

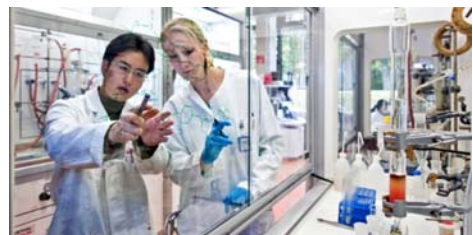
# An Introduction to the Helmholtz Association

Prof. Otmar D. Wiestler  
*President of the Helmholtz Association*

[www.helmholtz.de](http://www.helmholtz.de)

## Helmholtz Research Mission & Strategy

- Systems solutions for grand challenges based on:
  - Scientific excellence
  - Interdisciplinarity and critical mass
  - Long term research programs
- Helmholtz provides a highly attractive environment for talents and brilliant brains
- Profound expertise in large scale research infrastructure
- Helmholtz as a prime strategic partner at the local, national and international level
- Transfer of knowledge into economy and society



# Helmholtz Research Centers

1. Berlin  
Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)
2. Berlin-Buch  
Max Delbrück Center for Molecular Medicine in the Helmholtz Association (MDC)
3. Brunswick  
Helmholtz Center for Infection Research (HZI)
4. Bremerhaven  
Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung (AWI)
5. Bonn  
German Center for Neurodegenerative Diseases (DZNE)
6. Darmstadt  
GSI Helmholtz Center for Heavy Ion Research
7. Dresden  
Helmholtz Center Dresden Rossendorf (HZDR)
8. Garching  
Max Planck Institute for Plasma Physics (IPP) (Associate Member)
9. Geesthacht  
Helmholtz Center Geesthacht  
Center for Material and Coastal Research (HZG)
10. Hamburg  
Deutsches Elektronen-Synchrotron DESY



11. Heidelberg  
German Cancer Research Center (DKFZ)
12. Jülich  
Forschungszentrum Jülich
13. Karlsruhe  
Karlsruhe Institute of Technology (KIT)
14. Kiel  
GEOMAR Helmholtz Center for Ocean Research Kiel
15. Cologne  
German Aerospace Center (DLR)
16. Leipzig  
Helmholtz Center for Environmental Research (UFZ)
17. Munich  
Helmholtz Center Munich –  
German Research Center for Health and the Environment
18. Potsdam  
Helmholtz Center Potsdam  
German Research Center for Geosciences GFZ

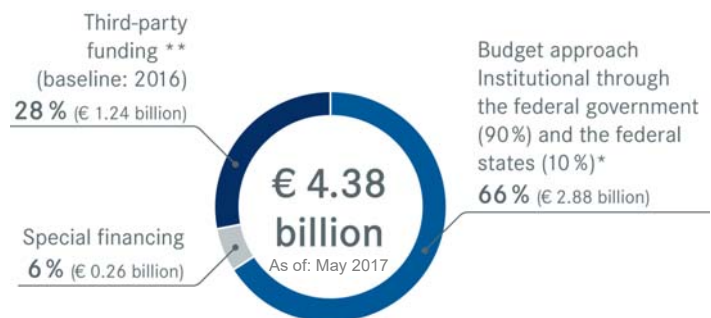
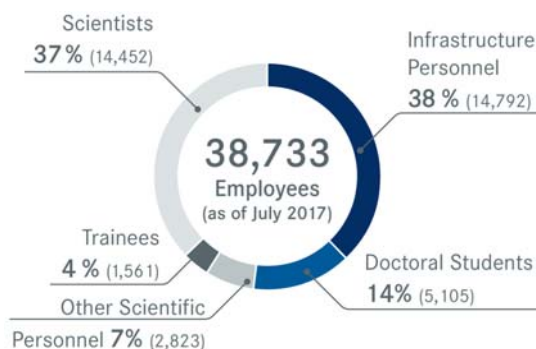
## Research Areas:

- Energy
- Earth and Environment
- Health
- Aeronautics, Space and Transport
- Matter
- Key Technologies

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## Facts and Figures

### Personnell & Budget 2017



\* As of 2016, the German federal government alone is financing the pact increase so that the federal government's share is over 90%.

\*\* Including project sponsorships

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## The six Research Fields of the Helmholtz Association

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## The Future Agenda of the Association

### Challenges for the research areas

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- Energy systems of the future (Materials & Storage, NUSAFE)
- Individualized and data-based medicine (eHealth, proof of concept); mental disorders
- Integrated exploration of the Earth System
- Development of new mobility concepts
- Compact accelerator systems
- Information and data science

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## Information & Data Science @ Helmholtz

- Information & Data Science strategy for all research centers and research areas (Earth system modelling; digital earth)
- New research area : Information
- New Helmholtz Center on Cyber Security (CISPA)
- Helmholtz incubator as interactive platform
- Helmholtz Information & Data Science Junior Academy
- Helmholtz Data Federation



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## The Future Agenda of the Association



