

# Seminar Algorithmentchnik

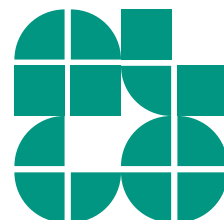
## Geometry, Graphs and Algorithms

### Introduction and Topic Distribution

LEHRSTUHL PROF. WAGNER · INSTITUT FÜR THEORETISCHE INFORMATIK · FAKULTÄT FÜR INFORMATIK

Tamara Mchedlidze · Torsten Ueckerdt · Lukas Barth · Lars Gottesbüren ·  
Sascha Gritzbach · Marcel Radermacher · Franziska Wegner · Matthias  
Wolf · Tim Zeitz

19.10.2018



## 1. Organizational issues

- Structure
- Your Participation

## 2. Topics

- Presentation of the topics
- Distribution
- Meeting your advisor

## Institute of Theoretical Informatics, Algorithms Group

- Tamara Mchedlidze
- Torsten Ueckerdt
- Lukas Barth
- Lars Gottesbüren
- Sascha Gritzbach
- Marcel Radermacher
- Franziska Wegner
- Matthias Wolf
- Tim Zeitz

# Participants



## Short presentation:

- Name
- Direction of studies/Semester
- Background in Graphs,  
Computational Geometry and  
Algorithms

# Seminar Summary

- **independent work** on a recent research topic
- extraction of the **highlights** of the topic and their **short** presentation
- investigation of the topic and **scientific presentation** of it
- **actively discuss** the topics of the other participants
- present the details of the topics in **your own words** in a written document
- **evaluation** of a scientific text

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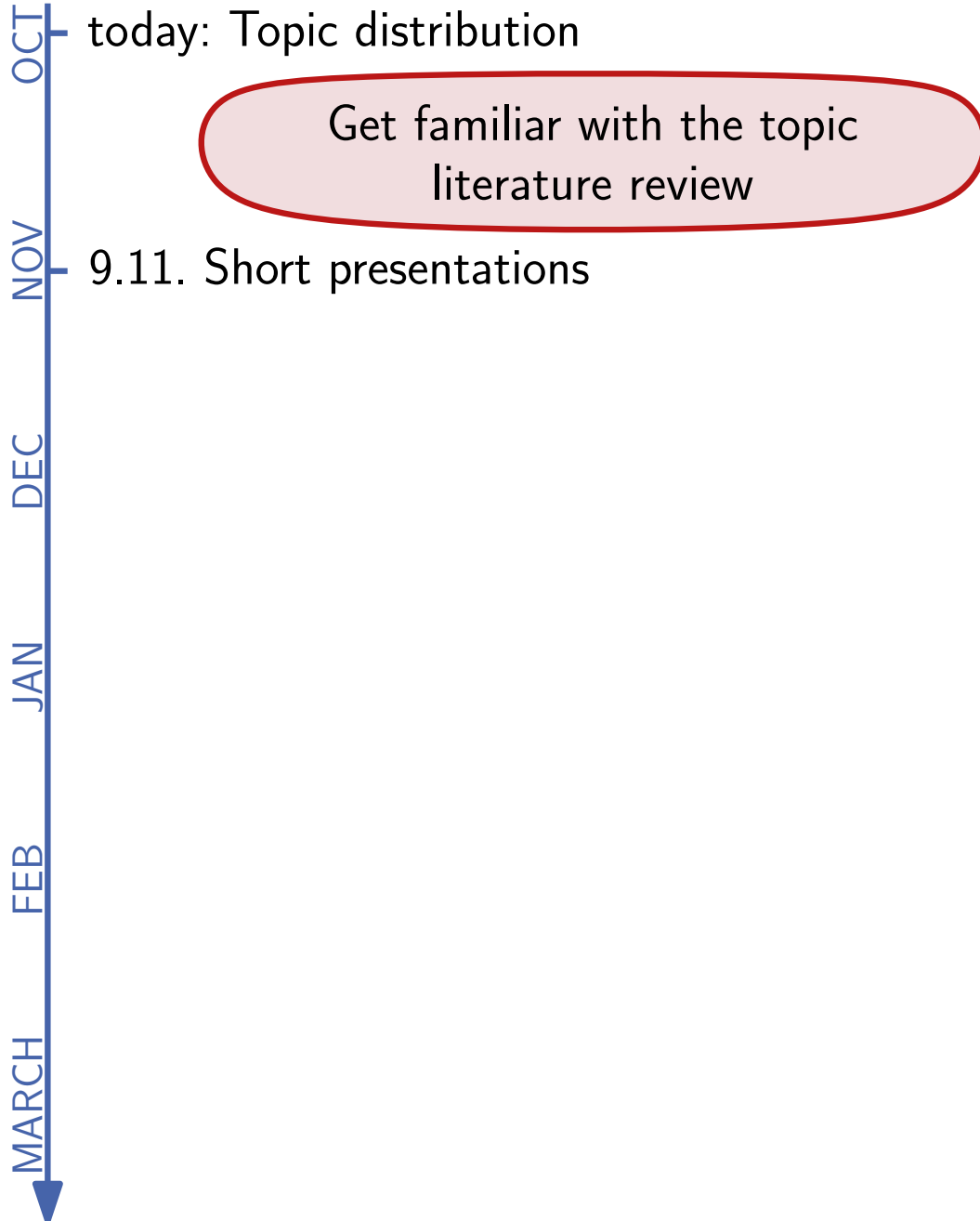
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  - extraction of the **highlights** of the topic and their **short** presentation
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  - **actively discuss** the topics of the other participants
  - present the details of the topics in **your own words** in a written document
  - **evaluation** of a scientific text
- Opening of your horizon on the various topics in theoretical computer science
- Basic skills of scientific work
- Preparation for the Master thesis and its presentation

