

Recent Advances in Computer Assisted Surgery

Goals of the Seminar

Learn how to

- read up on a topic and how to read scientific papers,
- write a scientific paper,
- and present it

Scientific writing

- **Seminar:** Systematically investigate existing scientific literature regarding one specific topic. Summarize and present the most important findings.
- **During your studies (MA/DA):** Understand and discuss existing literature that are related to your own thesis.
- **Scientific publications (Conference / Journals / Workshops):** Present your own research and contribution to other researchers

Conferences

- Hundreds of conferences and journals on different topics
- Exchange of knowledge, make contacts, make yourself a name, confirmation, validation
- MICCAI: International Conference on Medical Image Computing and Computer Assisted Intervention
- ISMAR, MMVR, SPIE, ISBI, MIAR

Important Dates

- 19 January 2009 Tutorial and workshop proposals
- 16 February 2009 Acceptance of tutorials and workshops
- **8 March 2009 Submission of full papers**
- 1 May 2009 Rebuttal of reviews
- 18 May 2009 Acceptance of papers
- 15 June 2009 Camera ready copy for papers
- 20-24 September 2009 Tutorials, Conference, Workshops

Topics

Topics to be addressed in MICCAI 2009 include, but are not limited to:

- **Medical Image Computing**
 - functional and diffusion image analysis
 - segmentation
 - physical and functional modeling (bio-mechanical, CFD, etc)
 - shape analysis, atlases and statistical models
 - registration, data fusion and multiscale analysis
- **Computer Assisted Interventions and Robotics**
 - planning and image guidance of interventions
 - simulation & training systems
 - platforms, clinical evaluation of systems and safety issues
 - visualization and feedback (AR, VR, telepresence)
 - robotics and human-robot interaction
- **Biomedical/clinical Applications, Preclinical Imaging and Biomarkers**
 - computer-aided diagnosis
 - organ/system specific applications (including but not limited to neurosciences, oncology, orthopaedics, cardiovascular)
 - molecular and optical imaging
 - imaging biomarkers

Structure of a scientific publication

- **Abstract:** This is the part that will be read most often. Has to arouse interest in the reader. Usually the abstract is freely available.
- **Introduction:** Motivation and related work.
- **Materials and Methods:** Exact presentation of the material (Data, soft- and hardware, survey) and of the methods.
- **Results:** Usually quantitative values.
- **Discussion:** Conclusions, problems, future work and a summary.
- **Reference:** Related work and literature that is important to understand the paper. Everything that has been used to obtain the own results.

Your presentation in the seminar

- Does not have to follow the typical structure of a paper
- One recent scientific paper is provided
- Present the paper and related work

Access to scientific publications

- Access to the most publications is not free
- Many publications can be access for free using the TUM-proxy
- Some places to look for publications:
 - Google Scholar <http://scholar.google.de>
 - Citeseer <http://citeseer.ist.psu.edu/>
 - Elektronische Zeitschriftenbibliothek
<http://rzblx1.uni-regensburg.de/ezeit/>
 - **Our library!**
Books and electronic media...
Link to instructions how to access/download electronic media:
<http://www.biblio.tu-muenchen.de/medien/emedien.html>
Link to access/download media outside of the campus:
<http://www.lrz-muenchen.de/services/netzdienste/proxy/documentweb/>

Schein requirements

- Give a presentation
 - About 30-45minutes
 - You should count with 2-3 minutes per slide
- Write a handout (about 10 pages, don't copy and paste!)
- Discuss the handout and presentation with your supervisor (at least one week before your presentation)
- Attendance of the seminar meetings

L^AT_EX

- Typesetting system
- Widely used in academia
- Editors like TeXnicCenter
- Bibtex

Time and Dates

- Garching: Monday 12:00 – 14:00
 - Garching: Friday afternoon
 - Klinikum Innenstadt (Sendlinger Tor): Thursday evening, or other time
 - How many dates? (probably 3-4)
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- Semester ends 12. February
 - Calendar week 48-51 (29.11.2010 - 24.12.2010)
 - Calendar week 2-5 (10.01.2011 – 4.02.2011)