9,700 scientists & engineers
 - 4,800 doctoral students
 - 1,700 trainees in areas of technical and administrative support

+ more than 5,000 visiting scientists each year
- Budget: more than 3 billion Euros
 - 2.0 bn institutional funding (90% federal, 10% local)
 - 1.0 bn third-party funding
- More than 3,000 bilateral partnerships around the world

17 HELMHOLTZ CENTRES

- Alfred Wegener Institute for Polar and Marine Research (AWI)
- Deutsches Elektronen-Synchrotron DESY
- Forschungszentrum Jülich (FZJ)
- German Cancer Research Centre (DKFZ)
- German Centre for Neurodegenerative Diseases (DZNE)
- German Aerospace Centre (DLR)
- GSI Helmholtz Centre for Heavy Ion Research
- Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research (HZG)
- Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)
- Helmholtz Centre for Environmental Research (UFZ)
- Helmholtz Centre Dresden-Rossendorf (HZDR)
- Helmholtz Centre for Infection Research (HZI)
- Helmholtz Zentrum München, German Research Center for Environmental Health (HMGU)
- Helmholtz Centre Potsdam, German Research Centre for Geosciences (GFZ)
- Karlsruhe Institute of Technology (KIT)
- Max Delbrueck Centre for Molecular Medicine (MDC) Berlin-Buch
- Max Planck Institute for Plasma Physics (associated) (IPP)

17 HELMHOLTZ CENTRES

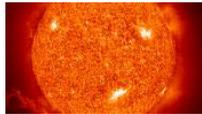


Liaison Offices

Brussels
Moscow
Beijing

CUTTING-EDGE SCIENCE IN NETWORKS

The six research fields



Energy



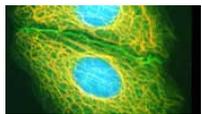
Key Technologies



Earth & Environment



Structure of Matter



Health



Aeronautics, Space
and Transport

RESEARCH FIELD ENERGY

For example: Reducing CO₂ emissions



- Solar-thermal power stations
- Bioliq pilot plant
- Geothermal pilot plant
- CO₂ sequestration and CO₂ separation with membranes
- Nuclear fusion (ITER)



RESEARCH FIELD EARTH & ENVIRONMENT

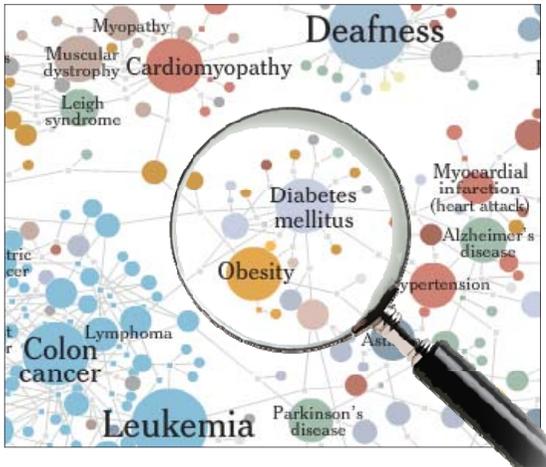
For example: Understanding climate change



- Polar research with ice-breaker Polarstern and Neumayer Station
- Earth observation with satellites
- Understanding atmospheric changes with HALO airplane
- Climate initiative REKLIM and Regional Climate Offices

RESEARCH FIELD HEALTH

For example: Combating common major diseases



- Disease prevention and personal risk assessment
- Translational research
- National Centres for Health Research:
 - National Center for Tumor Diseases (NCT) Heidelberg
 - Experimental and Clinical Research Centre (ECRC), Berlin
 - TWINCORE, Braunschweig
 - German Centre for Neurodegenerative Research, Bonn, Tübingen, Rostock/Greifswald, Göttingen, Dresden, Magdeburg, Munich, Witten

