



# 3rd International Workshop on Readiness of HPC Extreme-scaling Applications

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HORIZON-EUROHPC-JU-2023-COE



**EuroHPC**  
Joint Undertaking

1 January 2024 – 31 December 2026

Grant Agreement No 101143931

# Purpose



- Demonstrate readiness of HPC application software for extreme-scale computer systems composed of very large assemblies of a variety of heterogeneous multicore CPU processors and GPU accelerators
- Forum to discuss common challenges, ideas, solutions, and opportunities from the point of view of application developers preparing for current and future exa-scale computer systems
- Identify common needs and joint solutions of the HPC ecosystem

- Previous editions held at ISC24 & ISC25 in Hamburg
  - <https://pop-coe.eu/news/events#RHEAworkshops>
- Follow-on from earlier PASC minisymposia
  - [virtual], July 2021
    - Performance Optimisation and Productivity for EU HPC Centres of Excellence (and all other European parallel application developers preparing for exascale)
  - Davos/CH, June 2023
    - Are HPC Codes Ready for Exascale? A EU HPC Centre of Excellence Point of View

# 1st edition of workshop (ISC24)



<https://www.pop-coe.eu/news/events/readiness-of-hpc-extreme-scale-applications>

Hamburg, 16 May 2024

- Introduction including Mladen Skelin (EuroHPC JU)
- 4 short presentations on CoEs/applications
  - Niclas Janssen (KTH/CEEC), Szilárd Páll (KTH/BioExcel), Lara Peeters (UGhent/MultiXscale), Simon Burbidge (DiRAC)
- Keynote "Lessons Learnt from ECP" by Lois Curfman McInnes (ANL)
- Panel moderated by Guy Lonsdale (scapos/CASTIEL2)
  - Lois Curfman McInnes (ANL), Linda Gesenhues (EuroHPC JU), Niclas Janssen (KTH), Erwan Raffin (Eviden), Nicola Spallazani (CNR), Harald Köstler (FAU)

# 2nd edition of workshop (ISC25)



<https://www.pop-coe.eu/news/events/readiness-of-hpc-extreme-scale-applications-2nd-edition>

Hamburg, 13 June 2025

- European HPC application ecosystem, Guntram Berti (scapos)
- EuroHPC concept for applications, Linda Gesenhues (EuroHPC JU)
- 6 short presentations on CoEs/applications
  - Laura Bellantani (CINECA/MaX), Erwan Raffin (Eviden/ESiWACE), Martin Knonbichler (RUB/dealii-X), Francesco Salvatore (CINECA/EXCELLERAT), Helena Vela (DoITNow!/MultiXscale), João Barbosa (IT4I/SPACE)
- Panel moderated by Guy Lonsdale (scapos/CASTIEL2)
  - All presenters

# JUPITER

The Arrival of  
Exascale in Europe

[fz-juelich.de/jupiter](https://fz-juelich.de/jupiter) | [#exa\\_jupiter](https://twitter.com/#!/exa_jupiter)