# Structure

OCT today: Topic distribution

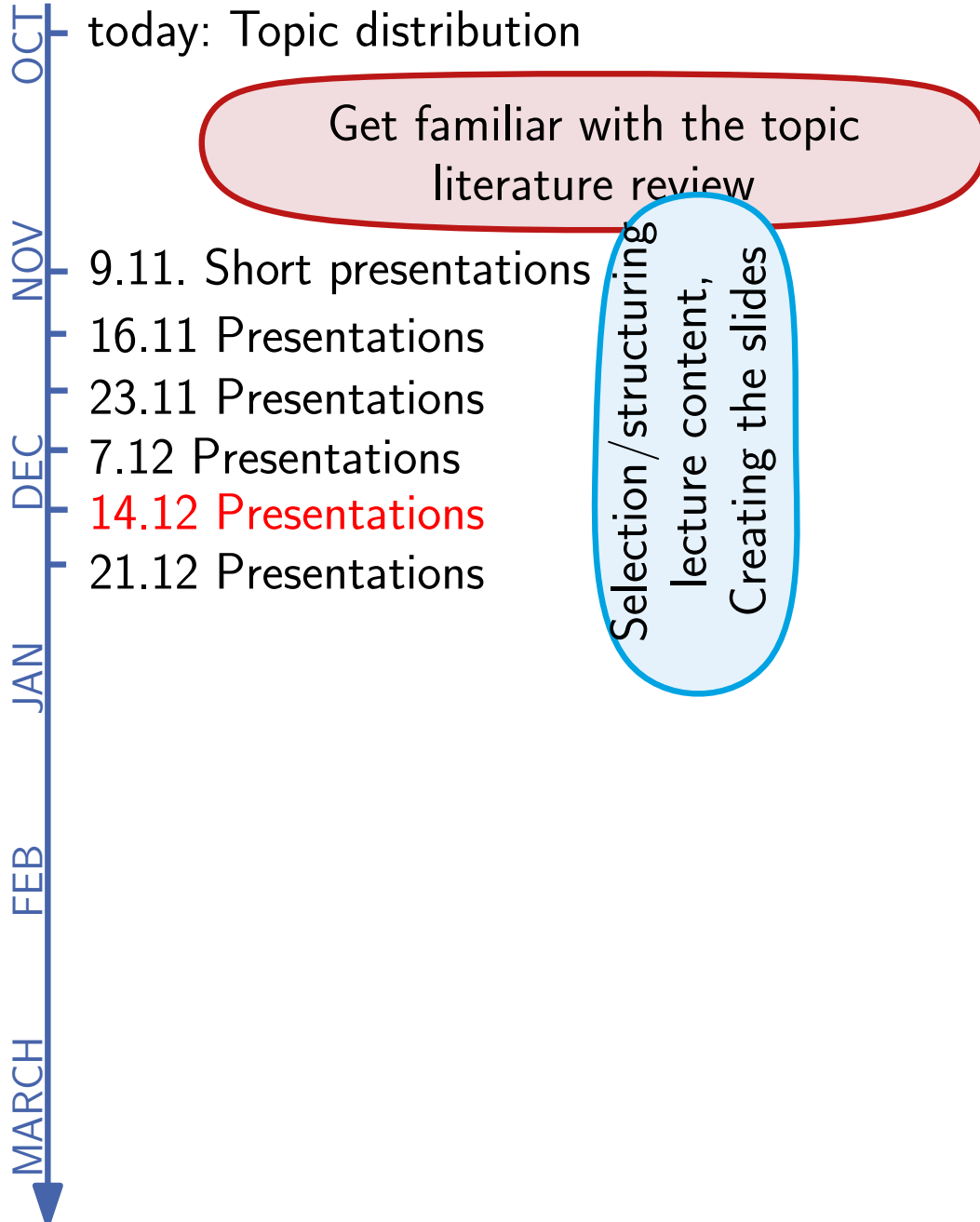


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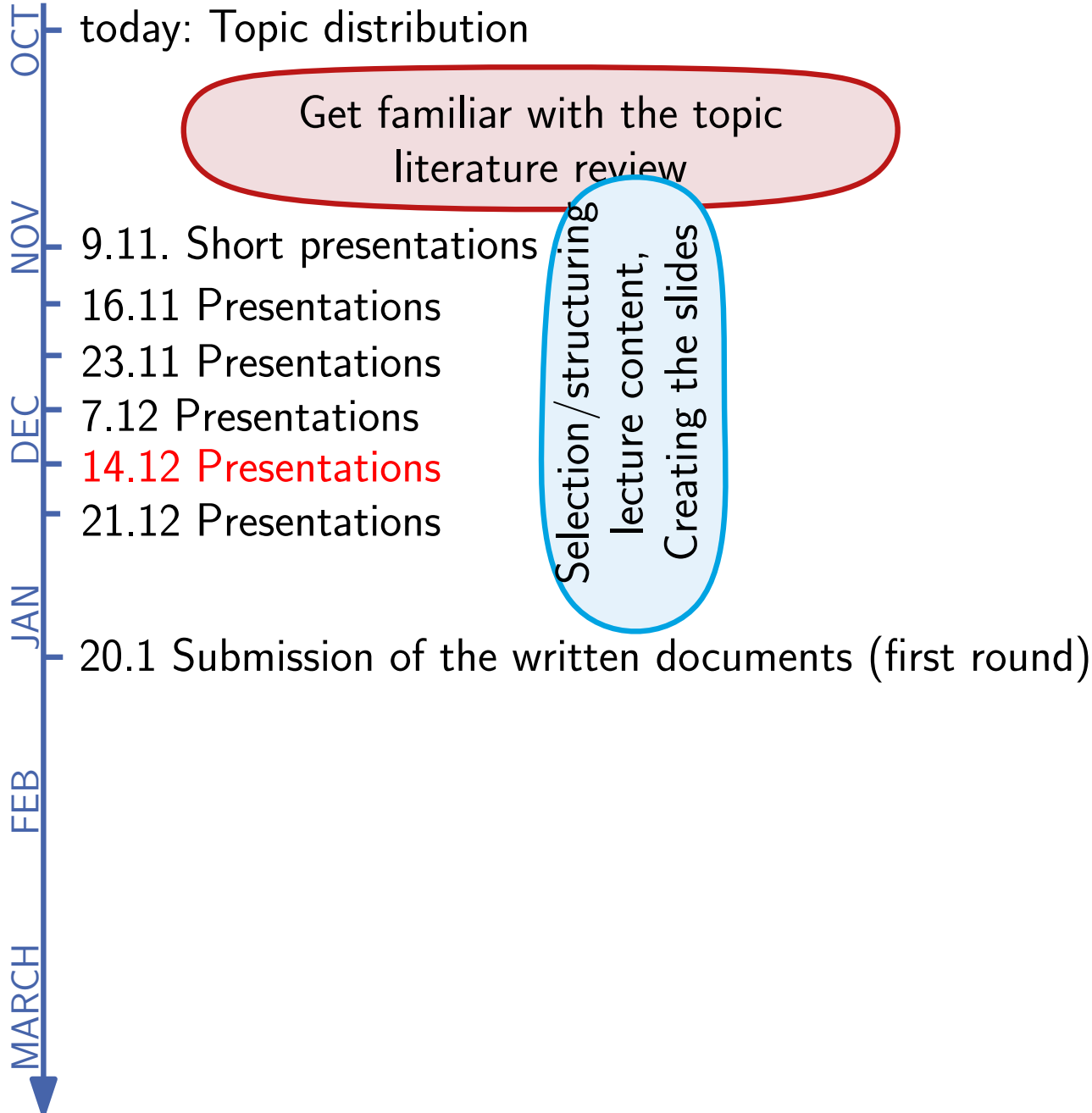




