Austrian-Slovenian HPC Meeting 2026 – ASHPC26

7 Apr 2026, 14:00 → 10 Apr 2026, 14:30 Europe/Vienna
TUtheSky (11th floor) (TUtheSky, TU Wien, Vienna, Austria)

Description

Austrian-Slovenian HPC Meeting 2026 – ASHPC26

ASHPC26 will take place at TUtheSky, TU Wien, Vienna, Austria, **8–10 April 2026**.

ASHPC26 will continue the tradition of the annual Austrian HPC Meetings (2015–2020) and the Austrian-Slovenian HPC Meetings (2021–2025) bringing together users and providers of large-scale computing resources for both academic and non-academic research and development.

ASHPC26 will focus on various aspects of High-Performance Computing (HPC) and provides a great opportunity to discuss HPC-related topics and present your latest results. It will also provide an overview and update on the rapidly improving AI and HPC landscape available to European researchers and serve as a platform for exchanging experiences related to the usage and operation of large-scale computing resources and the challenges encountered.

ASHPC26 will offer a special technical track:

System Architecture, Configuration, and Operations of HPC and AI-Optimized Supercomputers

This session explores the practical challenges and best practices in the architecture, configuration, and day-to-day operation of modern HPC and AI-optimized supercomputers. Suggested topics are: supporting heterogeneous workloads, secure multitenancy, efficient and fast file transfer, inner workings of storage systems, efficient installation and presentation of user software, architecture and operation of AI-optimized supercomputers, cloud services, and AI factory use cases. Any other relevant topic is welcome.

Central European NCCs Workgroup Meeting – CE-NCCs-WG, 7 April 2026

On Tuesday, **7 April 2026**, in the **afternoon preceding ASHPC26**, there will be a Central European NCCs Workgroup Meeting (**for NCC / EuroCC 3 staff only**) where the National Competence Centres (NCCs) address their most challenging topics and further regional collaboration.

Scholarship for Students

We offer a very limited number of scholarships for students who can participate in ASHPC26 free of charge. For more information please see at the Call for Abstracts or contact us.

Application deadline for the scholarships (abstract, enrolment confirmation, motivation letter) is 31 January 2026 and notification about acceptance will be sent out by 6 February 2026.

Participants have to take care of booking a hotel room themselves!

For directions and hotel information see Venue.

ASHPC26 – Booklet of Abstracts

DOI: 10.25365/phaidra.765

ISBN: 978-3-200-10998-8

(EuroCC Austria, c/o Universität Wien)

ASHPC26 – Program

ASHPC26 – Slides

(restricted access – login for ASHPC26 participants only)

ASHPC26 conference@ashpc.eu

Tuesday, 7 April

14:00 → 14:30 **Registration & Get Together & Coffee Break** 30m — TUtheSky (11th floor)

14:30 → 16:00 **CE-NCCs-WG Plenary Session 1** — TUtheSky (11th floor)

Convener: Pavel Tomšič (University of Ljubljana, Slovenia)

- 14:30 **Overview of the EuroCC3 NCCs Application** 45m
- 15:15 **Discussion of the EuroCC3 NCCs Tasks Structures and Goals** 45m

16:00 → 16:30 **Coffee Break** 30m — TUtheSky (11th floor)

16:30 → 18:00 **CE-NCCs-WG Plenary Session 2** — TUtheSky (11th floor)

Convener: Andreas Lindner (Advanced Computing Austria ACA GmbH, Austria)

- 16:30 **General Discussion** 45m
- 17:15 **Collaboration between NCCs and AI Factories** 45m

18:30 → 21:00 **Dinner in a nearby Restaurant** 2h 30m — TUtheSky (11th floor)

Wednesday, 8 April

09:00 → 09:30 **Registration & Get Together** 30m — TUtheSky (11th floor)

09:30 → 09:45 **WELCOME** — TUtheSky (11th floor)

Convener: Claudia Blaas-Schenner (ASC Research Center, TU Wien, Austria)

