Helmholtz Association

At a glance

- Germany’s largest research organization
- Annual budget of ~ €4.7 billion
- ~ 40,000 employees
- World-class science infrastructure
- 19 independent research centers all over Germany.

Our research plays a key role in identifying reliable answers that benefit society, science, and the economy.
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 (FZ 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 (HMGU)

18. Potsdam
Helmholtz Center Potsdam German Research Center for Geosciences GFZ

19. Saarbrucken
Helmholtz Center for Information Security – CISPA

Research Areas:
- Energy
- Earth and Environment
- Matter
- Key Technologies (in the future: Information)
Motivation for Information & Data Science @ Helmholtz

- Highly relevant topic for the future for all 19 centers, for the 6 research fields and for the whole Association
- Enormous international competition and high expectations of society
- Helmholtz has a high level of expertise in numerous sub-areas
- Helmholtz generates Big Data in all centers and research fields
- Demand for disruptive, new ways of information processing, computer science, machine learning, data management, etc.
- High potential for interdisciplinary cooperation; connecting know-how between research fields offers huge opportunities
- Embedded in numerous other Helmholtz activities and an overarching strategy
Helmholtz Incubator Information & Data Science
Combining all activities in an innovative framework

Helmholtz Information & Data Science Framework

HIDA & Schools
Training of doctoral researchers in a network of regional research schools

HAICU
Platform for Machine Learning and Artificial Intelligence

HIP
Platform for Imaging

Helmholtz Information & Data Science Incubator

HMC
Metadata and management of research data

HIFIS
Technologies and systems for Big Data research

Pilot projects
1st round: 5 projects since 2017
2nd round: 8 projects since 2019

(Further information [here])
About HIDA

Network and training for data science

Preparation the Association’s *next generation of doctoral researchers & postdocs* for a data heavy-future of research

Creation and coordination of a *community for information & data science* within the Helmholtz Association and beyond

Establishment of HIDA and the Association as a *brand* in the field of information & data science *far beyond Germany*
Our goals
One Helmholtz Association – one academy – six research schools

We connect, and serve as the roof, to six interdisciplinary data science research schools in Germany.

We provide training for scientists in data science methods & their interdisciplinary application.

We are the facilitator for networking & knowledge exchange on data science within Helmholtz and beyond.
Our program

One Helmholtz Association – one academy – six research schools

Research schools

- 6 inter-disciplinary schools*
- Dual supervision for PhD students in data science and a scientific domain.
- 250 PhDs awarded in the upcoming six years.

*since 2018

Training

- Courses
- Conferences
- Hackathons
- Meet-ups
- Summer Schools
- Workshops
- and more…*

*training activities and events as of 2020

Network

- Trainees: Research stays at other Helmholtz Centers for up to 3 months.*
- International exchange programs
- Fellows: Research stays, speaking and teaching opportunities at Helmholtz Centers.

*trainee network as of 2020
Next steps
HIDA is growing

2019 – Soft launch
• HIDA core team is completed
• First Talent & Technology Scouting activities are underway
• Visiting Helmholtz Centers to explore needs

2020 – Roll-out
• HIDA education space opens for your data science classes and events @Helmholtz
• Official opening
• Climate datathon
• HIDA trainee network
• International exchange programs
• HIDA courses
• …

Future
• Helmholtz Association is one of Germany’s leading employer and educator in the application of data science in research
• Significant network growth nationally and internationally, e.g. additional schools
Six research schools