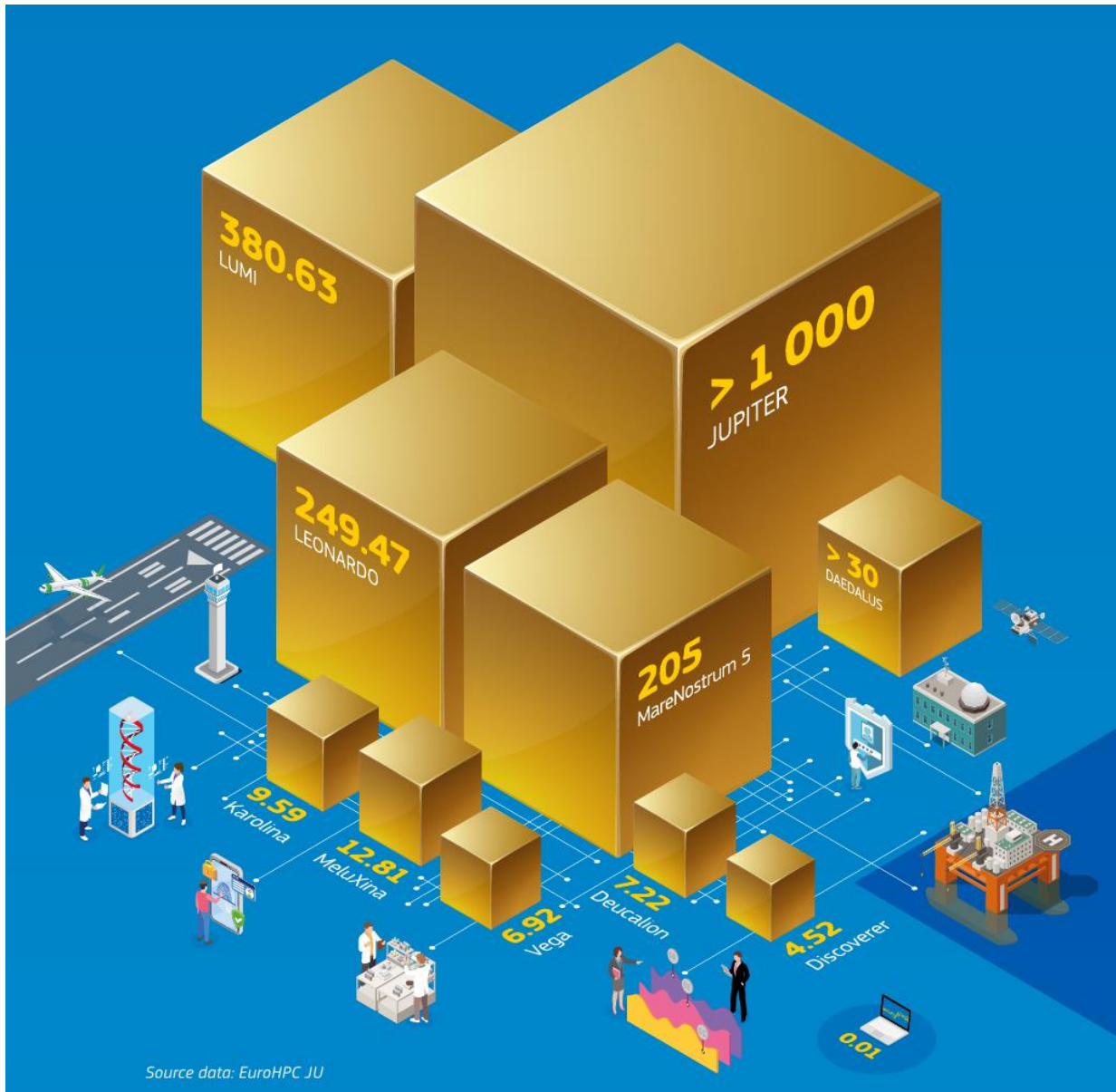


Ministry of Culture and Science  
of the State of  
North Rhine-Westphalia



**GCS**  
Gauss Centre for Supercomputing

# EuroHPC supercomputers & CoEs



# Workshop outline

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- 14:00 [10] Welcome & Introduction
- 14:10 [65] Keynote & proceedings paper presentations
- 15:15 [45] CoE presentations
- 16:00 [30] *Break*
- 16:30 [45] Invited presentations
- 17:15 [35] Panel discussion
- 17:50 [10] Conclusion
- 18:00 *Adjourn*

# Workshop agenda (Part 1)



- 14:00 [10] Welcome & Introduction to workshop
- 14:10 [65] Keynote & proceedings paper presentations
  - "FugakuNEXT applications and co-design: status and prospects"  
(Yasumichi Aoki, RIKEN R-CCS/Japan)
  - "Extreme-scale readiness of *ParFlow*: GPU scaling, architectural portability, and in situ workflows"  
(Muhammad Fahad, FZJ-IBG3/D)
- 15:15 [45] Presentations of EuroHPC CoEs, challenges & successes
  - "Research Data Management for *SeisSol* using Geo-INQUIRE Simulation Data Lake"  
(Iris Christadler, LMU/D)
  - "Co-design across four European CoEs using Domain Specific Benchmarks"  
(Erwan Raffin, Bull/F)
  - "Workflow for adding additional software to EESSI"  
(Lara Peeters, UGhent/B)
- 16:00 [30] *Break*

# Workshop agenda (Part 2)



- 16:00 [30] *Break*
- 16:30 [45] Presentations
  - "UK researchers and large-scale GPU systems"  
(Andrew Turner, EPCC/UK)
  - "Experiences of an HPC analyst in AI land"  
(Jesus Labarta, BSC/E)
- 17:15 [35] Panel discussion (moderator: Guy Lonsdale, scapos/D)
  - HPC application preparations for exa-scale
- 17:50 [10] Conclusion
- 18:00 *Adjourn*