- 09:30 **Welcome by the Program Chair** 7m
  Speaker: Janez Povh (Rudolfovo – Science and Technology Centre Novo mesto, Slovenia)
- 09:37 **ASHPC26 Welcome & Housekeeping** 7m
  Speaker: Claudia Blaas-Schenner (ASC Research Center, TU Wien, Austria)

09:45 → 11:00 **ASHPC26 Session 1** — TUtheSky (11th floor)

Convener: Philipp Gschwandtner (Research Center HPC, Department of Computer Science, University of Innsbruck, Austria)

- 09:45 **KEYNOTE: Optimizing Energy Efficiency for HPC-AI Deployment – The Path to AI Gigafactories** 45m
  Speaker: Dieter Kranzlmüller (Leibniz Supercomputing Centre (LRZ), Germany)
- 10:30 **Bridging the AI Knowledge Divide: The AI Factory Austria AI:AT Learning Center** 15m
  Speaker: Michael Iro (AI Factory Austria AI:AT, Austria)
- 10:45 **Managed ML Inference on Shared HPC Infrastructure** 15m
  Speaker: Iulia-Georgiana Rinea (AI Factory Austria AI:AT, Austria)

11:00 → 11:30 **Coffee Break** 30m — TUtheSky (11th floor)

11:30 → 12:30 **ASHPC26 Session 2** TUtheSky (11th floor)

Convener: Martin Žnidaršič (Jožef Stefan Institute, Slovenia)

11:30 **Optimizing and Scaling LLM Inference: A Review of State-of-the-Art Techniques** 15m
Speaker: Séverine Habert (NVIDIA, Germany)

11:45 **Training deep learning models for identification of Austrian butterflies and moths on more than half a million images** 15m
Speaker: Andreas Lindner (Advanced Computing Austria ACA GmbH, Austria)

12:00 **From Laptop to Supercomputer: Reproducible ML Pipelines with dagster-slurm and metaxy** 15m
Speaker: Georg Heiler (Complexity Science Hub Vienna (CSH) and Austrian Supply Chain Intelligence Institute (ASCII), Austria)

12:15 **Scaling AI Systems development from desktop to HPCs using MATLAB & Simulink** 15m
Speaker: Andreas Ravazzolo-Mehrle (MathWorks, Austria)

12:30 → 14:00 **Lunch Break** 1h 30m TUtheSky (11th floor)

14:00 → 15:30 **ASHPC26 Session 3** TUtheSky (11th floor)

Convener: Janez Povh (Rudolfovo – Science and Technology Centre Novo mesto, Slovenia)

14:00 **KEYNOTE: Beyond exascale – When data becomes more important than FLOPs/s** 45m
Speaker: Michael Bussmann (Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Germany)

14:45 **The multi-phase interstellar medium of COLIBRE galaxies** 15m
Speaker: Sylvia Ploeckinger (Department of Astrophysics, University of Vienna, Austria)

15:00 **Simulating Magnetic Reconnection To Support Next-Generation Space Missions** 15m
Speaker: James McKevitt (University College London, Mullard Space Science Laboratory, Holmbury St Mary, UK, and Institute of Astrophysics, University of Vienna, Austria)

15:15 **Scaling Differentiable Simulations in Cosmology to Multiple GPUs** 15m
Speaker: Lukas Winkler (Department of Astrophysics, University of Vienna, Austria)

15:30 → 16:00 **Coffee Break** 30m TUtheSky (11th floor)

16:00 → 17:30 **ASHPC26 Session 4** TUtheSky (11th floor)

Convener: Philipp Gschwandtner (Research Center HPC, Department of Computer Science, University of Innsbruck, Austria)

16:00 **Circulant Graphs for Collective Communication** 15m
Speaker: Jesper Larsson Träff (TU Wien, Faculty of Informatics, Institute of Computer Engineering, Research Group Parallel Computing, Austria)

16:15 **To ncclsee, or Not to ncclsee: That is the Profiling Question** 15m
Speaker: Ruben Laso (Faculty of Computer Science, University of Vienna, Austria)

16:30 **Topology-Aware Communication Optimization for CFD Simulations in OpenFOAM** 15m
Speaker: Jonas Sieberer (Universität Salzburg, Austria)

