

General Information

Venue

The Auditorium of the Forschungszentrum Jülich.

Oral Presentations

The Auditorium is equipped with a video projector and a laptop for presentations.

Poster Session

We invite contributions in the form of poster presentations. Please send a short abstract (less than 3000 characters, no figures) to coordination-office@fz-juelich.de by 12 September 2022 at the latest. The posters will be mounted on movable walls provided by the organisers. The maximum size of a single poster should not exceed 90 cm width and 145 cm height (portrait format).

Registration

Please register before 7 September 2022 under the following link

www.john-von-neumann-institut.de/nic-symposium

Accommodation

Participants are responsible for booking their own hotel accommodation.

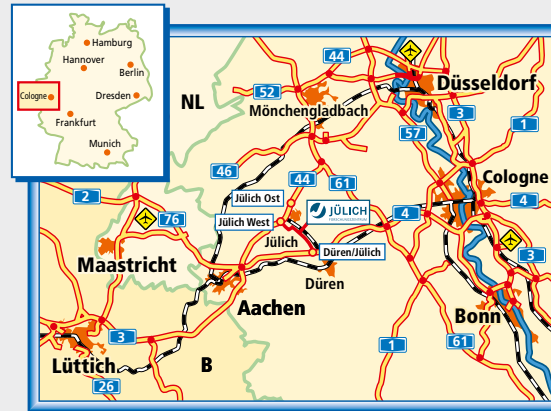
Please visit www.john-von-neumann-institut.de/nic-symposium for information about accommodation.

The rooms in the hotels in Jülich will be held for the NIC Symposium until 1 September 2022.

Shuttle service will be provided from the hotels in Jülich.

We thank J. Schumacher and Ph. Vieweg (Technische Universität Ilmenau) for the image used in the cover design.

How to find us



How to get to Jülich

Jülich can be reached

By train: go to Düren main station (Hauptbahnhof), then take the local train (Rurtalbahn) to Jülich.

By plane: Düsseldorf or Cologne airport. Individual transportation to Jülich upon request.

By car: via Autobahn A4, A44 and A61 (see map).

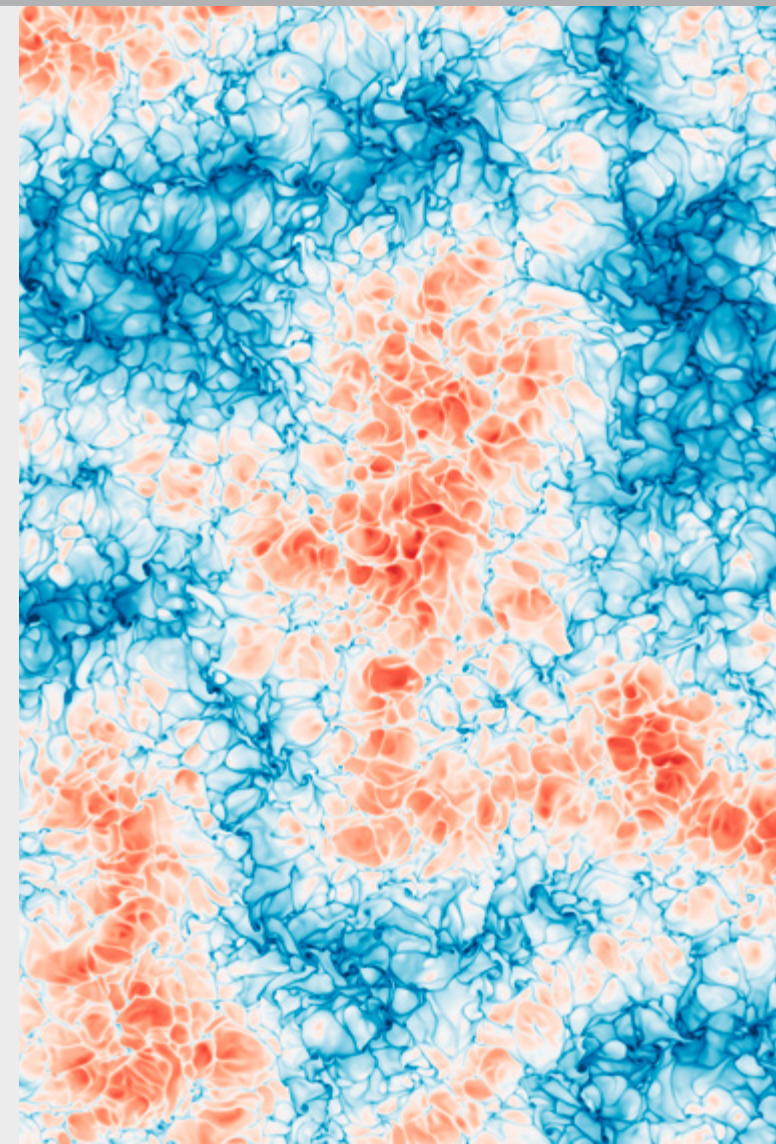
We are looking forward to seeing you in Jülich.