# Performance Optimisation and Productivity

A Centre of Excellence in HPC

## Contact:

 <https://www.pop-coe.eu>

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 [youtube.com/POPHPC](https://www.youtube.com/POPHPC)



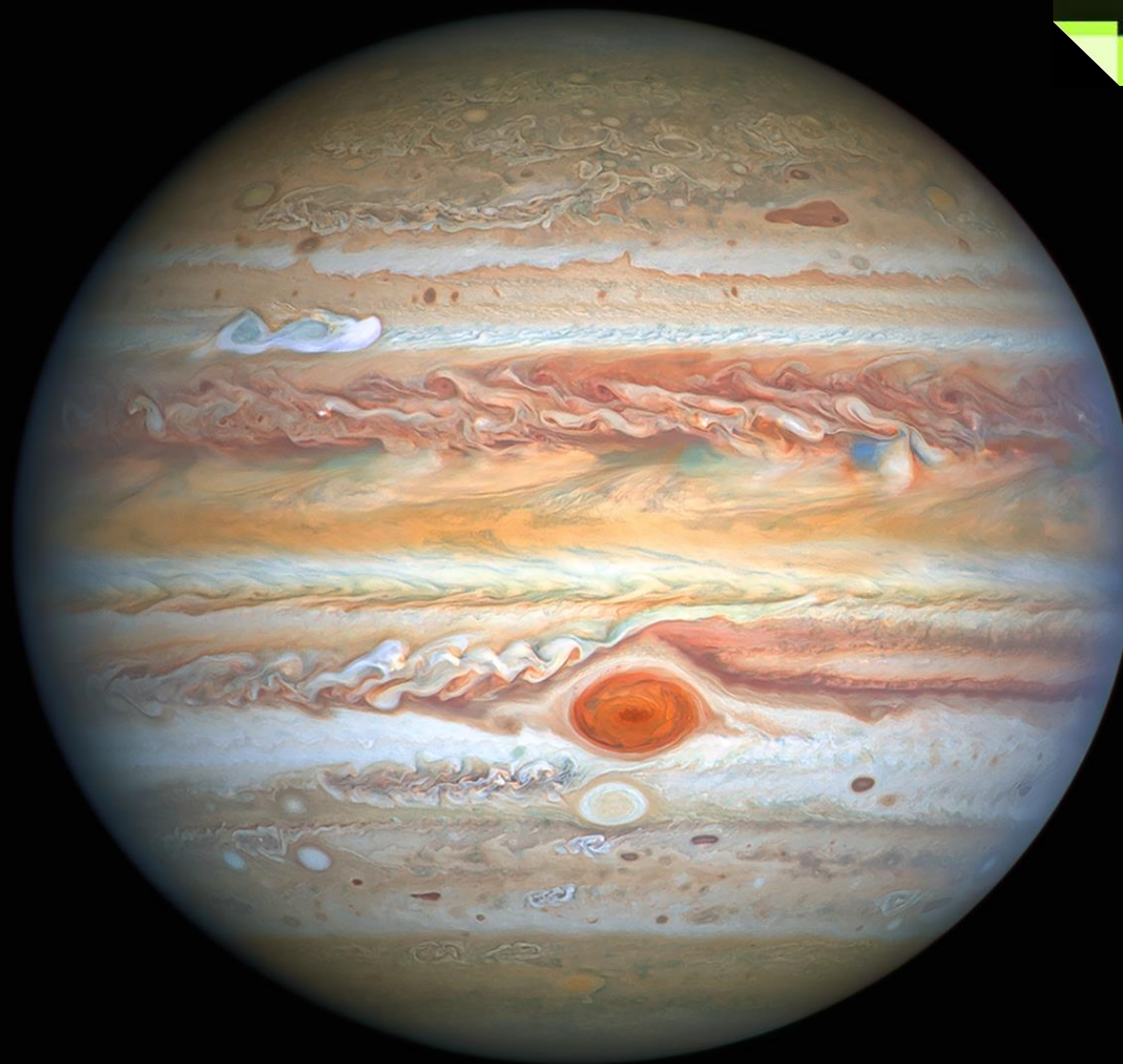
<https://pop-coe.eu/news/events#RHEAworkshops>



**ISC 2026**

JUNE 22-26 | HAMBURG

CONNECTING THE DOTS



Hamburg, 26 June 2026  
3rd International Workshop on  
**Readiness of HPC Extreme-scaling Applications**



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Joint Undertaking