16:45 **Bridging HPC and Cloud: OpenStack-Based Infrastructure for Efficient AI Computing** 15m
Speaker: Marko Ferme (Laboratory for Heterogeneous Computer Systems, Faculty of Electrical Engineering and Computer Science, University of Maribor, Slovenia)

17:00 **MENTHOS-spam: High-Throughput Detection for Phishing and SMS Spam** 15m
Speaker: Mladen Borovič (aboratory for Heterogeneous Computer Systems Faculty of Electrical Engineering and Computer Science, University of Maribor, Slovenia)

17:15 **Kilometer-scale Climate Modeling of TRAPPIST-1e Using ICON-Sapphire: Peering through the high clouds** 15m
Speaker: Zoé Lloret (Department of Meteorology and Geophysics, University of Vienna, Austria)

16:00 → 17:30 **TECHNICAL TRACK** BA 10A (10th floor)

System Architecture, Configuration, and Operations of HPC and AI-Optimized Supercomputers

Convener: Jan Zabloudil (ASC Research Center, TU Wien, Austria)

16:00 **ASC Cluster Admin & Infrastructure Service Modernization** 15m
Speaker: Katrin Muck (ASC Research Center, TU Wien, Austria)

16:15 **The MUSICA software stack** 15m
Speaker: Adam McCartney (ASC Research Center, TU Wien, Austria)

16:30 **Moving stuff around: Rucio & FTS** 15m
Speaker: Florian Goldenberg (ASC Research Center, TU Wien, Austria)

16:45 **dagster-slurm: Connecting Data Orchestration to HPC Resources** 15m
Speaker: Hernan Picatto (Austrian Supply Chain Intelligence Institute (ASCII), Austria)

17:00 **Managed Multitenant ML Workflows on HPC** 15m
Speaker: Gent Rexha (AI Factory Austria AI:AT, Austria)

19:00 → 22:00 **ASHPC26 Dinner at Rathauskeller (Rathausplatz 1, 1010 Wien)** 3h Rathauskeller

Thursday, 9 April

09:00 → 10:30 **ASHPC26 Session 5** TUtheSky (11th floor)

Convener: Alois Schlögl (Institute of Science and Technology Austria (ISTA), Klosterneuburg, Austria)

09:00 **KEYNOTE: From Atoms to Current: Predicting Function in Single-Molecule Circuits** 45m

Speaker: Latha Venkataraman (Institute of Science and Technology Austria, Klosterneuburg, Austria, and Lawrence Gussman Professor of Applied Physics, Professor of Chemistry Columbia University, New York, New York, United States)

09:45 **EPICURE project – practical example** 15m

Speaker: Darin Lah and Samo Miklavc (Institute of Information Science (IZUM), Slovenia)

10:00 **RI-Scale – bringing data holdings and HPC together** 15m

Speaker: Florian Goldenberg (ASC Research Center, TU Wien, Austria)

10:15 **EVITA – EuroHPC Virtual Training Academy** 15m

Speaker: Victoria Döller (ASC Research Center, TU Wien, Austria)

10:30 → 11:00 **Coffee Break** 30m TUtheSky (11th floor)

11:00 → 12:30 **ASHPC26 Session 6** TUtheSky (11th floor)

Convener: Martin Žnidaršič (Jožef Stefan Institute, Slovenia)

11:00 **From City-Scale Street-View Imagery to Building-Level Urban Indicators: A Precompute Layer for GeoAI ML Models on the MUSICA HPC System** 15m

Speaker: Silvio Heinze (Institute for Urban and Regional Research, Austrian Academy of Sciences, Austria)

11:15 **NCC Croatia Success Story: Setting up Photogrammetry Workflow on an HPC cluster - A Cultural Heritage Use Case** 15m

Speaker: Davor Davidović (Centre for Informatics and Computing, Ruđer Bošković Institute, Croatia)

11:30 **HPC-Driven Dimension-Aware Neural Architecture Search for Cryocooler Lifetime Prediction** 15m

