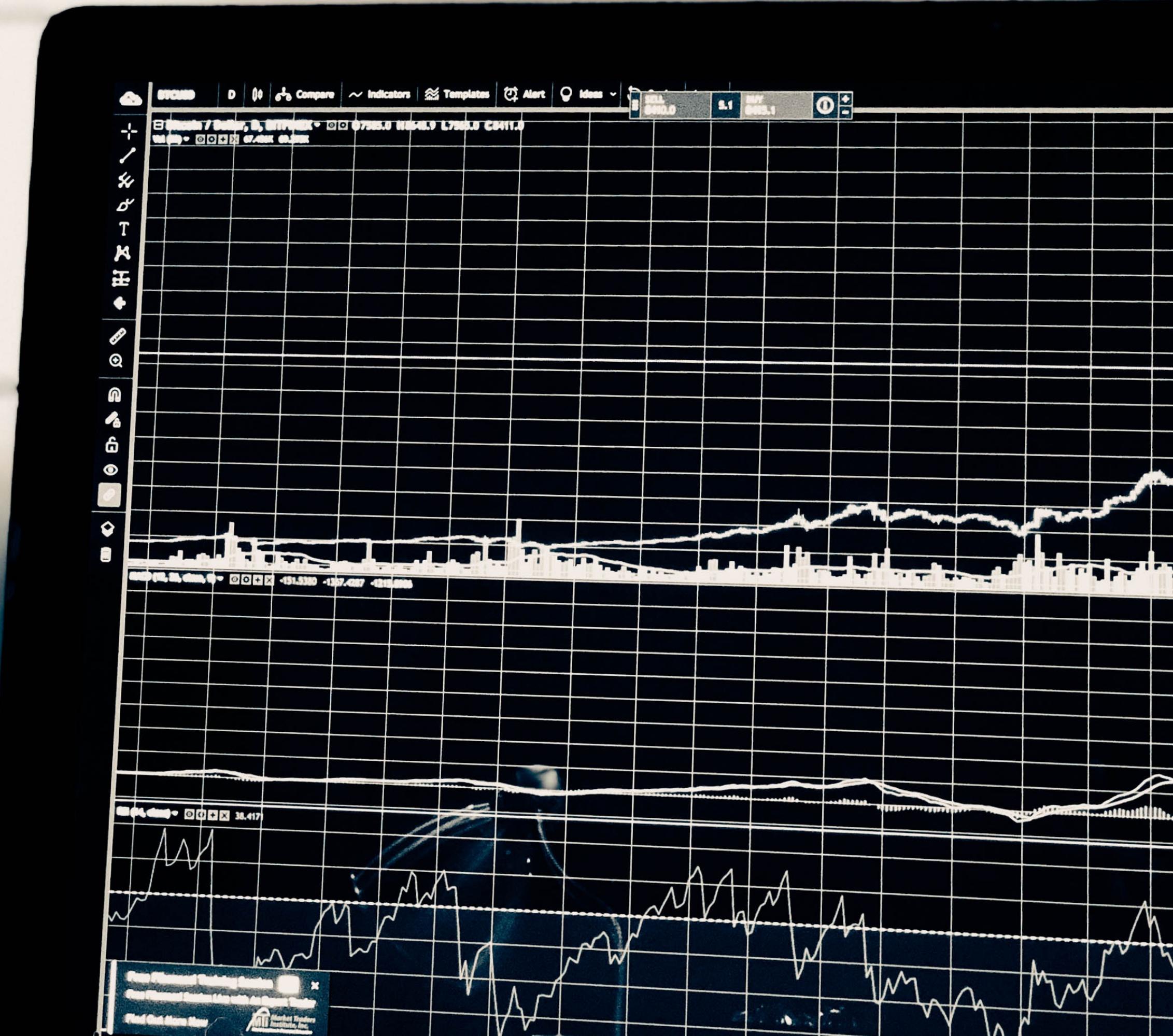




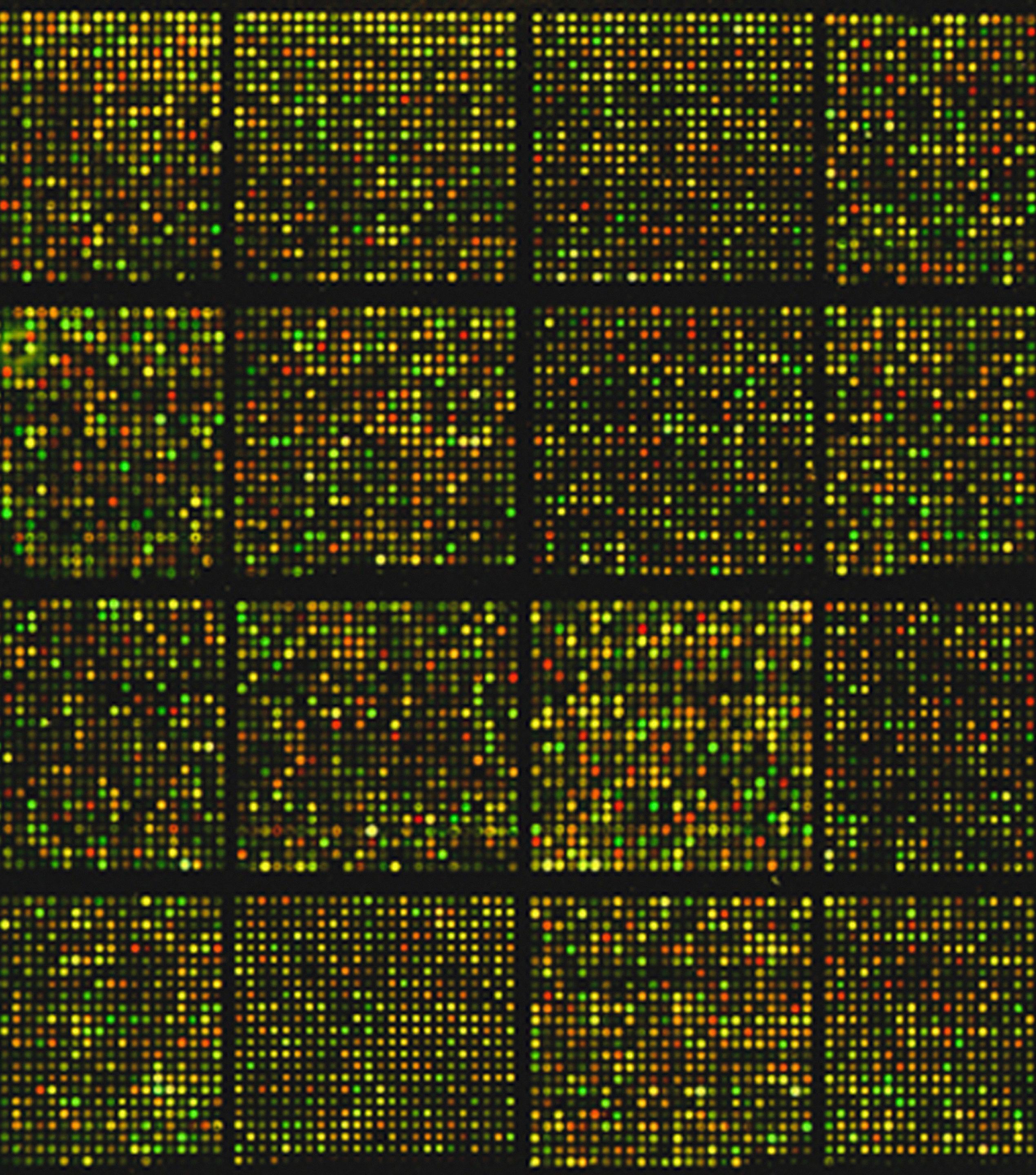
Why use HPC?

Introduction to High Performance Computing on Baskerville



Is this you?

- A statistician who wants to cross-validate a model
- Run the model 1000 times
- Each run takes an hour
- Each run is in serial
- Possible to perform all 1000 runs in **parallel**



Is this you?

- A genomicist sequencing large datasets
- Opening and large datasets on a local desktop/laptop is challenging
- A computer with **more memory** needed for analysis



Is this you?

