

# EuroHPC Summit Week 2021 including PRACEdays21

Thursday 25 March 2021, 10:45 – 11:30, Scientific Keynote talk

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## Abstract: AI for improving HPC efficiency and energy footprint

The recent success and developments of AI algorithms, in particular machine learning and deep learning require computing systems to be scalable, flexible and have low latency at all levels to effectively tackle these challenges.

On the other hand, hardware is becoming increasingly heterogeneous, with many domain-specific processors such as GPU and FPGA.

To extract performance from large-scale heterogeneous architectures in a seamless ecosystem, new programming paradigms, languages, compilers and runtime systems will be needed to provide new abstractions and services over highly heterogeneous hardware.

In this talk, we will present how AI techniques can support computing systems to be efficient, to consume less energy while staying within error and time constraints, and to detect anomalies.

## Bio



[Dr. Michela Milano](#) is full professor at the Department Computer Science and Engineering of the University of Bologna and Director of the ALMA-AI Interdepartmental center for Human-Centered AI.

She is Deputy President of EurAI (the European Association of Artificial Intelligence) and Executive Councillor of AAAI (the Association for the Advancements of Artificial Intelligence).

She is Editor in Chief of the Constraint Journal, past Area Editor of INFORMS Journal on Computing and member of the Editorial Board of ACM Computing Surveys. Her research interests cover decision support and optimization systems merging techniques of constraint

programming, operations research and machine learning.

She is author of more than 150 papers on international conferences and journals.

She has been the recipient of the Google Faculty Research Award on DeepOpt: Embedding deep networks in Combinatorial Optimization, and coordinated and participated to many EU projects and industrial collaborations.