Further Information

Additional information is available on the web at www.john-von-neumann-institut.de/nic-symposium or contact the Symposium Secretaries:

Gina Bongartz/Janina Liebmann
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Institute for Advanced Simulation
Forschungszentrum Jülich GmbH
D-52425 Jülich

Telefon: +49 (0)2461-61-3893/5166
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NIC Symposium 2022

29 - 30 September 2022 | Jülich | Germany



The 11th NIC Symposium gives an overview of the activities of the John von Neumann Institute for Computing (NIC) and of the results obtained in the last two years by research groups supported by the NIC.

NIC - a joint foundation of Forschungszentrum Jülich (FZJ), Deutsches Elektronen-Synchrotron (DESY) and Gesellschaft für Schwerionenforschung (GSI) - supports with its members' supercomputer facilities about 130 research groups at universities and national labs working on computer simulations in various fields of science.

Invited lectures cover selected topics in the following fields:

- Astrophysics
- Biophysics
- Chemistry
- Elementary Particle Physics
- Theoretical Condensed Matter
- Materials Science
- Soft Matter Science
- Earth and Environment
- Fluid Mechanics and Engineering
- Plasma Physics
- Computer Science and Numerical Mathematics

The talks are intended to inform a broad audience of scientists and the interested public about the research activities at NIC. The accompanying symposium proceedings will cover a range of topics even wider than provided by the talks.

Organising Committee

Marcus Müller

Christine Peter

Alexander Trautmann

Martina Kamps

Programme

Thursday, 29th September 2022

- 8:30 Transfer from Jülich
- 9:00 Registration
- 9:30 **Welcome Address** by Prof. W. Marquardt,
Chair of the Board of Directors of FZJ
- 9:45 Th. Lippert, FZJ
Perspectives of Quantum Computing at the Jülich Supercomputing Centre
- 10:30 Coffee
- 11:00 P. Berczik, Universität Heidelberg
Growth of Seed Black Holes in Galactic Nuclei
- 11:45 S. Stolzenberger, Universität Bonn
The Impact of Greenland Ice Sheet Melting on the North Atlantic Simulated with the FESOM Sea Ice-Ocean Model
- 12:30 Group Photograph
- 12:45 Lunch
- 14:00 J. Schumacher, Universität Ilmenau
Analysis of the Large-Scale Order in Turbulent Mesoscale Convection
- 14:45 A. Pukhov, Heinrich-Heine-Universität
Düsseldorf
Interaction of Extremely Intense Flows of Electromagnetic Energy and QED
- 15:30 Coffee
- 16:00 A. Schug, FZJ
Controlling the Orientation of Mesophases by Processing: Insights from Computer Simulation
- 16:45 L. Mayrhofer, Fraunhofer IWM
Atomic-Scale Insights into Friction from Molecular Dynamics Simulations: Fluorinated Carbon Coatings and PTFE
- 17:30 **Poster Session and Reception**
- 19:00 Transfer to Jülich

Friday, 30th September 2022

- 8:30 Transfer from Jülich
- 9:00 T. D. Kühne, Universität Paderborn
Two-Dimensional Hydrogen Structures at Ultra-High Pressures
- 9:45 E. Pavarini, FZJ
Massively Parallel Simulations of Correlated Materials
- 10:30 Coffee
- 11:00 C. Urbach, Universität Bonn
The Quark and Gluon Momentum Fractions in the Pion
- 11:45 H. Gottschalk, Bergische Universität Wuppertal
Uncertainty Quantification and Resource-Demanding Computer Vision Applications of Deep Learning
- 12:30 End of NIC Symposium / Lunch
- 13:30 Transfer to Düren Train Station