HIDA CIFAR Summer School on Data Science & Climate

Monday, June 30, 2025 - Friday, July 4, 2025

HIDA Hub (Helmholtz-Gemeinschaft, Anna-Louisa-Karsch-Straße 2, 10178 Berlin)

Speaker information

Ann Gregory

Ann Gregory's research explores the human virome, the vast collection of viruses residing within and on our bodies. Using both computational and experimental approaches, Ann's team aims to unravel how these viruses interact with our immune system and other microbes, and how they influence our health. Computationally, her lab is leveraging advanced technology to identify new viruses based on their 3D structures and map viral interactions across the human body to understand their distribution and impact. Experimentally, her lab is isolating gut viruses to develop personalized phage therapies for gut-related diseases. Her lab aims to advance virus discovery and pave the way for novel therapeutic strategies using viruses.

Ariel L. Furst

Ariel L. Furst is the Cook Career Development Professor of Chemical Engineering at MIT. Her lab combines biological, chemical, and materials engineering to solve challenges in human health and environmental sustainability. They develop technologies for implementation in low-resource settings to ensure equitable access to technology. She completed her Ph.D. in the lab of Prof. Jacqueline K. Barton at the California Institute of Technology developing new cancer diagnostic strategies based on DNA charge transport. She was an A. O. Beckman Postdoctoral Fellow in the lab of Prof. Matthew Francis at UC, Berkeley developing sensors to monitor environmental pollutants. She is the recipient of the NIH New Innovator Award, the NSF CAREER Award, the Dreyfus Teacher-Scholar Award, and the Sloan Fellowship. She is the cofounder of three startups: Seia Bio, Helix Carbon, and Ouroloop. She is passionate about STEM outreach and increasing participation of underrepresented groups in engineering.

Maximilian Gelbrecht

Information will follow

Mike Sips

More information about Mike and his research interests can be found here.

Peer Nowack

Information will follow

Sigrid Roessner

Sigrid Roessneris a Senior Scientist at GFZ Potsdam and based in Section 1.4 – Remote Sensing and Geoinformatics. Her background is in Geography and her research focus on Applied Remote Sensing and GIS in the fields of natural hazards, geomorphology, physical geography and urban ecology. She has been involved in interdisciplinary remote sensing research using a variety of remote sensing data including optical and radar systems. One of her research foci is the spatiotemporal analysis of landslide processes by remote sensing based time series analysis for

improved hazard assessment.

Stefan Bauer

Current AI systems are limited in their ability to understand the world around us, as shown in a limited ability to transfer to new problems or lack of skill in applying known tools in an unknown scenario. This is a shared problem for many established approaches, which mostly focus on predictability when inferring patterns and structure from data. Stefan Bauer's key research goal is to design machines that can extrapolate experience across environments and tasks by learning independent mechanisms that can flexibly be used, composed and re-purposed.

Wolfgang Graf zu Castell - Rüdenhausen

Dr. Wolfgang Graf zu Castell-Rüdenhausen is a mathematician with a PhD from Friedrich-Alexander University Erlangen-Nürnberg and habilitation from TU Munich, where he has taught since 2001. Since November 2021, he has served as Director of Department 5 Geoinformation and CIO at the GFZ German Research Centre for Geosciences. He chairs the Open Science Working Group of the Helmholtz Association and contributes to strategic initiatives such as HMC, HIP, NFDI4Earth, and the DataHub of Helmholtz Earth & Environment. His research focuses on data-driven analysis, kernel methods, mathematical imaging, and applied data science, alongside interests in open science and digital transformation. Prior to GFZ, he held leadership roles at Helmholtz Munich and held visiting professorships in New Zealand and the USA.