

The background of the top half of the page is a photograph of a server room. The server racks are illuminated with blue and red lights, creating a futuristic, high-tech atmosphere. In the top right corner, there is a white network diagram with nodes and connecting lines. In the top left corner, there is a green rectangular box containing the EAGE logo and its full name.

EAGE

EUROPEAN
ASSOCIATION OF
GEOSCIENTISTS &
ENGINEERS

Empowering the Energy Shift: The Role of HPC in Sustainable Innovation

NINTH EAGE HIGH PERFORMANCE COMPUTING WORKSHOP

6-8 OCTOBER 2025 • BARCELONA, SPAIN

- **First Announcement**

WWW.EAGE.ORG

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OVERVIEW

High-performance computing continues to be an effective driving force of our energy business and, in the midst of the energy transition, it will help extend our knowledge boundaries by solving novel, complex and large-scale industrial computational problems. Since its inception, a decade ago, this workshop became a place to exchange and compare experiences all the while acting as a window into the latest upcoming and future evolutions of high-performance computing technologies for our industry.

For its 9th edition, the workshop will be held in Barcelona close to the Barcelona Supercomputing Center (BSC). An on-site visit to the datacenter is planned during the event. The workshop generally consists of a single track event with poster session(s), a panel and built-in time for discussions. With a range of topics spanning the latest deep code optimizations up to practical applications of quantum computing, the technical committee is looking forward to your contribution at the workshop.

TOPICS

06 & 08 October 2025

Emerging HPC Technologies

- High-Performance Data Analytics, Machine Learning and Deep Learning
- Convergence and Overlapping of HPC and Data Analytics
- Quantum Computing
- Next Generation Programming Models and Languages
- High-Performance Cloud Computing (HPCC)
- System Architectures for Exascale Computing
- High-Performance IoT-based solutions
- Neuromorphic Computing
- Software Stacks
- Software Engineering for HPC
- HPC DevOps

Geosciences & HPC

- Seismic Imaging, Modeling & Inversion
- Reservoir Modeling and Simulation
- Joint Inversion of Geophysical and Engineering Data
- Designing Upstream Applications for Exascale Computing
- Upstream Data Visualization (Distributed and Remote Visualization)
- Digital Rock Physics
- Seismic Processing
- Electromagnetic Modeling and Inversion
- Combining Geosciences with AI

Performance Analysis and Optimization

- HPC Case Histories and Field Studies
- Mixed Precision Computing
- Energy Efficient Computing
- Numerical Methods and Solvers
- Data Intensive Computing (High Performance I/O and File Systems)
- Fabrics for Upstream HPC

HPC for the Energy Transition

- Fusion Simulation
- Green Hydrogen
- Carbon Capture and Storage
- Solar Power Plant, Wind Farm, Geothermal & Hydroelectric Energy
- Weather and Climate Modelling
- Electrical Power Grid & Grid Energy Storage
- Earth Observation for Energy





07 October 2025

NEW Joint Session Title/Topic

*** Leveraging the Computing Revolution in the AI era**

The relentless pace of change of HPC technologies, to which the Geosciences have always been accustomed to, is now compounding with the extraordinary acceleration brought about by artificial intelligence. Every day new opportunities for innovation in data processing pipelines emerge, very often accompanied by new technological challenges. At the same time, data density and resolution are constantly increasing, and the latency between data acquisition and processing is constantly shrinking and even becoming non-existent when we process data on the edge. This joint session will try to address the landscape of this new and unprecedented scenario. How are the HPC and data processing communities reacting? Is there a convergence path that can maximize benefits without disrupting established data processing ecosystems? Are there any lessons we can learn from past revolutions, such as when we borrowed GPUs from game consoles? Has generative AI already had a transformative impact on our data, just like it is having on text, sound, images, and video? As the evolution of HPC hardware is inevitably increasingly driven by AI requirements, is there a viable way to leverage it to speed-up conventional and well-established data processing approaches, or is it time for a radical paradigm change?

IMPORTANT DATES

Call for Abstracts Open	8 November 2024
Call for Abstracts Close	19 June 2025
Technical Programme Available	30 July 2025
Registration Open	2 June 2025
Early Registration Deadline	2 September 2025

SPONSORSHIP

To view the full range of sponsorship opportunities available at the Ninth EAGE High Performance Computing Workshop, please get in touch at nlr@eage.org.

CONTACT

For more information on the workshop, please get in touch with the EAGE MEA team via middle_east@eage.org or +971 4 369 3897.

CALL FOR ABSTRACTS IS OPEN!





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