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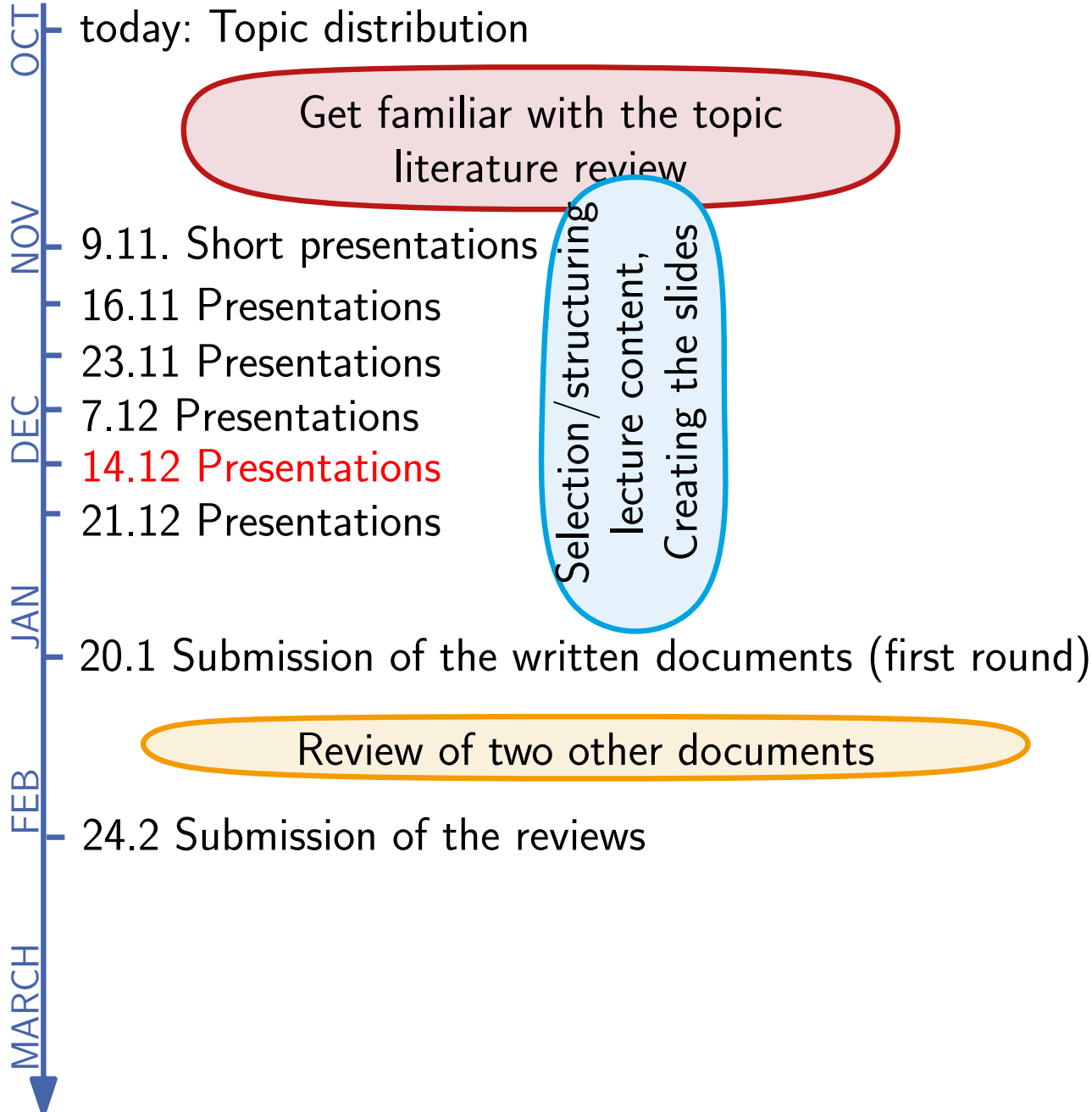