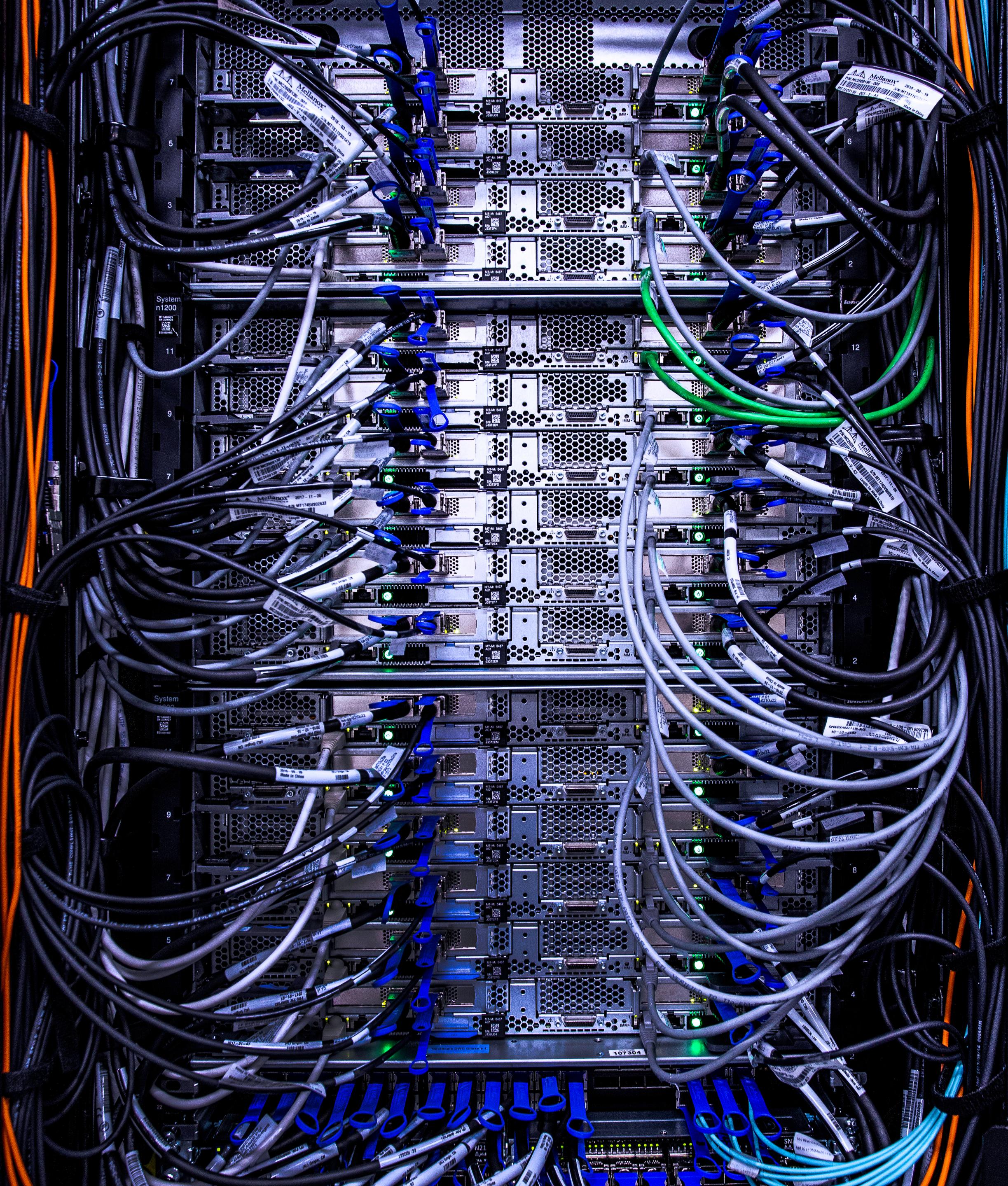
- A fluid dynamicist using a package with an option to run in **parallel**
- Calculations in each region of the simulation can be run independently
- Possible to distribute work over many computers communicating over a shared network

The Solution?

High Performance Computing

ALSO KNOWN AS:

- HPC
 - PARALLEL COMPUTING
 - SUPERCOMPUTING
 - COMPUTER CLUSTER
-



High Performance Computing

- Special “login” or “head” node accessible by users
- Compute resource accessed via resource manager, e.g. SLURM, which distributes compute tasks
- Specially built software for best performance