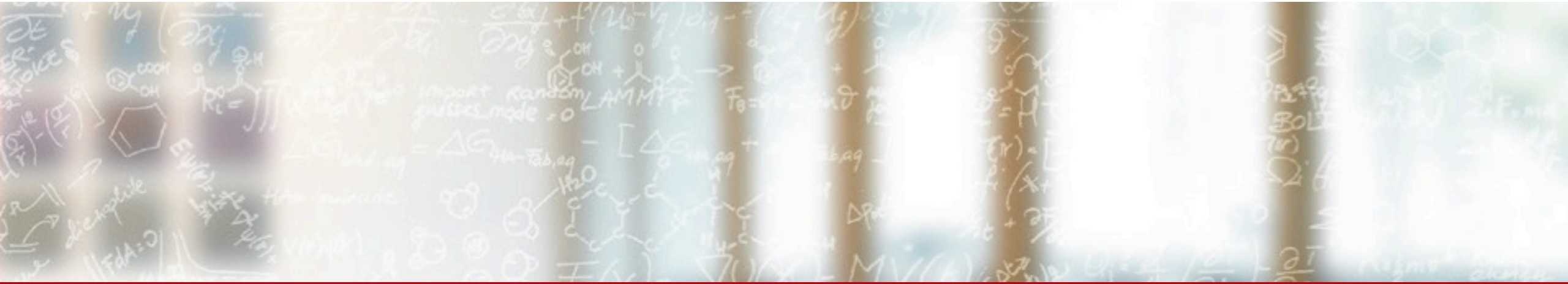




CSCS

Centro Svizzero di Calcolo Scientifico
Swiss National Supercomputing Centre

ETH zürich



High Performance Computing with Python

Swiss National Supercomputing Centre (ETH Zurich / CSCS)

6-8 July 2020

Introductions

- Rafael Sarmiento
- Theofilos Manitaras
- Vasileios Karakasis
- Tim Robinson



Rafael



Theo



Tim



Vasileios

Schedule – Day 1

- 09:00 – 09:15 Welcome and course accounts
- 09:15 – 10:15 JupyterLab tutorial
- 10:15 – 10:30 Break
- 10:30 – 11:00 Introduction to Python for HPC
- 11:00 – 12:00 Vectorization: NumPy/SciPy stack
- 12:00 – 13:00 Lunch
- 13:00 – 13:30 Profiling and memory management in Python
- 13:30 – 14:00 Just in time compilation with Numba (Part 1)
- 14:00 – 14:15 Break
- 14:15 – 15:00 Dask: task graphs
- 15:00 – 16:00 Dask: data structures

Schedule – Day 2

- 09:00 – 10:00 Just in time compilation with Numba (Part 2)
- 10:00 – 10:15 Break
- 10:15 – 12:00 Optimizing code with Cython
- 12:00 – 13:00 Lunch
- 13:00 – 14:00 Language bindings: F2PY
- 14:00 – 14:15 Break
- 14:15 – 15:00 Language bindings: CFFI
- 15:00 – 16:00 Q&A

Schedule – Day 3

- 09:00 – 10:00 Just in time compilation with Numba: GPU (Part 1)
- 10:00 – 10:15 Break
- 10:15 – 12:00 Just in time compilation with Numba: GPU (Part 2)
- 12:00 – 13:00 Lunch
- 13:00 – 14:00 Computing on the GPU with CuPy
- 14:00 – 14:15 Break
- 14:15 – 15:00 Parallelizing workflows with IPyParallel and MPI4Py
- 15:00 – 16:00 Conclusions and Q&A



CSCS

Centro Svizzero di Calcolo Scientifico
Swiss National Supercomputing Centre

ETH zürich



Let's get going...

Please open a browser (**Firefox** or **Chrome**, no guarantees for the others...) and visit...

<https://jupyter.cscs.ch>