Joint Research Center for Computational Biomedicine

Simulation and Data Science for Society - options for future activities

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CSD & Society – optional 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

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- 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

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- 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 Cooperations with industry

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- Fostering relations betyween 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…

Fostering Cooperations with Industry

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- 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 insitution (>10M€)

» Joint product / technology research, Joint labs

→ (Large scale) sponsoring & donations (up to > 100M€)

Fostering Cooperations with Industry

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- 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.

Industry Relations

QIAGEN DOWNLOAD SAMPLE DATA

genomeweb

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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.

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Quantum computing to accelerate research in the Health sector

Paris, Leverkusen, Aachen, November 7, 2018

E.ON Energy Research Center | RWTH AACHEN UNIVERSITY

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.

Fostering Cooperations with Industry

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- 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?

Fostering Cooperations with Industry

- 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)