

The background of the entire slide is a dark blue field filled with a complex, abstract network of thin, light blue lines and small dots. These lines and dots form a dense, interconnected web that resembles a molecular structure or a data network, with some lines radiating outwards from a central cluster.

# HiDA

**HELMHOLTZ**  
Information & Data Science Academy

**Information  
& Data Science  
for the Future  
of Research**



HIDA CONNECTS AND  
SERVES AS THE ROOF TO

**6**

NEWLY FOUNDED DATA  
SCIENCE RESEARCH SCHOOLS

LINKED BY A NETWORK OF

**14**

NATIONAL RESEARCH CENTERS

AND

**17**

TOP-TIER UNIVERSITIES  
ACROSS GERMANY



In science, methods such as computational modeling, data mining and machine learning, combined with today's computing power, open up entirely new perspectives for gaining information and knowledge. Working with these data science methods is fundamentally changing most scientists' research: They are a key to cutting-edge research and to designing the future of our civilization, but also require special qualifications.

**HIDA – The Helmholtz Information & Data Science Academy – is Germany's largest postgraduate training network in information and data science. We prepare the next generation of scientists for a data-heavy future of research.**

ACROSS DISCIPLINES AND BORDERS

DATA SCIENCE COURSES

EXPAND RESEARCH PORTFOLIO

CENTRAL HUB FOR KNOWLEDGE

+++

DURING THE NEXT

5

YEARS, THESE DATA SCIENCE RESEARCH  
SCHOOLS WILL TRAIN OVER

250

FULLY FUNDED DOCTORAL  
RESEARCHERS

+++

The doctoral researchers will deepen their knowledge in data science methods and learn to combine knowledge from the six Helmholtz research areas – energy, earth and environment, health, aeronautics, space and transport, matter, and information – with data science methods. For these purposes, all doctoral researchers receive dual supervision in data science and their scientific domain.

In addition, HIDA offers doctoral researchers and scientists attractive opportunities to obtain training and continuing education in a wide range of methods and to become part of an international data science network.

# We are the central hub for knowledge exchange on **DATA SCIENCE** within the Helmholtz Association, Germany's largest research organization.

# We offer our own data science **TRAINING COURSES**, access to Germany's largest computer systems and some of the world's largest scientific **BIG DATA SETS** for doctoral researchers and postdoctoral researchers.

# Our HIDA **TRAINEE NETWORK** is a novel exchange program for all doctoral and postdoctoral researchers whose research has a strong connection to information or data science: Trainees can apply their data science skills at other research centers, learn new skills and expand their research portfolio across domains.

# We foster data science collaborations across disciplines and borders and establish **EXCHANGE PROGRAMS** for data science talent with universities and research institutions internationally.

# We promote transfer of expertise in the field of Information & Data Science, fueling method exchange between different research fields. Our goal is to spark collaborations and build an **INTERDISCIPLINARY COMMUNITY** of data scientists.

## Some of Our Doctoral Researchers



**ANNA THERESA CAVASIN**  
Next Generation Integrative  
Modeling for Cryo-Electron  
Microscopy



**AMIR KOTOBI**  
Dynamic Protein Pattern  
Recognition in Free-Electron  
Laser Experiments



**YAROSLAV AGAPOV**  
Visualization for Improved  
Configuration and Analysis  
in MRI



**MICHAEL BERGMANN**  
Integrated Data  
Analysis 2.0



**CHRISTIAN GERLOFF**  
Machine Learning and Bayesian  
Methods in Neuroscience



**PATRICK SCHOLZ**  
Lifelong Machine Learning in  
Surgical Data Science



**DILIP HIREMATH**  
Automated Testing of Marine  
Data Science Applications



**DANIMIR DONCEVIC**  
Optimal Data-Driven Models  
for Optimization-Based Design  
of Energy Systems



**LAURA MATHIEU**  
Reactive Control and Adaptive  
Sampling Using an Autonomous  
Underwater Vehicle



**JORGE GUZMÁN**  
Structure Identification of  
Mesoscopic Biological Inter-  
action Networks from Data



**NICOLAS MIRANDA**

An Unsupervised Census of  
Astrophysical Transients in  
the Universe



**PIA STAMMER**

Uncertainty Quantification in  
Radiation Therapy



**SONAL RAMI**

Machine Learning  
Approaches in Climate  
Modeling



**JANNES MÜNCHMEYER**

Fast Assessment of  
Earthquakes



**ANNA SIMSON**

Hybrid Data Assimilation for  
Applications in Cryosphere  
Physics



**OLGA KONDRATEVA**

On-Board Image Classification  
Based on Space-Based FPGA  
Processing



**BARBARA HÖLLBACHER**

Machine Learning to  
Understand the Gene  
Regulatory Code



**PAULA BREITLING**

Augmenting Physician Workflow  
to Personalize Care Decisions  
by Predicting Next Steps and  
Informational Needs in (Precision)  
Oncology



**GEORGIANA MANIA**

A Multi-Purpose Framework  
for Efficient Parallelized  
Execution of Charged  
Particle Tracking



**ROBIN GREIF**

Viability of Neural Network-  
Based Predictor-Corrector  
Schemes for Plasma Turbulence  
Simulations in Tokamak Fusion  
Reactors



**STASIS CHUCHURKA**

Multi-Messenger X-Ray Science  
– Electron Densities from a  
Combined Analysis of Elastic  
X-Ray Scattering and X-Ray  
Emission Data

## Our Research Schools



Sounds exciting?

PLEASE GET IN TOUCH AND  
JOIN OUR DATA SCIENCE  
NETWORK!

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