

Simulation and Data Science for Society - options for future activities

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- SDS aims to strengthen the impact of JARA CSD on Society & Economy by
 - Fostering cooperations with industry
 - » find new funding sources with complementary chance & risk profiles
 - » joint development of next generation computational technologies
 - » increase options for new funding schemes (e.g. EU Horizon future, KI-Initiative etc.)
 - Communication with societal groups on CSD - related topics
 - » Establish JARA CSD as an **independent** institution for informations on Computational Science and its implications
 - Supporting decision makers with CSD - related information
 - » Scientific lobbying – increase awareness of decision makers on the needs and chances of CSD in Germany

Communication with societal groups - options for intercultural communication

- Press releases => communication office
 - Goal: establish JARA-CSD as leading **independent** institution for computational sciences in the public opinion
 - Requires **continuous** delivery of (short) messages
 - » Set up of messaging process

- Participation in multi-disciplinary discussion groups
 - Set up long-term relations to opinion makers

- Offering workshops for decision makers from politics, journalism, user groups on the “hot topics”

Supporting Decision Makers

- what should be discussed

- Who are the decision makers we are interested in?
 - Politics
 - User groups
 - Journalism / public opinion

- How to address
 - Symposia on societal impact of Simulation & Data Sciences
 - Information material
 - Direct contact...

- That's a marathon run, no sprint
 - Processes
 - Long term committment

- Fostering relations between Industry & Mathematics / Computational Sciences is a never-ending story
 - OECD report (world-wide)
 - ESF report (EU)
 - KoMSO (Germany)
 - ...

- To be discussed (next steps):
 - **How can JARA CSD make a difference?**
 - **What are our Unique Selling Points?**

- Be aware: industry is **currently** going to shape their computational strategies...

■ Options for cooperations with industry:

- “selling” HPC capabilities + support
- Dedicated projects between 1 company and 1 institute
 - » “Auftragsforschung” on specific topic
 - » 1 MS – 1 PhD thesis, 10K€ - 200K€
- Research consortia with (mandatory) industry participation
 - » Focus: advancement of research area (mostly focusing on enabling technologies), e.g.
 - EU Innovative Medicine Initiative
- Strategic Partnership: 1 company – 1 research institution (>1-10M€)
 - » Focus on innovation in a research area, mostly focusing on enforcing product development/production or core R&D processes)
- Joint research institution: 1 company – 1 research institution (>10M€)
 - » Joint product / technology research, Joint labs
- (Large scale) sponsoring & donations (up to > 100M€)

Fostering Cooperations with Industry

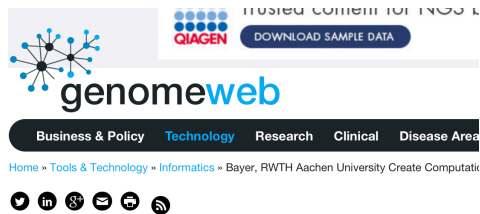


Examples:

Industry Relations

Das Industry-Relations-Team des Jülich Supercomputing Centre

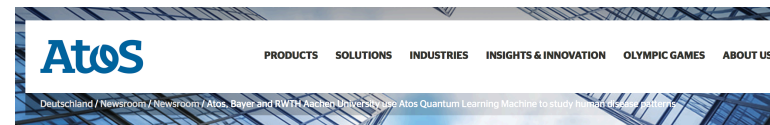
- vermittelt und koordiniert Forschungsprojekte mit Industriebezug
- bringt externe Auftraggeber und interne Experten für Auftragsarbeiten zusammen
- eröffnet den Zugang und berät zum Einkauf von Rechenzeit auf Jülicher Supercomputersystemen.



Bayer, RWTH Aachen University Create Computational Biomedicine Center

Oct 09, 2013 | a GenomeWeb staff reporter

NEW YORK (GenomeWeb News) – Bayer Technology Services today said it and RWTH Aachen University in Germany have collaborated to form the Joint Research Center on Computational Biomedicine.



Atos, Bayer and RWTH Aachen University use Atos Quantum Learning Machine to study human disease patterns

Quantum computing to accelerate research in the Health sector

Paris, Leverkusen, Aachen, November 7, 2018



German Cancer Research Center and Bayer HealthCare Join Forces to Combat Cancer

Successful partnership between science and industry to develop new anticancer drugs to be extended / Partners invest 10 million euros in total for collaborative research

MIT reshapes itself to shape the future

Gift of \$350 million establishes the MIT Stephen A. Schwarzman College of Computing, an unprecedented, \$1 billion commitment to world-changing breakthroughs and their ethical application.



■ To be discussed: joined JARA CSD SDS activities

→ Shall JARA CSD – SDS foster overarching JARA-CSD cooperations on “strategic cooperation level”?

→ If “yes”:

» Who from the “Grand Challenges” intends to commit?

» Unique selling points?

» Which companies (> 1 Billion€ revenues p.a., CS “enabling” technology) could be addressed?

» Which “CS innovators” (>business model on CS, > 10 Mio€ R&D investments p.a.) may be addressed?

→ Shall SDS support to set up “umbrella research agreements” between companies and JARA-CSD for multiple projects?

■ Next steps

- Set up a Task Force SDS

- Identify and evaluate interest & commitment on
 - » Research / technology areas
 - » Optional industry partners
 - » Size & type of cooperation
 - » Support needed for realisation

- Directorate and approval of partners

- Take action (...or let the matter rest)