Speaker: Gregor Molan and Martin Molan (Comtrade 360 d.o.o., Ljubljana, Slovenia, and Comtrade AI GmbH, Zug, Switzerland)

11:45 **Simple is better? HPC-enabled neural architecture search for energy demand forecasting** 15m

Speaker: Jelena Joksimović (Rudolfovo – Science and Technology Centre Novo mesto, Slovenia)

12:00 **Automated learning of multiscale models** 15m

Speaker: Max Hodapp (Christian Doppler Laboratory for Digital material design guidelines for mitigation of alloy embrittlement, Materials Center Leoben Forschung GmbH (MCL), Austria)

12:15 **Extracting Metallurgical Graphs using Reasoning LLMs on HPC** 15m

Speaker: Manuel Hofbauer (LKR Light Metals Technologies, AIT Austrian Institute of Technology, Ranshofen, Austria)

11:00 → 12:30 **TECHNICAL TRACK** BA 10A (10th floor)

System Architecture, Configuration, and Operations of HPC and AI-Optimized Supercomputers

Convener: Jan Zabloudil (ASC Research Center, TU Wien, Austria)

- 11:00 **Organizing the software stack in CINECA's clusters. Towards LISA.** 15m
  Speaker: Orlenys Troconis (CINECA, Italy)
- 11:15 **Design and Operation of a Federated GPU Cluster for Digital Humanities within DHinfra.at** 15m
  Speaker: Florian Atzenhofer-Baumgartner (Department of Digital Humanities, University of Graz, Austria)
- 11:30 **LiSC software catalog: a software installation framework for Life Sciences** 15m
  Speaker: Thomas Rattei (Centre for Microbiology and Environmental Systems Science, Austria)
- 11:45 **Zero-Touch HPC Nodes: NetBox, Tofu and Packer for a Self-Configuring SLURM Cluster** 15m
  Speaker: Ümit Seren and Leon Schwarzäugl (Vienna BioCenter, Austria)
- 12:00 **HPC Info: Enhanced SLURM Job Resource Monitoring** 15m
  Speaker: Sebastian Sitkiewicz (Wroclaw Centre for Networking and Supercomputing (WCNS), Wroclaw University of Science and Technology, Poland)

12:30 → 13:15 **Lunch Break** 45m TUtheSky (11th floor)

13:00 → 14:00 **SLING Meeting** 1h BA 10B (10th floor)

13:15 → 14:00 **ASC User Meeting** 45m BA 10A (10th floor)

14:00 → 15:30 **ASHPC26 Session 7** TUtheSky (11th floor)

Convener: Jure Borišek (National Institute of Chemistry, Slovenia)

- 14:00 **KEYNOTE: Learning from molecular simulations** 45m
  Speaker: Gerhard Hummer (Max Planck Institute of Biophysics, Frankfurt, Germany)
- 14:45 **Open-Boundary Molecular Dynamics of Red Blood Cell Suspensions** 15m
  Speaker: Maša Lah (Laboratory for Molecular Modeling, National Institute of Chemistry, Slovenia)
- 15:00 **SIMD, GPU, and MPI Acceleration of Density-Based Tree Construction for Large-Scale Sequence Data** 15m
  Speaker: Thomas Haschka (Service Unit of High Performance Computing, DataLab, Campus IT, TU Wien, Austria)
- 15:15 **Efficient inference of overdamped Langevin models from projected molecular dynamics trajectories** 15m
  Speaker: Anže Hubman (Laboratory for Molecular Structural Dynamics, National Institute of Chemistry, Slovenia)

15:30 → 16:00 **Coffee Break** 30m TUtheSky (11th floor)

16:00 → 17:15 **ASHPC26 Session 8** TUtheSky (11th floor)

Convener: Jure Borišek (National Institute of Chemistry, Slovenia)

16:00 **General Matrix-Matrix Multiplication and NVIDIA Tensor Cores Applied to the Lattice Boltzmann Method** 15m

Speaker: Relindis Rott (Virtual Vehicle Research GmbH, Graz, Austria)

16:15 **GPU algorithm for efficient runtime detection of coalescence and breakup events in phase-field multiphase flows** 15m

