

## Scientific Computing Services



We operate several compute clusters designed for high performance computing, big data analytics and machine learning. Our clusters have tens of thousands of CPU cores, hundreds of GPUs and multiple petabytes of storage. These clusters offer a wide range of pre-installed scientific libraries and applications, both open-source and commercial.

[sis.id.ethz.ch/hpc](https://sis.id.ethz.ch/hpc) →

### Who can use these services?

Our main clusters, Leonhard & Euler, are financed by our «shareholders». Each is entitled to use a share of the cluster according to their subscription plan. In addition, a small share of the Euler cluster is open to all members of ETH as a public service. Just type the following in your terminal:

```
ssh nethz-username@euler.ethz.ch >_
```

### But I have no idea about HPC...

We can help you learn how to use Euler and Leonhard. Beyond that, we can support you with either installation or modification of software to truly benefit from our clusters. Our helpdesk has a low response time and is always happy to answer your questions.

[scicomp.ethz.ch](https://scicomp.ethz.ch) →

[cluster-support@id.ethz.ch](mailto:cluster-support@id.ethz.ch) ✉

## I am interested!

We offer subscription plans for computing power as well as for expert services. We also work as a service provider or contribute as a partner in third-party funded research projects with participation of at least one ETH group. Contact us:

✉ [contact-sis@id.ethz.ch](mailto:contact-sis@id.ethz.ch)

## Consulting & Training



There is an increasing use of programming in modern research across all scientific disciplines. Researchers can benefit from our extensive scientific computing and data analysis expertise.

### *I have to wait weeks for my computations to finish!*

The exponential growth of research data places increasing emphasis on code optimisation and parallelisation to reduce memory consumption and execution speed. We can assist you with choosing the right overall approach, selecting appropriate algorithms, optimal usage of the chosen programming language as well as getting the most out of the underlying hardware.

### *Can I talk to someone about my code?*

We hold weekly code clinics for our subscription customers, which are an informal opportunity for drop-in advice and assistance with programming related issues. During these clinics, we can help with issues such as code taking a long time to run, code using a lot of memory and implementing newly published algorithms. Publishing robust and reliable code increases the visibility and impact of your research in the scientific community beyond ETH Zurich. Contact us if you need advice.

[sis.id.ethz.ch/consulting](https://sis.id.ethz.ch/consulting) →

### *How can I improve my scientific computing skills?*

We provide courses and workshops on various scientific computing topics, tailored to the needs of our users. Examples include introductory and advanced *Python* courses, *Introduction to Apache Spark*, *Parallel programming with MPI/OpenMP* and *Best Practices for Scientific Programming*.

[sis.id.ethz.ch/courses](https://sis.id.ethz.ch/courses) →

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# Scientific IT Services

### Who we are

We are a section of ETH IT Services and are a team of engineers, scientists and technicians. We have in-depth experience of software development, high performance computing and applied computer science. Customers benefit from our uniquely diverse scientific background in areas including biology, mathematics, chemistry and physics.

### What we do

We enable modern research through the provision of first-class scientific computing services. From data management plans to individual consulting and data analysis, we dedicate our work directly to researchers, and can support you both solve problems and plan future projects.

 IT Services

## Research Data Management



Data management is the process of safeguarding and annotating data with meaningful metadata to allow retrieval at any point in time and is fundamental for reproducible research.

### *I am drowning in data. What can I do?*

We provide custom research data management solutions based around the open platform openBIS. Developed since 2007 to support workflows from bench to publication, openBIS is currently used by many academic and industrial labs facilities. We also offer an openBIS based electronic lab notebook (ELN), developed in collaboration with ETH research groups.

[sis.id.ethz.ch/openbis](https://sis.id.ethz.ch/openbis) →

### *I need a data management plan – can you help?*

Swiss and European Funding agencies (SNSF, H2020) require data management plans in grant applications. We can assist researchers prepare these plans, thanks to our practical knowledge and extensive data management experience.

[sis.id.ethz.ch/datamanagement](https://sis.id.ethz.ch/datamanagement) →

## Research Data Analysis



We provide a diverse range of data analysis services to research groups.

### *Can you help me with my data analysis?*

By taking advantage of the diverse scientific background of our members and the ETH high performance computing (HPC) infrastructure, we offer resources for machine

learning, as well as specialised analysis including bioinformatics and advanced statistics. For selected research areas, we also offer hands-on co-analysis where one of our specialists sits together with a researcher to work through a problem.

### *Can you assist me with reproducible research?*

Working closely with researchers, we build and maintain research data workflows that support reproducibility of science and scaling up of complex data analysis tasks. Examples include workflows for genomics, proteomics, light-sheet microscopy and image analysis.

[sis.id.ethz.ch/dataanalysis](https://sis.id.ethz.ch/dataanalysis) →

## Software Development



Software can make a significant contribution to your research. By automating tasks you can improve the efficiency of your daily work whilst at the same time reduce the rate of error.

### *Our current software falls short. Can you make it better?*

Our unique combination of domain experts and software engineers allows us to professionally develop robust, reliable and user-friendly scientific software for you. Some examples of software we have developed in the past include tools for analysing data from measurement devices, controlling robot-controlled microscopes, finding patterns in large text corpuses and interactive visualisation of genomic data.

*A PhD student wrote an application that we use daily. Now he is leaving. What can we do?*

Research groups often face the situation that an important code developer leaves and knowledge gets lost. To support ongoing improvement of such software, we can take over and maintain code to ensure bug fixes and implementation of new features.

[sis.id.ethz.ch/software](https://sis.id.ethz.ch/software) →

## Scientific Visualisation



We offer scientific visualisation support to researchers, allowing them to gain greater insight and understanding of their scientific data. We work with data that ranges from small field measurements to large-scale computations in the order of several terabytes.

### *How can I further understand my data?*

Sometimes data needs to be looked at differently before it reveals its secrets. We create tools to animate and interactively play with data, allowing interesting patterns to be identified. This can range from understanding the role of soil moisture in global warming, the detection of key genes in an experiment, to tracking the damage caused by tropical cyclones.

[sis.id.ethz.ch/visualisation](https://sis.id.ethz.ch/visualisation) →

