UKRI Living Benchmarks

https://ukri-bench.github.io/

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CIUK’25

Sustainable, pan-UKRI approach

- Bring together cross-research council expertise.
- Pair up science experts with a benchmarking experts.
- Suite is **representative** of use cases and communities.

Ready expertise ahead of procurements:

- **People expertise:** Team on hand to advise procurement team.
- **Code expertise:** Suite offers set of public well-developed benchmarks to draw from.
- All vendors can have early sight, and know what compute matters to UKRI researchers.
- Elsewhere: benchmarking teams work years ahead of major procurements (e.g., JUPITER ~35 people for 18 months, Leonardo ~9 staff for 18 months, post-Exascale DoE systems and Fugaku-next benchmarking teams already at work).

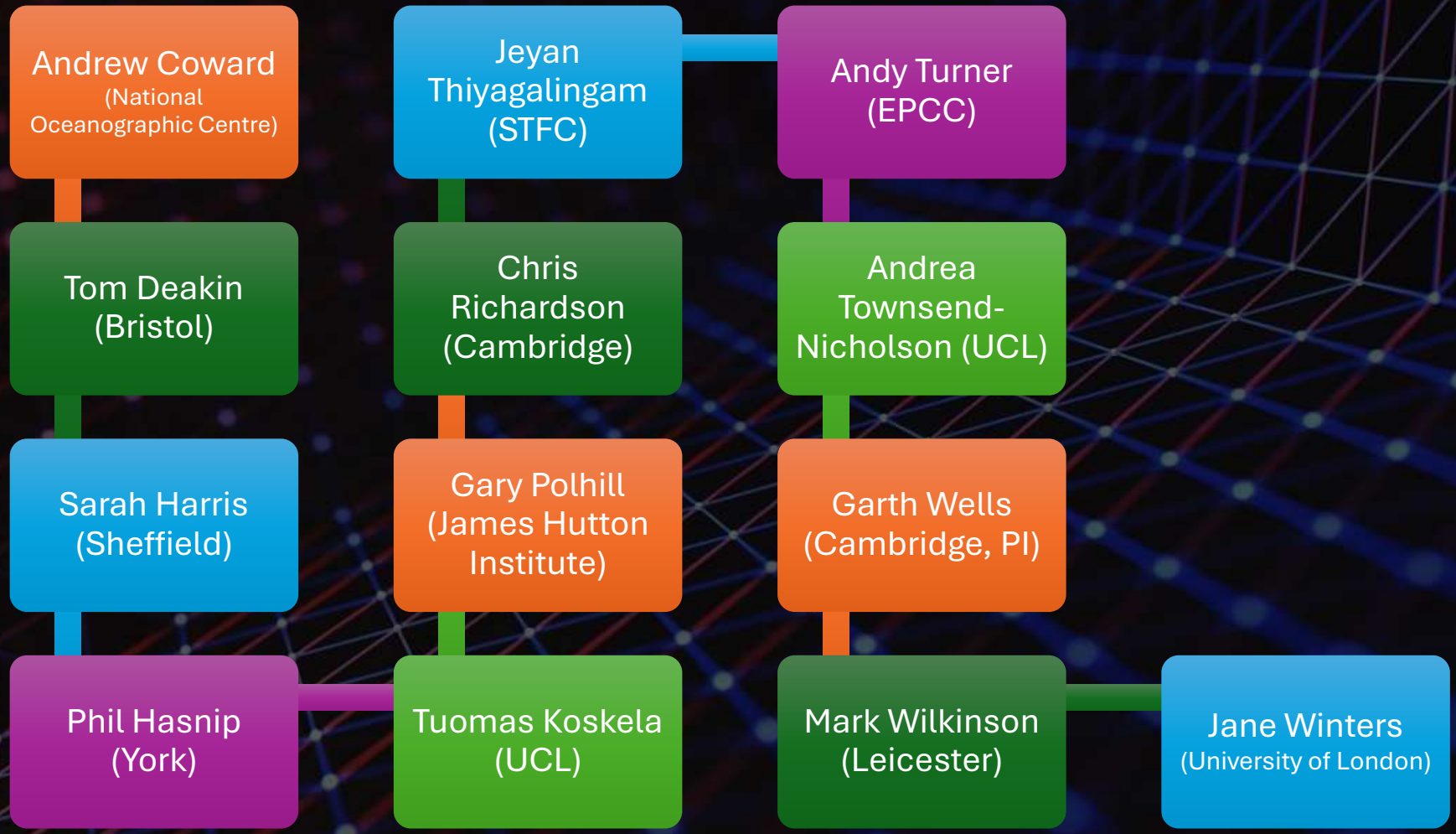
- **AI/ML:** llama.cpp (LLM fine tuning), RGAT (graph NN), DeepCAM (training)
- **Synthetic:** HPL, HPCG, OSU MPI, BabelStream
- **I/O:** Contention, ior-mdtest
- **Applications:** GROMACS, DOLFINx, Quantum Espresso, NEMO, HemelLB, GRID, FLAME GPU, Code_Saturne

Ready/work ongoing

In development

Benchmarks should be:
open source, (ideally) GPU-ready, quantifiable figure of merit, correctness check, build/run instructions

Team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Shape future Digital Research Infrastructure

Building a suite of *living* benchmarks to support DRI investments

See the benchmarks at https://ukri-bench.github.io

Suggest benchmarks at https://github.com/ukri-bench/ukri-bench

Technical support and funding for benchmarks available