Speaker: Lea Enzenberger (Institute of Fluid Mechanics and Heat Transfer, TU Wien, Austria)

16:30 **Numerical analysis of electrocoagulation using computational fluid dynamics for sustainable water treatment** 15m

Speaker: Amina Tahreen (Department of Chemical Engineering and Sustainability, International Islamic University Malaysia, Malaysia)

16:45 **HPC-Enabled AI-Agent-Driven Digital Twin Framework for Real-Time Exergoeconomic Optimization of PV-Supported Thermal Energy Systems** 15m

Speaker: Antonija Rajic (Faculty of Electrical Engineering and Information Technology, TU Wien, Austria)

17:00 **High-Fidelity Flow Simulations empowered by HPC** 15m

Speaker: Muhammad Mizan (Institute of Energy Systems and Thermodynamics, TU Wien, Austria)

17:15 → 20:00 **ASHPC26 POSTERS & PIZZAS** TUtheSky (11th floor)

Convener: Claudia Blaas-Schenner (ASC Research Center, TU Wien, Austria)

17:15 **POSTER LIGHTNING TALKS** 20m

Intro and line up for the lightning talks 1m

Speaker: Claudia Blaas-Schenner (ASC Research Center, TU Wien, Austria)

EuroCC Austria: The Austrian Competence Centre for Supercomputing 1m

Speaker: Andreas Lindner (Advanced Computing Austria ACA GmbH, Austria)

Integration of Advanced Computing service and e-learning platform Merlin 1m

Speaker: Jurica Špoljar (University of Zagreb, University Computing Centre, Croatia)

HPC Vega: Supporting Services 1m

Speaker: Teo Prica (IZUM - Institute of Information Science, Slovenia)

EPICURE: Unlocking European-level HPC Support 1m

Speaker: Žiga Zebec (IZUM - Institute of Information Science, Slovenia)

FFplus: Bridging SMEs with State-of-the-Art HPC and Generative AI 1m

Speaker: Tina Marc (Arctur d.o.o. and FFplus Consortium)

NOUS: Advancing Europe's Sovereign Cloud through HPC, Edge Computing and Data Spaces 1m

Speaker: Tristan Pahor (Arctur d.o.o. and NOUS Consortium)

Privacy Preserving Generative AI and Model Sanitization 1m

Speaker: Bernd Saurugger (TU Wien, Austria)

HPC meets EOSC: Emerging Tasks, Opportunities and Concerns 1m

Speaker: Marie Czuray (ASC Research Center, TU Wien, Austria)

MUSICA - From Scratch To A Fully Functional Server Room @UIBK 1m

Speaker: Martin Thaler (HPC Team, Central IT Service, University of Innsbruck, Austria)

Quantum Computing for Scientific Computing 1m

Speaker: Ezhilmathi Krishnasamy (University of Ljubljana, Slovenia, and Rudolfovo – Science and Technology Centre Novo Mesto, Slovenia, and niversity of Luxembourg, Luxembourg)

A Domain-Aware Controller for Managed LLM Inference on Shared HPC Infrastructure in Digital Humanities 1m

Speaker: Michael Otto (Department of Digital Humanities, University of Graz, Austria)

High-Performance Computing for AI-Based Insider Threat Analytics: An Experimental Study 1m

Speaker: Maizura Ibrahim (Malaysian Nuclear Agency, Malaysia)

Training Alternative Large Scale Representations on Current High-Performance Computers 1m

Speaker: Till Kahlke (Artificial Intelligence Lab, University of Innsbruck, Austria)

Open-source framework for parametric study of hydrofoil profiles and motivation for using Physics-Informed Neural Networks (PINN) 1m

Speaker: Aleksander Grm (University of Ljubljana, Slovenia)

VIVID-DTE – Verification-oriented Interactive Visualisation and Decision Support for the EUROfusion Digital Twin Environment 1m

Speaker: Leon Kos (LeCAD laboratory, University of Ljubljana, Slovenia)

Heterogeneous Exascale Particle-in-Cell 1m

Speaker: David Lajevec (University of Ljubljana, Slovenia)