Training interdisciplinary data science specialists

(Further information here)
# Helmholtz Information & Data Science Academy

## Research Schools

<table>
<thead>
<tr>
<th>Name</th>
<th>Leading Helmholtz Center</th>
<th>Other Helmholtz Centers involved</th>
<th>Partner universities / other partners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIDSS4Health</strong>: Helmholtz Information &amp; Data Science School for Health</td>
<td>KIT</td>
<td>DKFZ</td>
<td>Universität Heidelberg</td>
</tr>
<tr>
<td><strong>DASHH</strong> – Data Science in Hamburg Helmholtz Graduate School for the Structure of Matter</td>
<td>DESY</td>
<td>HZG, HZI</td>
<td>Universität Hamburg, Technische Universität Hamburg, Helmut-Schmidt Universität Hamburg, European XFEL, Max-Planck-Institut für Struktur und Dynamik der Materie</td>
</tr>
<tr>
<td>Helmholtz School for Marine Data Science <em>(MarDATA)</em></td>
<td>GEOMAR</td>
<td>AWI</td>
<td>Universität Kiel, Universität Bremen, Jacobs Universität Bremen</td>
</tr>
<tr>
<td>Helmholtz School for Data Science in Life, Earth &amp; Energy <em>(HDS-LEE)</em></td>
<td>FZJ</td>
<td>DLR</td>
<td>Aachen RWTH, Universität zu Köln, Universität Bonn, Heinrich-Heine-Universität Düsseldorf, Max-Planck-Institut für Eisenforschung</td>
</tr>
<tr>
<td>Munich School for Data Science @ Helmholtz, TUM &amp; LMU <em>(MuDS)</em></td>
<td>HMGU</td>
<td>IPP, DLR</td>
<td>Technische Universität München, Ludwig-Maximilians-Universität München, Leibniz-Rechenzentrum, Max Planck Computing and Data Facility</td>
</tr>
<tr>
<td>Helmholtz-Einstein International Berlin Research School in Data Science <em>(HEIBRiDS)</em></td>
<td>MDC</td>
<td>AWI, DESY, DLR, GFZ, HZB</td>
<td>Einstein Center Digital Future (Technische Universität Berlin, Charité-Universitätsmedizin Berlin, Freie Universität Berlin, Humboldt-Universität zu Berlin, Universität der Künste)</td>
</tr>
</tbody>
</table>
HIDA Trainee Network
Exchange program @ Helmholtz (starting Spring 2020)

- **Exchange** between Helmholtz Centers with focus on information & data science
- **Goal:** Method transfer, expansion of research portfolio, network & cooperations, …
- **Trainees:** Doctoral & postdoctoral researchers
- **Duration:** 1-3 months

HIDA promotes the exchange financially
International Exchange Program with Ben Gurion University
Summer 2020 @ Helmholtz & DSRC

- **Exchange** between Helmholtz & DSRC (Data Science Research Center), working on predefined projects
- **Goal**: Network & cooperations, expansion of research
- **Target group**: BA, MA or PhD level, depending on expertise needed for project
- **Duration**: 6 weeks (August-September 2020)

HIDA promotes the exchange financially
POSTPONED to November 5-6 (click here)
DATA SCIENTISTS
SAVE OUR FUTURE

FIND YOUR JOB NOW!

DS JOBS @ HELMHOLTZ
HERE
Further information
www.hida.digital
Our team

Dr. Andreas Kosmider
Head Strategic Initiatives

Dr. Claudia Reschke
Adviser HIDA (Trainee Network)

Xenia von Polier
Press Officer

Susan Trinitz
Adviser Strategic Initiatives/HIDA

Danielle Bengsch
Adviser Talent & Technology Scout HIDA

Dr. Sophie Ehrmanntraut
Adviser HIDA courses

Sandra Pahl
Assistant and Processing

Pamela Bernstein
Welcome desk

Viktoria Schwarze
Adviser HIDA events
Contact us
And come visit us when you’re in Berlin

- **Visit us** @ Friedrichstraße 171, 10117 Berlin
- **Find out** more about us @ [www.hida.digital](http://www.hida.digital)
- **Write us** @ hida@helmholtz.de
- **Twitter** @HIDAdigital
Thank you! Questions?

Let’s stay in touch: hida@helmholtz.de
List of links used in presentation

- Helmholtz @ www.helmholtz.de/en/
- Helmholtz Incubator @ https://www.helmholtz.de/en/research/information_data_science/
- HIDA @ https://www.helmholtz-hida.de/en/
- Helmholtz Information & Data Science Schools @ https://www.helmholtz-hida.de/en/schools/
- HIDA Trainee Network & exchange programs @ https://www.helmholtz-hida.de/en/activities/
- HIDA Events @ https://www.helmholtz-hida.de/en/activities/events/
- HIDA Datathon @ https://www.helmholtz-hida.de/en/activities/events/artikeldetail/hida-datathon/
- Information & Data Science Jobs - Helmholtz @ https://www.helmholtz-hida.de/en/jobs/