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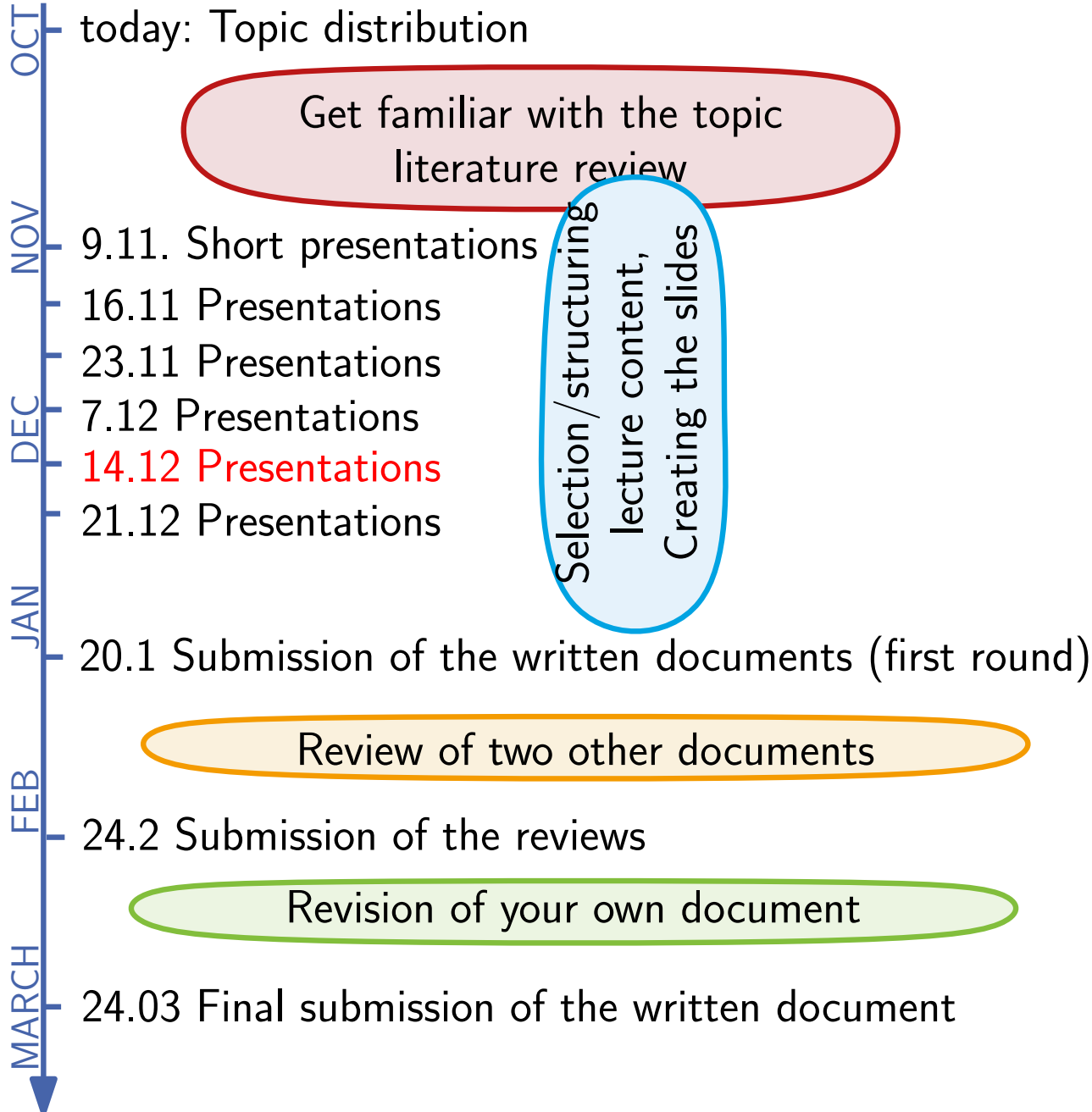
Choice of the material  
structuring the document,  
