

NIC Symposium 2020

27 – 28 February 2020 | Jülich, Germany

M. Müller, K. Binder, A. Trautmann (Editors)

Proceedings



Forschungszentrum Jülich GmbH
John von Neumann Institute for Computing (NIC)

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The John von Neumann Institute for Computing (NIC) was established in 1998 by Forschungszentrum Jülich and Deutsches Elektronen-Synchrotron DESY to support the supercomputer-oriented simulation sciences. In 2006, GSI Helmholtzzentrum für Schwerionenforschung joined NIC as a contract partner.

The core task of NIC is the peer-reviewed allocation of supercomputing resources to computational science projects in Germany and Europe. The NIC partners also support supercomputer-aided research in science and engineering through a three-way strategy:

- Provision of supercomputing resources for projects in science, research, and industry.
- Supercomputer-oriented research and development by research groups in selected fields of physics and natural sciences.
- Education and training in all areas of supercomputing by symposia, workshops, summer schools, seminars, courses, and guest programmes for scientists and students.

The NIC Symposium is held biennially to give an overview on activities and results obtained by the NIC projects in the last two years. The contributions for this 10th NIC Symposium are from projects that have been supported by the supercomputers JURECA, JUQUEEN and JUWELS in Jülich. They cover selected topics in the fields of Astrophysics, Biology and Biophysics, Elementary Particle Physics, Materials Science, Theoretical Condensed Matter, Soft Matter Science, Earth and Environment, Computer Science and Numerical Mathematics, Fluid Mechanics and Engineering, and Plasma Physics.



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