

# Scientific Computing

## Institute of Science and Technology



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IST IT

# IST Austria

- Basic research and graduate education since 2009
- 40 research groups (experimental and theoretical) in
  - Physical Sciences (8)
  - Formal Sciences (15)
  - Life Sciences (22)
- Interdisciplinary
  
- Scientific Computing is part of IST IT
- Contact for IT:
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# Hardware

- 75 nodes in total (connected via 40Gbit Infiniband)
  - 17 nodes AMD 2.3 Ghz, 16 cores, 64G RAM
  - 36 nodes 16 (32) intel 2.6 Ghz, 64G RAM
  - 16 nodes 16 (32) intel 2.4 Ghz, 128G RAM
  - 2 headnodes 16 (32) intel 2.6 Ghz, 512G RAM
  - Additional special nodes (more cores, GPUs, more RAM...)
- 180 TB Clusterstorage
  - 2 nodes, BeeGFS planned (additional 150TB)

# Personnel / Service

- Staff
  - 3 HC
  - (whole IT for special needs)
- Cluster
  - Computing nodes
    - Watch jobs, give advice
  - Cluster storage
  - Special machines (virtual, physical)
- Scientific software licensing
- Support / Consulting
  - Computing / Cluster computing
  - Optimize code
- Teaching / Cluster lectures
  - Build foundation

## Scientific use cases

- 9 RG / 34 heavy users
- Big memory machines (simulation of hippocampus), together with MACH @Uni Innsbruck
- Nonlinear Dynamics and Turbulences
- Mathematica and Matlab users
- Machine Learning on GPU machines