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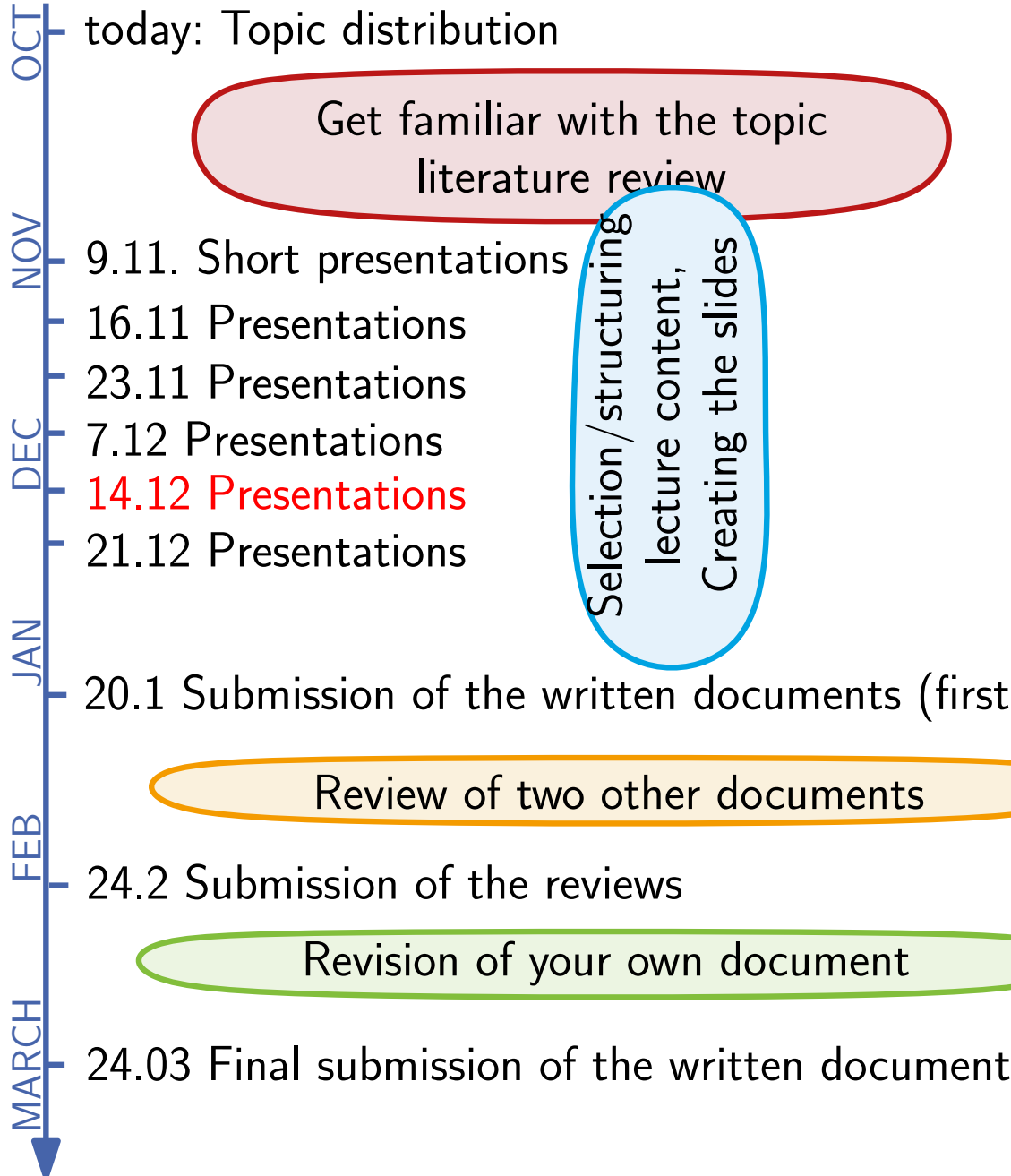
Selection / structuring  
lecture content,  
Creating the slides

