

## Student HPC Hackathon 8/2018

- Get the most performance out of our new HPC system [Noctua1](#)
- Form groups of about two individuals
- Performance is measured with given Benchmark programs
- HPC experts from PC<sup>2</sup> will support you
- Agenda
  - 1<sup>st</sup> day starts with
    - an introduction to the [Noctua1](#) system, and
    - an overview of the Benchmark programs and running rules
  - Do your performance optimizations/measurements
  - 2<sup>nd</sup> day ends with
    - a presentation of the results of each group
- Save the date
  - August, 15<sup>th</sup> + 16<sup>th</sup>, changes are possible due to ongoing system installation
  - Begin at 10:00am
  - Room O2.267

## Student HPC Hackathon 8/2018

### Challenges

- New Hardware
  - Processor architecture (cache hierarchy, AVX512 instructions,..)
  - Communication network (OmniPath 100Gbps)
  - Storage System
- New Software
  - Programming Tools
  - Libraries
  - Resource management system "SLURM"
  - Lustre file system
- Planning your batch jobs
  - Optimal use of available resources