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Supercomputing for Sustainability: Balancing Performance and Energy

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Supercomputing for Sustainability: Balancing Performance and Energy

High-performance computing and AI are at the heart of modern cyber-infrastructure, enabling the transformation of massive data sets into knowledge and decisions. Yet, as system scale and complexity grow, so do the challenges of energy consumption, sustainability, and efficient data movement. This BOF will explore strategies to balance performance with energy efficiency in large-scale systems while ensuring that scientific computing remains productive and impactful.
Key discussion points include how future HPC and AI infrastructures can be designed and operated to reduce energy demand, how infrastructure choices affect sustainability, and how new approaches in scheduling, data management, architectures, and workflow design can align scientific progress with environmental responsibility. By bringing together several perspectives, the session aims to identify practical directions for sustainable supercomputing that can meet the dual challenge of handling ever-larger data sets while supporting informed decisions for science and society.

Welcome and Moderation
Maximilian Höb, Leibniz Supercomputing Centre

Lightning Talks
Ian Foster, University of Chicago
Utz-Uwe Haus, Hewlett Packard Enterprise
Dieter Kranzlmüller, Leibniz Supercomputing Centre
Dan Stanzione, Texas Advanced Computing Center

Panel Discussion with all Speakers

Presenting Author

All

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Student or Postdoc?

Institute

Leibniz Supercomputing Centre

Registered for the conference?

Yes

CHPC User

No

CHPC Research Programme

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