LEONARDO data centric general purpose partition at AURELEO 1m

Speaker: Luis Casillas-Trujillo (ASC Research Center, TU Wien, Austria)

Spreading the Word—ASC Outreach 1m

Speaker: Atul Singh (ASC Research Center, TU Wien, Austria)

Enjoy the discussions at the posters! 1m

Speaker: Claudia Blaas-Schenner (ASC Research Center, TU Wien, Austria)

17:35 **POSTERS & PIZZAS (posters see above at lightning talks)** 2h 25m

Friday, 10 April

09:00 → 10:30 **ASHPC26 Session 9** TUtheSky (11th floor)

Convener: Alois Schlögl (Institute of Science and Technology Austria (ISTA), Klosterneuburg, Austria)

09:00 **KEYNOTE: Beyond Isolated Quantum Computing Paradigms: Hybridization and Supercomputing** 45m
Speaker: Bojan Žunkovič (University of Ljubljana, Faculty of Computer and Information Science, Ljubljana, Slovenia, and Rudolfovo, Science and Technology Centre, Novo mesto, Slovenia)

09:45 **Quantum and Simulated Annealing-Based Iterative Algorithms for QUBO Relaxations of the Sparsest k-Subgraph Problem** 15m
Speaker: Janez Povh (Rudolfovo - Science and Technology Centre Novo Mesto, Novo Mesto, Slovenia, and Faculty of Mechanical Engineering, University of Ljubljana, Ljubljana, Slovenia)

10:00 **Quantum computer integration in multi-site HPC infrastructure** 15m
Speaker: Peter Kandolf (University of Innsbruck - FSP Scientific Computing, Austria)

10:15 **jz-tree: Lightning fast neighbor search and friends-of-friends with dual tree traversal in JAX and CUDA** 15m
Speaker: Jens Stücker (University of Vienna, Department of Astrophysics, Vienna, Austria)

10:30 → 11:00 **Coffee Break** 30m TUtheSky (11th floor)

11:00 → 12:30 **ASHPC26 Session 10** TUtheSky (11th floor)

Convener: Janez Povh (Rudolfovo – Science and Technology Centre Novo mesto, Slovenia)

11:00 **Performance-Portable Particle-in-Cell with Multigrid Solvers on Heterogeneous CPU–GPU Node** 15m
Speaker: Ivona Vasileska (Faculty of Mechanical Engineering, University of Ljubljana, Slovenia)

11:15 **LAMMPS Molecular Dynamics Simulations of Laser-induced Periodic Surface Structure Formation: Removal of desorbed atoms between Laser Shots** 15m
Speaker: Matthias Weber (Institut für Angewandte Physik, Technical University Vienna, Austria)

11:30 **Time-Series Forecasting and Alert Classification for Proactive IT Infrastructure Monitoring** 15m
Speaker: Márk Dénes (DAM Invisible Technology Zrt., Hungary)

11:45 **Supporting file intensive AI Workloads on High Performance Computing** 15m
Speaker: István Tamás (Digital Government Development and Project Management Ltd and National Competence Center (NCC) - Hungary)

12:00 **Innovative Expansion of HPC Infrastructure for Scalable AI Inference Using MACx GPUs** 15m
Speaker: Tristan Pahor (Arctur d.o.o., Slovenia)

12:15 **HPC-Enabled LLM Fine-Tuning and Machine Translation of Legal Texts on LEO5** 15m
Speaker: Aleksandr Trklja (University of Innsbruck, Austria)

12:30 → 12:45 **CLOSING** TUtheSky (11th floor)

Convener: Claudia Blaas-Schenner (ASC Research Center, TU Wien, Vienna)

12:30 **ASHPC26 Closing by the Program Chair** 7m
Speaker: Janez Povh (Rudolfovo – Science and Technology Centre Novo mesto, Slovenia)

12:37 **ASHPC27 Announcement** 7m
Speaker: Florian Klauser (Jožef Stefan Institute, Slovenia)

12:45 → 14:30 **Lunch Break** 1h 45m TUtheSky (11th floor)