

HPC Town Hall Meeting

One Park Crescent, London
27th November 2018

Objective: To begin a process of establishing and maintaining a NERC strategy for high performance computing which reflects the scientific goals of the UK environmental science community, government objectives, and the need for international competitiveness.

DRAFT Agenda:

10.00 – 10.30	Assemble and Coffee	
10.30 – 10.40	Welcome, Aims of Meeting	Stephen Mobbs
10.40 – 11.00	Trends in HPC; UKRI and European Context for Environmental HPC	Bryan Lawrence
11.00 – 11.25	Draft Title: A US perspective on environmental supercomputing requirements	V. Balaji
11.25 – 11.50	Strategies for Earth system modelling and high-performance computing in Germany	Jochem Marotzke
11.50 – 12.15	A French example: requirements for IPSL climate modelling centre from 2013 to 2023	Marie-Alice Foujois
12.15 – 13.15	LUNCH	
13.15 – 13.35	Draft Title: The use of JASMIN in support of Earth Observation	Chris Merchant
13.35 – 14.45	Breakout Discussions	
14.45 – 15.00	Coffee	
15.00 – 15.15	Opportunities and Challenges in Earth System Modelling	Colin Jones
15.15 – 15.30	Draft Title: Opportunities in High Resolution Climate Modelling	Pier-Luigi Vidale
15.30 – 15.50	Draft Title: Opportunities in Oceanography and Shelf Seas	Andrew Coward
15.50 – 16.10	Opportunities in Geophysics and Mineral physics	Dario Alfe
16.10 – 16.30	Breakout Summaries	
16.30	Meeting Ends	

Speaker Brief: Scientific goals for the next three years, and beyond, link to national (or supra-national) resource requirements – hardware, software, and people. Notwithstanding the brief time available, it would be desirable that the talk includes something detailed linking specific science goals to resources, and something generic about the requirements of the wider field. (UK speakers should also address key national collaborations, e.g. with the Met Office.)

DRAFT Breakout Topics:

- (1) How does our science face a future where computers do not run faster? Are there known algorithmic routes to improve time to solution for fixed FLOPs (but maybe enhanced parallelism) that we are not yet exploring? What else can we do?
- (2) Which HPC related international collaborations do we depend upon, and how can we sustain these, intellectually and financially?
- (3) What are the implications of the new UKRI funding routes (e.g. Industrial Strategy Challenge Fund) for environmental HPC resource requirements (software, hardware, people)?
- (4) How do we gather information about the impact of our HPC related research? What are the routes to demonstrating economic impact?