RESEARCH FIELD KEY TECHNOLOGIES

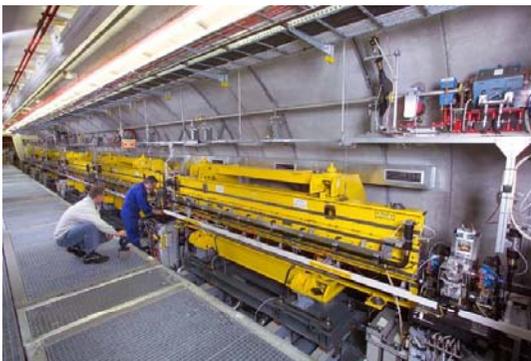
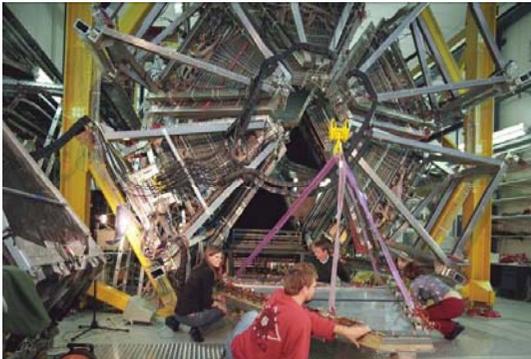
For example: Fundamentals for future innovations



- Scientific computing using the supercomputers JUGENE and JUROPA, PRACE
- Nanotechnology
- Information technology
- Materials research for energy storage, advanced engineering, biomedicine

RESEARCH FIELD STRUCTURE OF MATTER

For example: Operating large-scale facilities



- European XFEL: films from the nanocosmos
- Pilot plant FLASH
- FAIR: understanding the secrets of matter
- Large Hadron Collider (LHC) at CERN

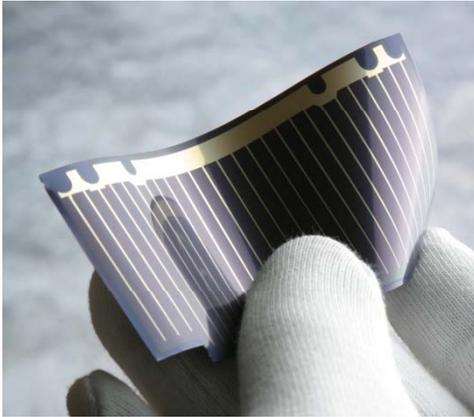
RESEARCH FIELD AERONAUTICS, SPACE AND TRANSPORT

For example: Exploration of space and earth

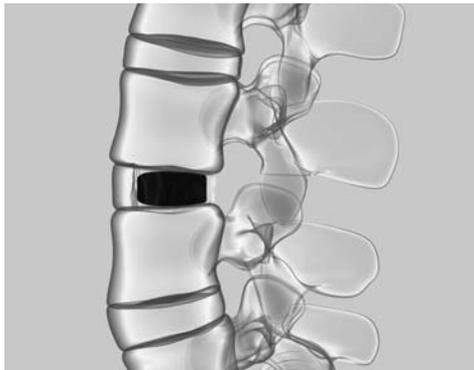


- Columbus space lab at International Space Station ISS
- Earth observation with satellites, e.g., EnviSAT, Terra-SAR and Tandem-X
- Communication networks for air and road traffic

TECHNOLOGY TRANSFER



Thin-layer solar cell/HZB



Plivio pore implant/
Forschungszentrum Jülich

- Over 3,100 cooperation projects with industry (2009), e.g.:
 - IBM and Forschungszentrum Jülich („Exascale Innovation Center“)
 - TomTom & DLR (traffic jam alert)
 - Airbus & HZG (laser-driven soldering)
- 400 patent applications per year
- Over 1,000 license applications with ca. 15 mio. € income (2009)
- 45 spin-outs by Helmholtz scientists since 2005, e.g.:
 - CSP Services, Cologne (development & consulting for solar thermal facilities)
 - Celitement, Karlsruhe (low-emission cement)