- Incubator Information & Data Science
- Talent management, recruitment and career development
- Helmholtz as a strategic partner
- Promoting innovation and public-private partnerships
- Helmholtz knowledge transfer (GERICS)
- Helmholtz International
- Research infrastructures of the future

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## We promote Talents

### Facts and Figures

- **8,044** doctoral students (with Universities)
- **34** Helmholtz Graduate Schools and Helmholtz Research Schools
- **2,637** post-doctoral students
- **225** Helmholtz Young Investigators Groups (with “tenure” option)
- **30** Helmholtz school laboratories
- **1,657** vocational trainees
- **515** alumni of the Helmholtz Management Academy
- **299** alumni of the Mentoring Network for Women



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## The Helmholtz Talent Management

### Our strategy covers three fields

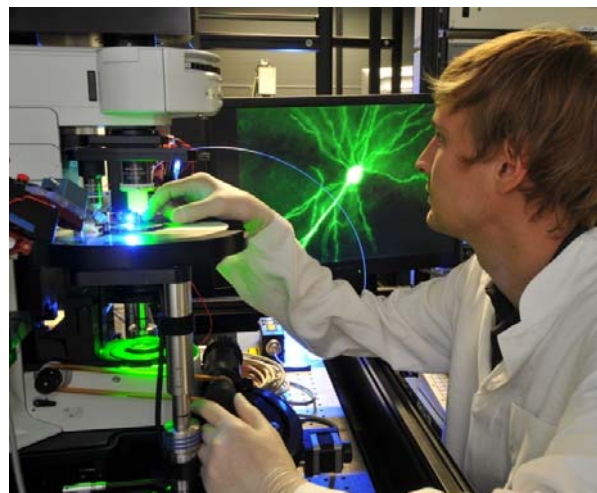
- **Recruitment and promotion:**  
Active international recruitment of and support for talent, in particular female scientists
- **Advice and development:**  
Support along attractive career paths in science & administration
- **Professional management:**  
Leadership training, coaching, and mentoring at the Helmholtz Management Academy



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## Strategic Partnerships

- 644 joint W3 and W2 professorial appointments
- Long term cooperations :
  - 15 Helmholtz Institutes
  - 20 Helmholtz Alliances
  - 110 Virtual Institutes
  - 225 Helmholtz Young Investigator Groups
- Karlsruhe Institute of Technology
- GERICS, DKRZ
- Excellence strategy with Universities
- German Centers for Health Research
- R & D alliances with companies (PPP)



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## Helmholtz Internationalization Strategy

- Bilateral partnerships around the world
- Liaison offices in Brussels, Moscow, Beijing
- 7,500 foreign scientists at Helmholtz Centers
- International Helmholtz laboratories  
WHELMi : HZDR & WIS in Rehovot
- International Helmholtz research schools
- European Partnering Initiative
- World class facilities (XFEL, FAIR, W-7-X, FRM II, IPolarstern, Neumayer, Zeppelin, COSYNA, GEMS,)
- Strategic cooperations with outstanding partners in  
USA, Israel, France, UK, Canada, China, Russia,



As of: 2016

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## The Initiative and Networking Fund

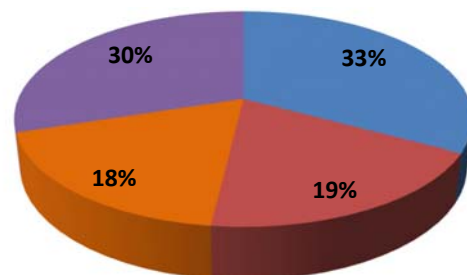
Flexible pool for implementing strategic objectives of the association

- Implementing the President's agenda
- Flexible and efficient tool for picking up innovative areas and tasks

### The budget of the Fund:

- € 89,6 million in 2018
- Increase to € 94 million by 2020

### Strategic Fields: Budget 2018



- Strategic Future Fields
- Strategic Partnerships
- Innovation and Cooperation with Industry
- Talent Management

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## Scientific Evaluation

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## Basics of Program-oriented Funding (PoF)

- Helmholtz contributes to solving grand challenges with interdisciplinary strategic research in six research areas.
- Research activities in our 18 centers are organized in long-term programs, which are periodically reviewed by international experts:
  1. scientific assessment of centers & programs
  2. future positioning of our research fields
- PoF provides the financial, strategic and scientific framework for coherent multi-year research programs within each research field.



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## Pathway to the next Program Period

**Recommendations** of the senate for implementation and funding of the new programs, based on the results of both the scientific and strategic evaluations.



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## Scientific Evaluation

Review Criteria at distinct levels



### Research Program:

- Center's contribution to the programs and their topics
- Identify strengths and weaknesses of the current programs
- Do we generate added value ?
- Do we pursue ambitious goals ?
- Contribution to future research strategy (outline for PoF IV)

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RESEARCH FOR  
GRAND CHALLENGES

Thank you so much for your valuable advice !

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