



NTNU

Department of Computer and
Information Science

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Welcome to Course

DT8108 Topics in IT

Based on slides from Guttorm Sindre

Today's lecture

- Introduction
- Learning goals & course components
- Expectations / needs for the course?
- Research methods / forming groups
- The field of Computer Science
- Literature search

Introduction

- Torgeir Dingsøy
– From Søgne (Norway), PhD 2002 (supervisor Reidar Conradi)
– Senior scientist at SINTEF
– Adjunct associate professor at IDI
- Pick someone you do not know, use 5 minutes and present the other by:
 - Name?
 - From?
 - Group at IDI?
 - Thesis supervisor?
 - Planned topic?

Learning goals

- Overview of the research field of CS / IT
 - ...and of the research going on at IDI
 - How your own research is positioned within this
 - How is research organized and funded?
- Understanding research methods in CS / IT
 - What is research?
 - Types of research and methods for research in IT
 - Being able to choose appropriate methods for own research
 - Understanding the research of others
- Scientific writing, reviewing and presentation
 - How to write good papers and get them published
 - Choosing the publication channel
 - Reviewing papers (e.g., for conferences)
 - Giving paper presentations, e.g., at conferences
 - What makes a good thesis? How to survive your defense?

Motivation

- Why learn this?
- Short term:
 - Useful for getting on with your PhD research
 - Hopefully help you succeeding with your thesis & defense
- Long term:
 - You may be at the start of a life-long career in research
 - This mandates a broader perspective:
 - Not only know about the research methods needed for your PhD project, but also things you may need in the future
 - E.g., being more capable of cooperating with researchers of other disciplines

Course components

- Seminars
 - Every second Thursday 09-12
 - Presentations by you
 - Invited speakers

If you miss more than four seminars, you need to cover the parts you missed through writing an essay at the end of the course.

- Readings:
 - Various example articles, mainly from the department

Course components

Exercises, Autumn:

- Short presentation of research method (by group)
- Long presentation of research method (by group)
- Draft literature review paper draft

Exercises, Spring:

- Doctoral consortium paper
- Organizing and participating in the end-of-course conference

All these are meant to have high synergy with research tasks you anyway need to do for your thesis work

Pedagogical challenge

- You come from many different backgrounds
 - Different previous exposure course topics
 - Some have learnt about Research Methods already, others know little
 - Some may already be good at paper writing and presentations, others not
 - You have quite different research goals
 - Which research methods should be covered in most detail ?
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- Anyway: The course is not supposed to replace your thesis supervisors!

Expectations for the course?

- Need to cover all parts
 - Overview of the research field of CS / IT
 - Understanding research methods in CS / IT
 - Scientific writing, reviewing and presentation
- But the relative weighting and exact content is flexible
 - Something you want more of / less of?
 - Something which does not give the expected learning outcome?

- What would you like the course to focus on?
- 15 minutes in groups
- Plenary presentation

Research methods

What research method is appropriate for your PhD project?

- What research methods exist?
- Write your name on a sticker and attach on the wall

Group discussion

Topic: What do you know about the research method of interest? How do you intend to apply it?

15 minute discussion in groups
(Research method groups)

2 minute plenary summary per group

Group discussion

Topic: How do you do literature search? What are important databases in your field? What characterizes a good literature search?

Next seminar

- Groups to prepare a 10 minute presentation of their research method
- Skim the systematic review article: Dybå, T. and Dingsøy, T., Empirical Studies of Agile Software Development: A Systematic Review, *Information and Software Technology* 50 (2008) 833-859.
- Group 1 (experiments) prepares questions about systematic reviews.