Helmholtz Young Investigators Groups

- Annual Call for 20 new groups
- 250,000 € per year (staff, infrastructure, material)
- Funding period of 5 years
- Possibility to use the large-scale facilities and infrastructure of the Helmholtz Centre
- Scientific independence in an early career stage
- Reliable career prospects based on proven research performance (Tenure Option)
- Possibility of a jointly appointed Junior Professorship with universities

Application

- Call 2011: open
- Submission of proposal at Helmholtz Centre by end of March 2011
- Submission of proposal at Helmholtz Head Office by end of May 2011
- Final selection: September 2011
- The Call was published on our website and in scientific journals like „Nature“ and „Science“



RESEARCH WITH AN IMPACT



The Helmholtz Association of German Research Centres is seeking excellent young scientists and engineers as

LEADERS FOR 20 HELMHOLTZ YOUNG INVESTIGATORS GROUPS

in six Research Fields:

Energy / Earth and Environment / Health / Key Technologies /
Structure of Matter / Aeronautics, Space and Transport

The Helmholtz Association is Germany's large organisation for scientific research and development. The 17 Research Centres united in the Association have a staff of more than 30,000 and an annual budget of about 3 billion euros. They perform top-rate research in strategic programmes and thus contribute to solving grand challenges which face society, science and industry.

The Association's potential for realising these ambitious objectives lies in the excellence of its personnel, its world-class large-scale facilities and excellent scientific infrastructure and its experience in researching systems of great complexity. The Young Investigators Groups will promote and further strengthen collaborations between the Helmholtz Centres and universities.

• **ELIGIBILITY:** Individuals who have earned a doctoral degree within the last six years and have achieved a superior record of accomplishment during their doctoral and postdoctoral research.

• **DURATION:** 5 years with a peer evaluation.

• **PERSPECTIVE:** Permanent employment, if evaluation attests excellence of group leaders (tenure track).

• **APPLICATION:**
STEP 1: Candidates contact the Helmholtz Centre of their choice with a CV, publication list and a letter of intent
STEP 2: The formal applications must be submitted by the chairman of the executive board of the Centre.

For further details and application information:
www.helmholtz.de/yig

DEADLINES:
For applicants: 31 March 2011
For Helmholtz Centres: 27 May 2011

The Helmholtz Association is an equal opportunity employer and is committed to increasing the percentage of women in group leader positions.

CONTACT:
nina.joehle@helmholtz.de



How to become a Postdoc at Helmholtz outside the Young Investigators Groups Programme

Possibility 1: Check the vacancies at our website

The screenshot shows the Helmholtz website's job search interface. At the top, the Helmholtz logo and navigation menu are visible. The main content area is titled 'Stellenangebote der Helmholtz-Gemeinschaft'. It includes a search bar with the text 'Suchbegriff' and a search button. Below the search bar, there are several filter options: 'Wissenschaft / Postdoc', 'alle Standorte', and 'alle Forschungszentren'. A map of Germany shows the locations of 17 Helmholtz research centers, labeled with abbreviations like AWI, DESY, HZG, MDC, HZB, HZDR, UFZ, GSI, KIT, IPP, and HMGU. The page also displays the number of results (144) and navigation links for different pages.

- Vacancies of all Helmholtz Centres
- Comprehensive search engine
- Currently 144 open Postdoc-Positions (Feb. 2011)

www.helmholtz.de → working at Helmholtz, Jobs & Karriere

How to become a Postdoc at Helmholtz outside the Young Investigators Groups Programme

Possibility 2: Contact the Helmholtz Centres directly

At www.helmholtz.de/en you find

- A list of all Helmholtz Centres
- An overview of the 28 research programmes within the 6 research fields
- Further contact details

Based on this information you can decide

- In which programme your research interests might fit
 - At which Helmholtz Centre you would like to work
- The next step would be to address the relevant contact person and present your project/introduce yourself



Thank you for your attention!

www.helmholtz.de

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