JARA|HPC

General Assembly JARA-HPC

Thomas Lippert
Wolfgang Schröder
Aachen, February 16, 2018

AN INITIATIVE OF
RWTH AACHEN UNIVERSITY
JÜLICH FORSCHUNGSZENTRUM

Outline

1. **Welcome**
2. **Activities**
   - SimLab “Neuroscience”
   - CSG “Immersive Visualization”
   - SimLab “Highly Scalable Fluids and Solids Engineering”
   - CSG “Parallel Efficiency”
   - JARA Partition
   - Miscellaneous
3. **JARA Center for Simulation and Data Sciences (JARA-CSD)**
   - Scientific focus
   - Status of implementation
   - Transfer of JARA-HPC into JARA-CSD and membership
   - Timeline
4. **Conclusion (Get together)**

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Miscellaneous

Selected prices and awards for JARA-HPC young researchers

- **Dominik Rausch** (CSG "Immersive Visualization" among others)
  RWTH Lehrpreis for "Virtual Sketching" Project

- **Christian Terboven** (JARA Vergabegremium, CSG "Parallel Efficiency")
  Borchers Plakette for doctoral examination "Abstractions for Performance Programming on Multi-Core-Architectures with Hierarchical Memory"

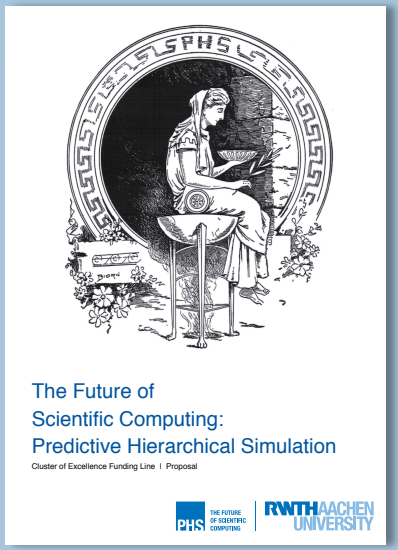
- **Andrea Bönsch** (CSG „Immersive Visualization")
  ICT Young Researcher Award 2017, significant contribution to the Information and Communication Technology research at RWTH Aachen University

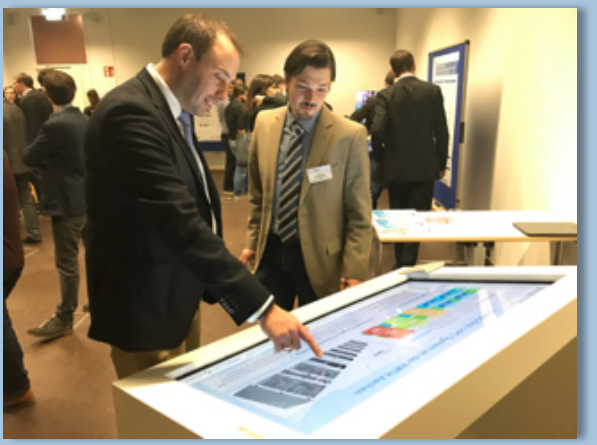
- **Simon Schwitanski** (CSG "Parallel Efficiency")
  SPPEXA student award, master thesis "On-the- Fly Data Race Detection in MPI One-Sided Communication"

Miscellaneous

Cluster of Excellence

- "The Future of Scientific Computing: Predictive Hierarchical Simulation" (PHS)
- "Neuro-Inspired Computing" (NeuroIC)





Conferences and Events

- RWTH transparent, January 27, 2017
- International Supercomputing Conference (ISC'17) Frankfurt, June 18-21, 2017
- Supercomputing Conference (SC17) Denver, November 12-17, 2017
- Wissenschaftsnacht, November 10, 2017

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JARA-CSD

Scientific focus

- **Further development of simulation- and data sciences in research and teaching**
- **Co-design development: development of HPC-technology together with HPC-producers**

Simulation:
Development and application of numerical methods and models, that meet the requirements of scalability and massively parallel processing, and are therefore essential for High-Performance Computing (HPC).

Data science:
Comprises all scientific topics that deal with extracting knowledge from data. Data science can be divided into two major areas: Data management and data analysis.

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Status of implementation: involved people

CSD "Gründungsdirektoren"

Prof. Marek Behr
Prof. Stefan Blügel
Prof. Stefan Decker
Prof. Thomas Lippert
Prof. Matthias Müller
Prof. Wolfgang Wiechert

CSD "Strukturkommission"
(Speakers in red)

Prof. Paolo Carloni (FZJ)
Prof. Markus Diesmann (FZJ)
Prof. Gerhard Gompper (FZJ)
Prof. Martin Grohe (RWTH)
Prof. Leif Kobbelt (RWTH)
Prof. Marco Lübbecke (RWTH)
Prof. Ulf-G. Meißner (FZJ)
Prof. Alexander Mitsos (RWTH)
Prof. Holger Rauhut (RWTH)
Prof. Stefanie Reese (RWTH)
Prof. Jochen Schneider (RWTH)
Prof. Franziska Schönebeck (RWTH)
Prof. Wolfgang Schröder (RWTH)
Prof. Andreas Schuppert (RWTH)
Prof. Robert Spatschek (FZJ)
Prof. Manuel Torrilhon (RWTH)
Prof. Harry Vereecken (FZJ)
Prof. Andreas Wahner (FZJ)
Prof. Matthias Wuttig (RWTH)

JARA-CSD

Status of implementation: CSD Strukturkommission

Main tasks

- consulting and concept draft for the CSD - ensuring that the focus matches the proposals of RWTH Aachen and FZ Jülich, i.e. mutual reconciliation of concepts ✓
- preparation of a roadmap for the sectors SSD, ISDH, and infrastructure ✓

ToDo:

- preparation of a roadmap for the HSD
- development of criteria for CSD-membership

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Transfer JARA-HPC - CSD

Transfer of JARA-HPC into CSD

- Future of the Excellence Initiative: AixIni /ExC / ExU
- JARA-HPC and JARA-CSD: commonalities and differences

Membership

- Institutional membership (similar to JARA-HPC)
- Scientific focus on Simulation and Data Sciences
- CSD Strukturkommission prepares a proposal for the JARA „Versammlung der Vertragspartner“

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Transfer of JARA-HPC into JARA-CSD

- March 2018:
  Finalized version of the concept paper incl. regulations for CSD membership
- August 31, 2018:
  Transfer of JARA-HPC into JARA-CSD
- 2nd half of 2018:
  Development of the successor for the Helmholtz-Program „Supercomputing and Big Data“ (JSC / FZJ)
- September 27, 2018:
  Decision on EXC proposals
- December 10, 2018:
  Proposals for EXU
- April 2019:
  Scientific evaluation of the Helmholtz-Program successor
- July 19, 2019:
  Decisions on EXU

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