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Novo Nordisk Foundation
Center for Stem Cell Medicine

Guide for UCPH High-Performance Computing

The University of Copenhagen (UCPH) provides researchers access to four unique national HPC facilities. These are structured to accommodate the wide-ranging computing needs that researchers at Danish universities currently have and may encounter.

TYPE 1 Interactive HPC

The type 1 system mainly focuses on interactive computing and easy user access. The system is made of the YouGene cluster hosted at UCPH. UCPH researchers can access the cluster resources via their **UCloud** account. For the cluster specs, check **here**.

To apply for computing resources, it is necessary to submit a grant application for a research project via the UCloud user interface, as explained in the related **documentation.**

TYPE 2 Throughput HPC

This type of HPC system typically has many cores, which can be a mix of cost-effective and calculation-efficient units. Type 2 also can handle large amounts of data, focusing mainly on high-throughput performance.

There are three type 2 HPC systems available at the national level for UCPH researchers:

- **Computerome 2.0**
- **GenomeDK**
- **Sophia**

Researchers at UCPH can apply for resources on one of the type 2 facilities by submitting an **application form** via the Service Portal. The hardware accessible to UCPH users for a type 2 HPC project is shown in the table below.

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TYPE 3 Large Memory HPC

This type of HPC system focuses on problem-solving, with a structure that cannot be quickly or efficiently distributed between many computer nodes. This type of system is characterized by typically relatively few cores with access to a large globally addressable memory area.

Type 3 is hosted and maintained at UCPH. For the cluster specs, check **here.** The user guide can be found at **this link.**

Researchers at UCPH can apply for resources on the type 3 system by submitting an **application form** via the Service Portal.

TYPE 5

LUMI Capability HPC

LUMI is an abbreviation for "Large Unified Modern Infrastructure," located in CSC's data center in Kajaani, Finland.

LUMI is one of three European pre-exascale supercomputers part of the EuroHPC project.

For more information, check the official documentation **here.**

Researchers at UCPH can apply for computing time on LUMI by submitting an **application form** via the Service Portal.