NTNU
Norwegian University of Science and Technology

Facts
52 departments in 7 faculties
53,000 student applications a year
- of which 8,500 have NTNU as their first choice
20,000 registered students
2,800 degrees awarded a year
190 PhD degrees awarded a year
4,150 employees
2,500 empl. in education and research; 545 professors
Budget: NOK 3.5 billion (€ 445 million)

Vision
NTNU is to be an academic leader that safeguards and expands Norway’s technological expertise. With its strong disciplinary standing and broad academic scope, NTNU will contribute to greater understanding of the interaction between culture, society, nature and technology.
Faculty of Information Technology, Mathematics and Electrical Engineering

The IME faculty has six departments. One of these is the Department of Computer and Information Science (IDI)

IDI Organization

IDI Facts
- Employees: 175
  - Faculty: 58
  - Permanent, full time: 41
  - Adjunct (20% positions): 7
  - Temporary, full time: 10
- Staff: 27
- PhD students, post.docs: 89
- “Production”: 50.000 ECTS/year
- Budget 2005: 110 MNOK (€ 14 M)

IDI Teaching activities
- Basic computer science (undergraduate level)
  - For all engineering faculties
  - For BSc computer science students
  - For BSc and MSc students at other faculties
- Specialist education (graduate level)
  - Master in technology (engineering profile)
  - Master of science (science profile)
- PhD education
- Cross disciplinary programs
  - Social sciences
  - Humanities
  - Medicine
Information Management

The research group of Information Management has:

- 3 faculty members
- 5 Ph.D. students
- Accepts approx. 15 new Master students each year for a two years Master Study.

We teach courses in the Information Management Curriculum and supervise project-, master- and Ph.D. students. External and internal research projects.

Contact:
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Thinking about studying for a doctorate?

Good new doctoral students in information technology, mathematics and electrical engineering are always welcome! We are working towards developing the best possible working conditions for our doctoral students through:
- scholarships
- organised PhD courses, seminars etc
- international exchange programmes
- including doctoral students within the subject groups at the departments and
- co-operation with companies and foreign universities.

These study programmes are designed for people with scientific interests and ambitions. They are also a good way to finance the development of one’s own ideas with a view to setting up one’s own business with a solid scientific basis, at a later date.

Starting to study
Two conditions must be met before study can commence:

1. Financing your studies, which is usually achieved by applying for a scholarship.
2. Admission to the study programme

Studying at NTNU
- The PhD study will take three years.
- Your research study plan should be completed in consultation with your supervisor.
- The examinations in the courses (30 ECTS (one semester)) follow the regulations for doctoral studies and the examination rules, and a mark A or B in all subjects including qualifying subjects, is required.
- A midterm Progress reports must be accepted by the Committee for research and research training. The purpose of these reports is to have a routine for detecting situations which can be improved, and to have a method of formal quality assurance of the way the studies are being carried out.
- IDI may require that the student works one additional year as a paid teaching assistant. Research work and publishing while studying must be done in conjunction with the supervisor(s).

The Defence of the thesis:
The thesis is evaluated by a committee consisting of three members:

- one (or two) international experts
- one (or none) Norwegian expert
- one member from the Department, IDI

On the day of the defence:

- the candidate gives a trial lecture on a topic given to the candidate 14 days in advance
- the public defence, the candidate presents his/her work and discusses with two opponents. Persons from the audience can ask questions.
Bioinformatics is an important and challenging research area where computer scientists work closely with scientists from the medical and bio areas in order to find optimal methods or frameworks for storing, managing, retrieving and searching biological information such as gene sequences, structures and annotation. This also includes feature selection and identification of biomedical entities in MEDLINE documents.

Health Science is another area for cooperation and we focus on problems related to the management of electronic patient records.
Collections, interoperability and retrieval on the internet.

The huge amount of multimedia and multi-functional information on the internet requires new technological solutions for information management and it gives a base for new services.

We explore how open archives can be developed as well as used; interoperability between systems as well as collections and digital objects; the development and use of data-models, a.o.

- Distributed Digital Libraries: Implementing a local node in the Alexandria Digital Library network, with Norwegian collections.
- Peer-to-Peer infrastructure for Digital Libraries
- Integration of heterogeneous collections in global networks
- XML and web-technology
  - Information retrieval technology for XML documents
- Multimedia information retrieval mainly focusing on development of optimal systems for music, video and image
- Multi-lingual Information Retrieval
Usage and management of Geo-referenced Information.

Studies report that more than 20% of user-queries are related in some ways to geo-referenced information. Using maps and placenames are important components when developing new services:

- Automatic identification of placenames and other georeferenced information in Norwegian texts
- Searching for textual information based on geographic scope of news articles and other texts.
- Investigate how to utilize new technology in order to organize and enable searching in photo collections based on automatically assigning coordinates to images representing the geographic coverage of individual images.
- Location based services; wireless community
- Thesauri and gazetteers
Metadata and information modeling.

Digital objects can be described using metadata. This is of importance for interoperability, it can give less noise in the information searching and retrieval processes, be a guide when selecting information objects in specific work tasks, a.o.

- Metadata in a distributed world
  - Metadata formats for all kinds of media
  - Metadata interoperability and reuse (use of ontologies, metadata mapping and conversion)
  - The future library catalogue (implementing and evaluating new information models, from MARC to semantic web)

- Datamodels; FRBR, CBR

- E-learning; learning objects, metadataformats
Open Archives.

- Institutional repositories
- Self-archiving

DAIM is an Information Management project and includes functions for the administration of master students, thesis and papers. It cooperates with external systems for printing and data-exchange. DAIM builds an institutional archive and uploads metadata and/or full text documents to external systems like DiVA, BIBSYS and others.

All types of media can be included in the research in the Information Management Group.
NTNU Library (UBiT)

10 libraries, one section for development and coordination, and the central administration

75 000 shelf-metres with books and periodicals

360 000 photographs; 30 000 maps; 27 000 music scores

20 000 electronic books; 6000 electronic periodicals and access to 1200 international reference databases

145 staff

Budget: NOK 120 million (€ 15 million)