Get familiar with the topic  
literature review

Review of two other documents

Revision of your own document

# Structure



Selection / structuring  
lecture content,  
Creating the slides

Choice of the material  
structuring the document,  
writing

Approximate time	
Read, do research, understand	40h
Making presentations and practicing	30h
Writing and structuring	30h
Read another work and evaluate	10h
Presentations	10h

# Your Participation

- **Short presentation** of the highlights of the topic
- **Main presentation** of the topic
- **Presence** on the presentations and **participation** in the discussions
- **Written document** of the topic, formulated in your own words with concentration on your own questions
- **Review/correction** of two documents of other participants
- Following the deadlines (help to keep the flow of the seminar)

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- Quality of the *final* **written document**

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short presentation and the first version of the document are not graded

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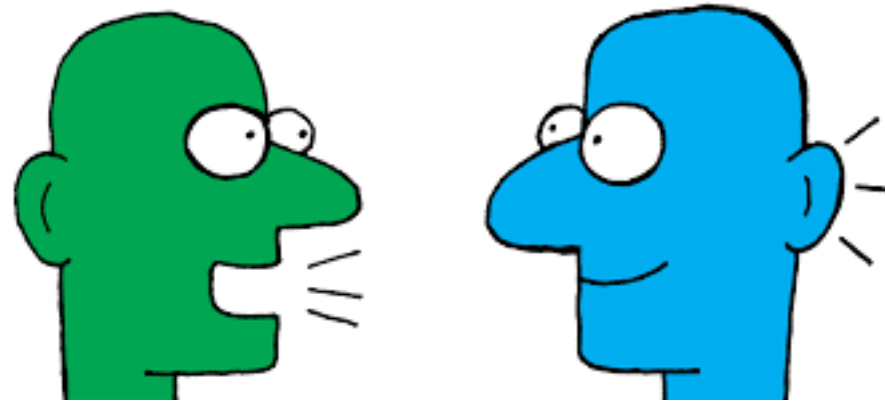
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4) What should you read in the literature?

