Monday, May 30th 2022

15:30 | 10'

The Quest for Exascale Performance with the Next Generation Climate Model ICON
Dr. Panagiotis Adamidis (Deutsches Klimarechenzentrum)
climate modelling | exascale HPC systems | heterogeneous architectures

16:00 | 10'

Federated HPC, Data Facilities and Support
Dr. Robert Barthel (bwHPC, Steinbuch Centre for Computing)
federated services | federated software | federated governance | federated identity management | federated HPC | heterogenous architectures

16:30 | 15'

The NHR Graduate School – We promote young talents in HPC!
Yvonne Miketta (NHR-Verein e. V.)
scholarships | young researchers

17:00 | 15'

ClusterCockpit Job-specific Monitoring Stack
Dr. Jan Eitzinger (NHR@FAU)
performance monitoring | web interface | monitoring stack

18:00 | 15'

Parallel Quantum Chemistry on Noisy Intermediate-Scale Quantum Computers
Dr. Robert Schade (Paderborn University, PC2)
quantum Computing | measurement-based Quantum Computing | superconducting qubits | variational quantum eigensolver | constrained minimization | quantum chemistry | adaptive cluster approximation | reduced density-matrix functional theory

18:30 | 30'

A Secure Workflow for Shared HPC Systems
Hendrik Nolte (NHR@Göttingen)
secure computing | sensitive data | life science

Tuesday, May 31th 2022

10:00 | 10'

Performance Analysis Tools in HPC@ZIH
Dr. Holger Brunst (TU Dresden)
performance | analysis | debugging | tools | history

11:00 | 10'

PIKA: Continuous Job Performance Monitoring
Frank Winkler (NHR@TUD)
perfomance monitoring | analysis and visualization

11:30 | 10'

Software Sustainability und Performance Engineering
Dr. René Caspart (NHR@KIT / SCC)
research software engineering | sustainable software | continuous benchmarking | Cx

12:00 | 20'

Research and HPC Technology Evaluation for Improved Energy Efficiency
Dr. Steffen Christgau (NHR@Berlin)
green HPC | HPC technologies | accelerators | FPGA | energy efficiency

13:00 | 20'

The future of the LIKWID toolsuite
Thomas Gruber (NHR@FAU)
hardware performance monitoring | benchmarking | performance monitoring | research software | heterogeneous architectures

14:00 | 15'

NHR – We are HPC
Dr.-Ing. Dörte Sternel (NHR-Verein e. V.)
alliance | german universities | tier 2 | resources | training

14:30 | 10'

AI HERO - Towards Energy Consumption Awareness for AI Workloads
Dr. Charlotte Debus (Helmholtz AI Local Unit @ KIT, Steinbuch Centre for Computing)
green AI | energy efficiency | deep learning workflows | education

15:15 | 15'

Accessing HPC resources via RESTful API
Dr. Christian Köhler (NHR@Göttingen)
RESTful API | OAuth | authorization | workflows

15:45 | 30'

HPC Use Cases and Benchmarking
Dr. Matthias Läuter (NHR@Berlin)
HPC use cases | data assimilation | Graph500 | agent-based modeling | comets

16:30 | 20'

Breaking the Exaflop Barrier for the Electronic Structure Problem in Ab-Initio Molecular Dynamics
Prof. Dr. Thomas D. Kühne (Paderborn University, PC2)
sientific computing | linear algebra | approximate computing | GPUs

17:00 | 15'

FPGAs at the Paderborn Center for Parallel Computing
Dr. Michael Laß (Paderborn University, PC2)
FPGA | cluster integration | optical switch | Slurm

Wednesday, June 1st 2022

10:15 | 15'

NHR Container and Container management
Azat Khuziyakhmetov (NHR@Göttingen)
containers | HPC | singularity

11:00 | 15'

Julia for High-Performance Computing
Dr. Carsten Bauer (Paderborn University, PC2)
Julia | scientific computing | two-language problem | interactive HPC

12:00 | 10'

Research Data Management for Data-Intensive HPC
Dr. Andreas Knüpfer (NHR@TUD)
RDM | storage | data life cycle

13:30 | 10'

Why Digital Humanities needs HPC?
Johannes Biermann (NHR@Göttingen)
collection databases and repositories | object and content metadata | visualisation of data | creating new research questions | possibilities for HPC usage