

Are you using computational methods and is your computer not fast or big enough? You might like to shorten your time to research with High Performance Computing (HPC)!

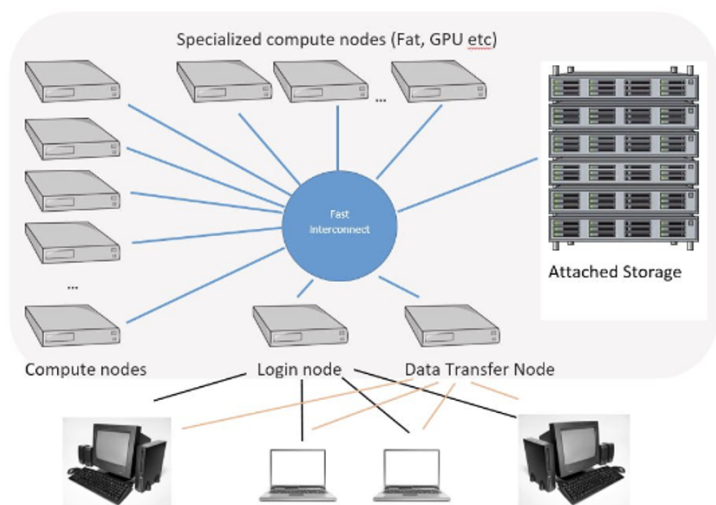
Advances in computational methods are being used in many fields and provides exciting new research opportunities. Higher resolutions and better physics in Climate modelling. GPU and memory usage in Language processing and sentiment analysis in Social Science and Economics. Genetics research in Life Sciences and Ecology. Monte-Carlo simulations or parameter sweeps or molecular dynamics and DFT in Chemistry to name a few. If you are using matlab, R, python or another software package which is available on the cluster you can start tomorrow.

VU researchers have access to HPC and storage resources on Campus at the Expertise center IT for research (Tier 2) and the SURF national supercomputer center (Tier 1).

BAZIS cluster (Tier 2): combined clusters of research groups with a general partition.

- * Tuned to your research, with the use of GPU's and/or big memory.
- * Free access
- * Connected to Scistor data storage.
- * Jupyter and terminal interface.
- * Contact itvo.it@vu.nl

More information at <https://bazis.readthedocs.io>



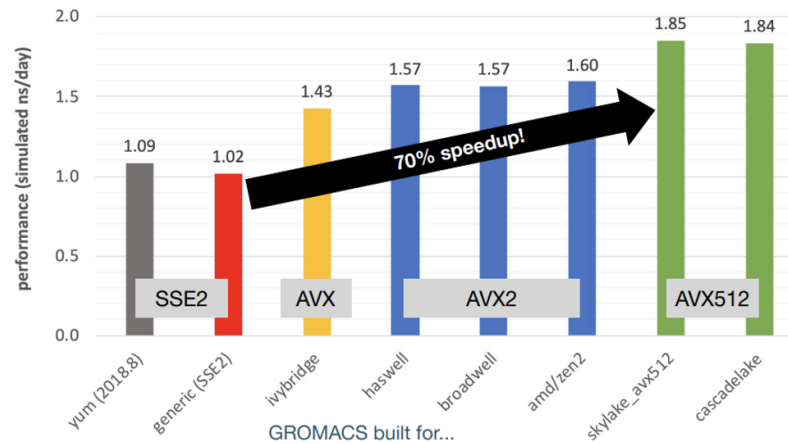
SNELLIUS cluster (Tier 1): National Supercomputer cluster. Further scale up your research! VU is a partner with SURF. Access is obtained via grants.

VU users can apply for compute hours on an institutional contract (<200 kSBU), NWO small (<1000 kSBU), NWO large (>1000 kSBU) via the form on the SURF servicedesk portal <https://servicedesk.surf.nl/>

Efficient software use and training

HPC clusters are the most efficient way to process your computational workload and release the resources for other researchers. To make optimal use of the hardware resources, clusters provide an optimized software stack. Using this software saves time and the environment, as IT systems consume a lot of energy.

- Example: GROMACS 2020.1 (PRACE benchmark, Test Case B)
- Metric: (simulated) ns/day, higher is better
- Test system: dual-socket Intel Xeon Gold 6420 (Cascade Lake, 2x18 cores)
- **Performance of different GROMACS binaries**



Training to use a cluster, pc or cloud system more efficiently depends on your workload and level of expertise. Find a suitable training for you on:

- * The VU PhD portal <https://vu.nl/en/education/phd-courses> (search for HPC)
- * SURF research agenda <https://www.surf.nl/en/training-courses-for-research>
- * EuroCC <https://www.eurocc-access.eu/services/training/>