Willkommen
Welcome
Bienvenue

HPC activities @ Empa

hpc-ch Forum
May 19th, 2022

Scientific IT @ Empa

Future HPC users

Grant winners
HPC@Empa
Support

Empa Materials Science and Technology

HPC users pool

- nanotech@surfaces – Dr. Roman Fasel (head); Dr. Daniele Passerone, Dr. Carlo Pignedoli
- Automotive Powertrain – Dr. Panayotis Dimopoulos
- Air Pollution – Dr. Dominik Brunner (head); Dr. Stephan Henne
- Building Physics – Dr. Ivan Lunati (head); Dr. Manickathan Lento
- Advanced Materials Processing – Prof. Patrik Hoffmann (head); Dr. Vladyslav Turlo
- Urban Energy Systems – Dr. Kristina Orehounig (head); Léonie Fierz

Linux User Group (ICT)

Patrik Burkhalter
Fabian Bucher

Steering committee

Tanja Zimmermann
Brigitte Buchmann

Edoardo Baldi (contact person)
Daniele Passerone
Stephan Henne
Ivan Lunati
Thijs Defraeye
Technical board

ANSYS
MATLAB
Visualization
Data analysis
X-Ray
TEM
Wind Tunnel
Air Pollution
Material design
Nanoscience

Computational science

Support Projects

HPC unit, Scientific IT

Node-hours + Storage
(Empa-CSCS contract)

CSCS Centro Svizzero di Calcolo Scientifico
Swiss National Supercomputing Centre

Research Data Management

Tanja Zimmermann
Anusch Bachofner
Matthias Rösslein
Carlo A. Pignedoli

Large data handling FAIR

ALPS
CSCS   ETH zürich

Michele De Lorenzi
Pablo Fernandez

CSCS infrastructure

HPC @ Empa: goals

- Leveraging computer science and scientific exchanges among groups/communities working at Empa

- Connecting potential computational scientists and large scale resources

- Supporting on submission of computational resources grants (PASC, PRACE) and users training (e.g., Python, Git, UNIX)

- Help-desk support for efficient use of CSCS's computing resources

HPC support projects

Aim

- The Empa HPC team supports Empa users of CSCS resources in their daily needs
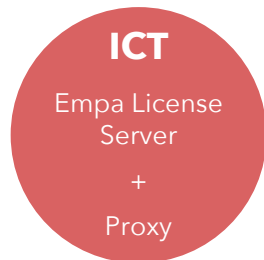- Address users' needs that require a more dedicated commitment over several weeks or months
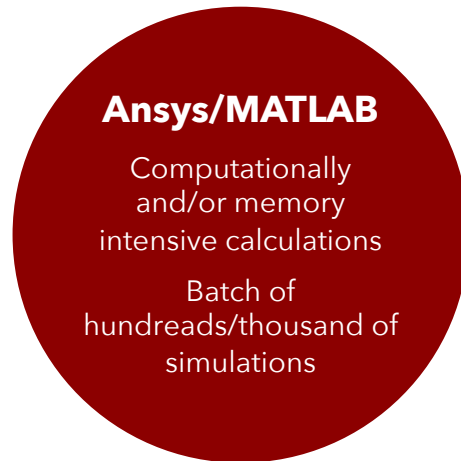
Resources

- Porting/establishing/optimizing of existing applications to CSCS infrastructure
- Support for the preparation of CSCS proposals (e.g., benchmarking for technical report)
- Initialize/boost activities data science and/or machine learning related

Evaluation

- Submitted proposals are evaluated by Empa's HPC steering committee every 6 months.
- Evaluation criteria: the scientific validity, feasibility to complete the task in the estimated period, project urgency in light of achievable scientific progress

HPC support: Ansys/MATLAB