

# Proseminar Real Time Systems

## Introductory Meeting

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Theory of Hybrid Systems  
Informatik 2

SS 2011

## Contents (rough)

- Formal modeling of real world scenarios
- Properties for such systems
- Automatic error analysis of systems

## Goals of this proseminar

- Independent elaboration of a topic
- Structured scientific working
- Development of a short paper
- A good talk addressing the other students
- Literature research
- $\text{\LaTeX}$  skills

# Paper and Talk

## Paper

- 6 pages
- Font size 12pt
- Text begins on titlepage
- No index of contents
- Spell checker
- Paper has to be written in  $\text{\LaTeX}$

## Talk

- 20 minutes
- Talk is for other students
- $\text{\LaTeX}$ -Beamer

- Fix dates for
  - Introduction to  $\text{\LaTeX}$
  - Introduction to "How to give a talk"
- SVN-account for  $\text{\LaTeX}$ -templates and personal files

# Important Dates

20.04.2011	Contact supervisor
11.05.2011	Structure of paper
01.06.2011	Paper ready
15.06.2011	Final paper
29.06.2011	Slides ready
08.07.2011	Final slides
?? .07.2011	Presentation

- 1 Syntax and Semantics of Hybrid Automata
- 2 Introduction to Timed Automata and Their Properties
- 3 Bounded Model Checking
- 4 SMT-Solving
- 5 Bisimulation
- 6 Introduction to Probabilistic Systems
- 7 Probabilistic Systems with Costs
- 8 Probabilistic Bisimulation
- 9 Rectangular Hybrid Automata and their Reachability Computation
- 10 Geometric Representations of State Sets