- Title and Abstract – Is the content relevant?
- if yes – Introduction, Conclusion, Main results
- Only if details are relevant – read all
- Keep notes!



**Idea: Communicate early what you have understood...**

## **Learning Effects:**

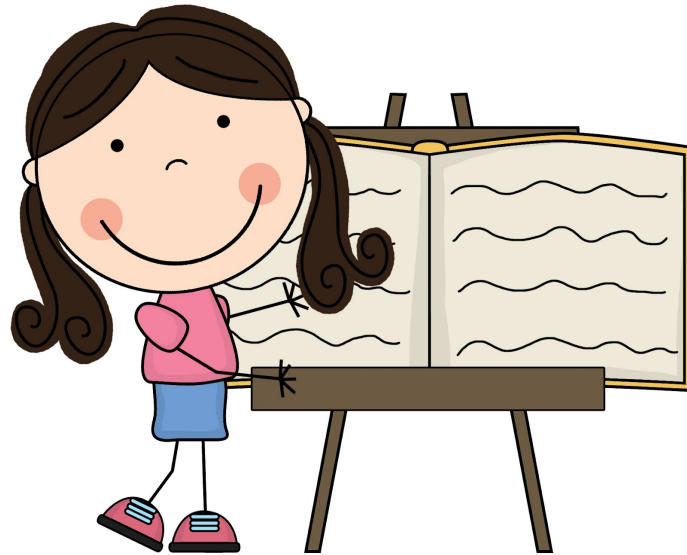
- Better understanding of the topic
- Early feedback and ideas for possible directions
- Train for the main presentation - feedback from the advisor

## Content

- „Advertisement“ of the main presentation
- **Motivation:** why the particular problem is studied? (fills the holes in the knowledge, applications?)
- **What results you will concentrate on:**  
Model, Algorithms and used techniques, main theorems?  
...

## Form

- 5 Minutes
- structured and clear slides:  
examples instead of a lot of text, intuition instead of formal definitions
- Use any software you prefer (**Ipe**, PowerPoint, Keynote)  
\* [ipe7.sourceforge.net](http://ipe7.sourceforge.net)



## Learning Effects:

- Deepen the understanding by communicating the details of the topic
- Develop presentation slides - multiple feedbacks from the advisors
- Develop your presentation skills
- Get feedback from the audience and improve in the future

# Main Presentation

**Timing:** 30 minutes + 15 minutes discussion

**Content:**

- Motivation of the topic
- Details of your topic



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**Slides:**

- bullet points, no complete sentences
- graphics use
- not too many and not too overloaded slides (about 2 min / slide)
- clear design (suitable colors, uniform font, ...)

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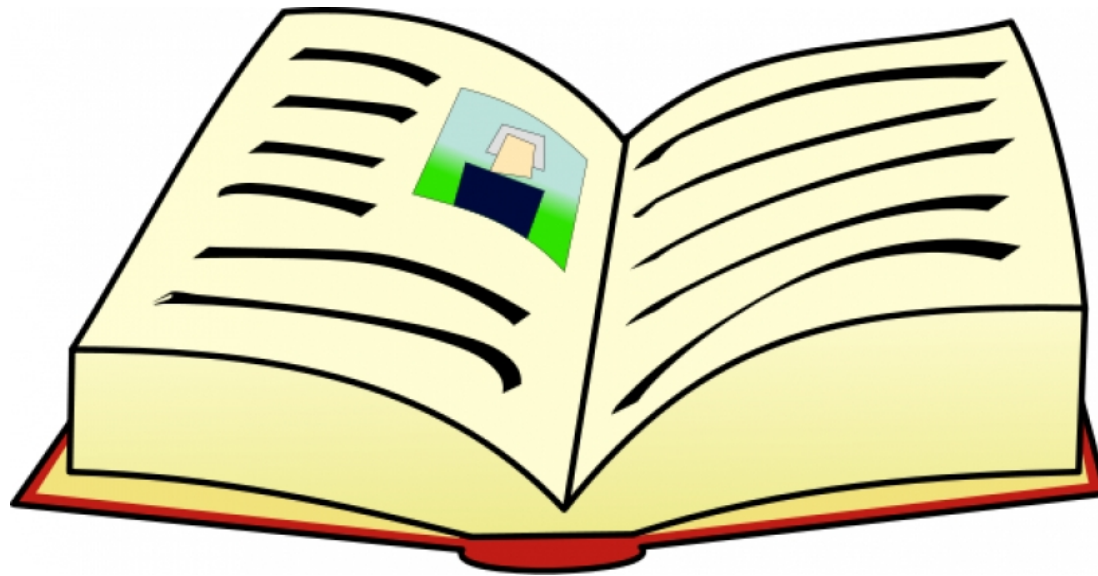
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**Present.:**

