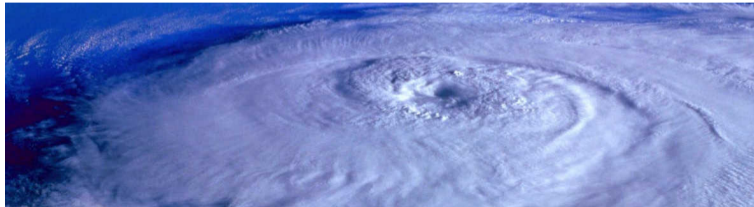
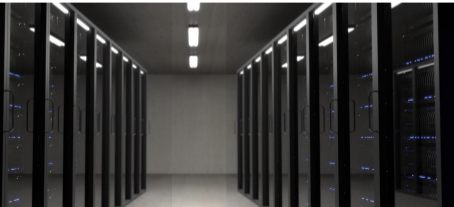


HPS

<https://hps.vi4io.org>

Julian M. Kunkel,
Jack Ogaja

Summer School on Effective HPC for Climate and Weather



Sponsoring

The summer school is supported by



esiwace

CENTRE OF EXCELLENCE IN SIMULATION OF WEATHER
AND CLIMATE IN EUROPE

EU funded Project: ESiWACE

The Centre of Excellence in Simulation of Weather and Climate in Europe

- Representing the European community for
 - ▶ climate modelling and numerical weather prediction
- Goals in respect to HPC environments:
 - ▶ Improve efficiency and productivity
 - ▶ Supporting the end-to-end workflow of global Earth system modelling
 - ▶ Establish demonstrator simulations that run at highest affordable resolution
- Funding via the European Union's Horizon 2020 program (grant #823988)

<http://esiwace.eu>



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CENTRE OF EXCELLENCE IN SIMULATION OF WEATHER
AND CLIMATE IN EUROPE

Organization

Organizers

- Julian Kunkel julian.kunkel@gwdg.de
- Jack Ogaja jack.ogaja@gwdg.de

Feel free to contact us for any matter

Steering

We thank the other ESiWACE WP6 members for the constructive discussions, feedback and help to steer the school in the right direction

Thanks to previous co-organizer: Luciana Pedro

Agenda

The typical daily schedule of Monday-Thursday

Morning

09:00 Lecture 1 (Live session)

10:30 *Virtual Refreshment Break*

11:00 Lab Tutorial 1

12:30 *Virtual Lunch Break*

Afternoon

13:30 Lecture 2 (Live session)

15:00 *Virtual Refreshment Break*

15:30 Lab Tutorial 2

17:00 End; may continue to work on lab session

Agenda: Topics

Mon **Computation**

- ▶ Extreme-Scale Computation
- ▶ Parallel programming in practice

Tue **Storage**

- ▶ Modern Storage
- ▶ I/O and Middleware

Wed **Data analytics**

- ▶ Machine learning + ECMWF virtual visit
- ▶ High-Performance Data Analytics and Visualisation

Thu **Supporting Tools**

- ▶ Performance Analysis
- ▶ Containers

Fri **Wrap up**

- ▶ **Invited talks**
- ▶ Lab Q&A
- ▶ Feedback/farewell

Session Organization and Interactivity

- A session is moderated by the respective *session chair*
- Feedback and lively discussions are welcome
 - ▶ Put questions/comments in the BBB chat anytime
They will be read out by the session chair and addressed
 - ▶ Alternative: Ask questions verbally at end of a lecture session
- The BBB room will be open all day to support you to interact
 - ▶ We record only the lectures (incl. asked questions at the end)
 - ▶ Depending on your needs, we may create breakout rooms to scale up
 - ▶ Please always **mute** your mic, if you are not speaking
- The mailing list should be used only for matters of general interest
- Feel free to contact speakers/session chairs (even after) the sessions

Lab Sessions

Approach for offered lab sessions

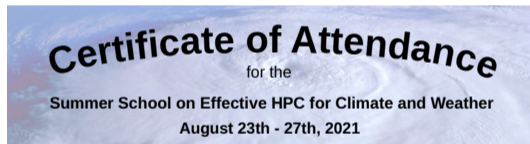
- Goal: support the large class and asynchronous progress
- Live session shall
 - ▶ Help you to overcome initial obstacles
 - ▶ It may mention some extra tasks (for your own learning)
- The Virtual Machine (see webpage) provides an environment to run labs
- Videos will be created asap, allowing you to re-check asynchronously

Interactivity during the school

- You can discuss/talk with peers about the lab in the BBB room
- On Friday morning, a 30-min session is scheduled for Q&A

Certificate of Attendance

- After the school, we will email certificates of attendance
- To qualify for the certificate, we expect 70-80% attendance of the lectures
- During a session, we will capture the attendee list in BBB



This Certificate is awarded to:

Your name here!

Topics

Extreme-Scale Computation
Parallel Programming in Practice
Modern Storage
Input/Output and Middleware
Machine Learning
Data Analytics and Visualisation
Performance Analysis
Containers



Julian Kunkel
Jack Ogaja

Outlook

Towards Certification with the HPC Certification Forum

Goals of the forum:

- Fine-grained standardizing HPC knowledge representation
- Establishing international certificates attesting knowledge
- Supporting an ecosystem around the HPC competences
- Check: <https://hpc-certification.org>

Q&A

Any questions?

- Short poll regarding the VM ...

Enjoy the week!

The ESiWACE project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No **823988**



Disclaimer: This material reflects only the author's view and the EU-Commission is not responsible for any use that may be made of the information it contains