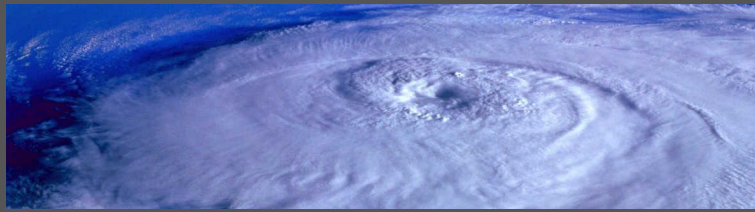
Department of Computer Science

HPS

University of Reading

Summer School on Effective HPC for Climate and Weather



Limitless Storage
Limitless Possibilities

https://hps.vi4io.org

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Luciana Pedro

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LIMITLESS **POTENTIAL** | LIMITLESS **OPPORTUNITIES** | LIMITLESS **IMPACT**

Sponsoring

The summer school is supported by

esiwace

CENTRE OF EXCELLENCE IN SIMULATION OF WEATHER AND CLIMATE IN EUROPE

EU funded Project: ESiWACE

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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

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Organizers

- Julian Kunkel j.m.kunkel@reading.ac.uk
- Luciana Pedro l.r.pedro@reading.ac.uk

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

Agenda

The typical daily schedule of Monday-Thursday

Morning

09:00 Lecture 1 (Live session)

10:30 *Virtual Refreshment Break*

10:45 Lecture 1 Continues

12:15 Lab Tutorial 1 (pre-recorded)

12:45 *Virtual Lunch Break*

Afternoon

13:30 Lecture 2 (Live session)

15:00 *Virtual Refreshment Break*

15:15 Lecture 2 Continues

16:45 Lab Tutorial 2 (pre-recorded)

17:15 Virtual Lab Session

Agenda: Topics

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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**
- Lab Q&A
- **Keynote**: Global Storm and Ocean Eddy resolving coupled climate simulations
- Feedback and farewell

Session Organization and Interactivity

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- A session is moderated by the respective *session chair*
- Feedback and lively discussions are welcome
  - Put questions/comments in the Blackboard chat anytime
    They will be read out by the session chair and addressed
  - Alternative: Ask questions verbally at end of a lecture session
- This Blackboard 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

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Approach for offered lab sessions

- Goal: support the large class and asynchronous progress
- Necessary software is installed in the (two) Virtual Machines (see webpage)
- A YouTube video (ca. 30 min) is prepared introducing the topic
  - Helping you to overcome initial obstacles
  - It may mention some extra tasks
- You can watch it during a timetabled lab tutorial
- You can do extra tasks if you like at the end of the day

Interactivity during the school

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

Certificate of Attendance

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- 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 attende list in Blackboard

Outlook

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Summer School in August 2021

- Update in topics
- Will take place in Reading (if the situation permits)

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

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Any questions?

- Short poll regarding the VM ...

Enjoy the week!

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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