- practice, measure time
- eye contact with the audience
- keep the listeners “awakened”, arouse their curiosity
- speak freely, slowly and clearly
- remain calm, control nervousness



## Learning Effects:

- Structure and write scientific text
- How to produce formal enough but still readable text: balance between formal definitions and intuition

# Written Document

**Size:** 12–15 in a given  $\text{\LaTeX}$ -format

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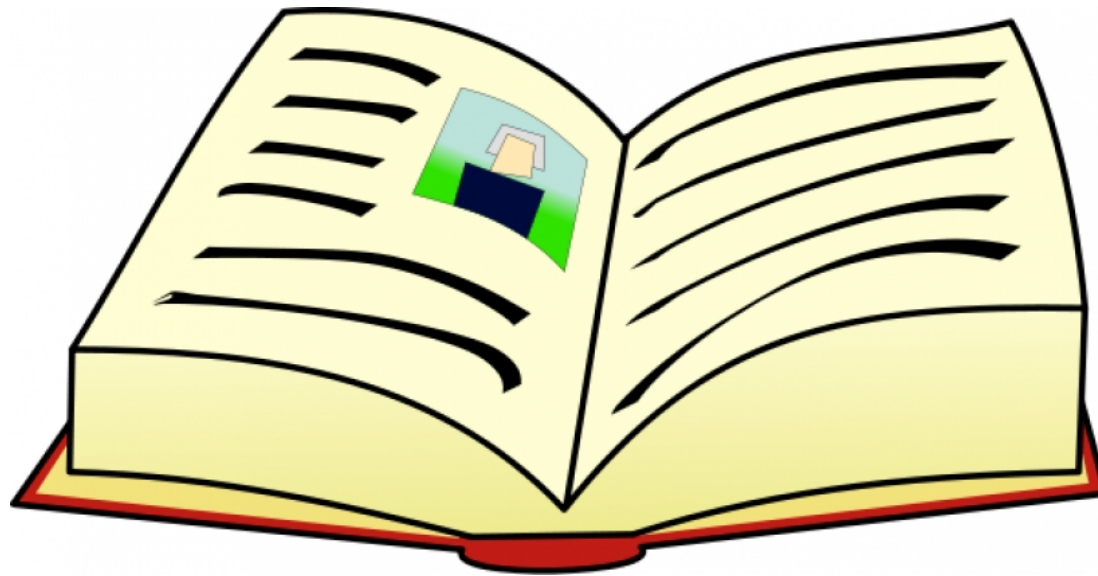
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- short and clear Abstract
  - Introduction, state of art, applications
  - Selected topics in detail
  - Summary / Conclusion
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- Structure:**
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  - Introduction, state of art, applications
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  - complete references (BibTeX)

- Writing:**
- Do not copy text: express in your own words
  - Logical structure, keep the red line
  - Avoid very long sentences
  - clear and consistent formulation
  - avoid too long paragraphs
  - Use pictures
  - Cite and specify all sources correctly
  - Check grammar and spelling



## Learning Effects:

- critical reading of scientific texts, constructive critiques
- deeper understanding of two(?) other seminar topics
- you and your class-mates get meaningful feedback and suggestions for improvement



# Mutual Reviews

- Form:**
- written statement (form provided)
  - short summary of the content
  - strengths and weaknesses of the work
  - review of the text (comprehensibility, structure, accuracy, language, topic coverage, ambiguities, ...)
  - be constructive: detailed comments and correction instructions
  - as detailed as you would like to get review for your work
  - anonymous, objective and fair

# Supervision

Your supervisor is your **contact** in all matters, both regarding the content, topics and the preparation presentation.

It is **your** responsibility to approach him / her.

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## Informal meeting with the supervisor:

- $\geq 2$  Weeks before the main presentation:  
discussion of the concepts to present
- $\geq 1$  Week before the main presentation:  
discussion of the slides
- The latest till 20.12 (a month before the write-up submission):  
to discuss the content of the written document
- The latest till 10.3 (two weeks before the final submission):  
Discussion of the corrected version of the document

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# Next Meetings

**now:**

personal communication with your supervisor

**9. November 9:45 am:**

Short Presentations

**16. November 9:45 am:**

Presentation of two topic

**23. November 9:45 am:**

Presentation of two topics

**Check web page for the following meetings**

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