Karlsruhe Institute of Technology

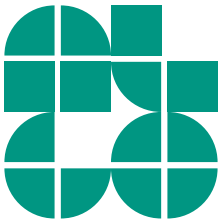
Seminar Algorithmentechnik
Algorithmic Methods in the Humanities

Introduction and Topic Distribution

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

Prof. Dr. Gregor Betz · Lucas Czech
Michael Hamann · **Dr. Tamara Mchedlidze**
PD Dr. phil Michael Rupp · Prof. Dr. Alexandros Stamatakis
Dr. Reiner Stotzka · Dr. Danah Tonne

27.4.2017



Overview

1.Organizational issues

- Structure
- Your Participation

2. Topics

- Presentations
- Distribution

Supervisors

Prof. Dr.
Gregor Betz

PD Dr. phil
Michael Rupp

Institute of
Philosophy

Institute of
German
Studies

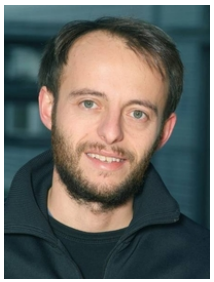
Dr. Reiner
Stotzka

Dr. Danah
Tonne

Institute of Data
Processing and
Electronics

Michael
Hamann

Dr. Tamara
Mchedlidze



Prof. Dr.
Alexandros
Stamatakis

Lukas Czech

Institute of Theoretical Informatics

Participants

Short presentation:

- Name
- Direction of studies/Semester
- Background in Algorithms and Humanities

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 writen document
- **evaluation** of a scientific text

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→ Opening of your horizont on the various application of computer science
→ Basic skills of scientific work
→ Preparation for the Master thesis and its presentation

Structure

- today: Topic distribution

Structure

APR

today: Topic distribution

Get familiar with the topic literature review

MAY

18.5. Short presentations

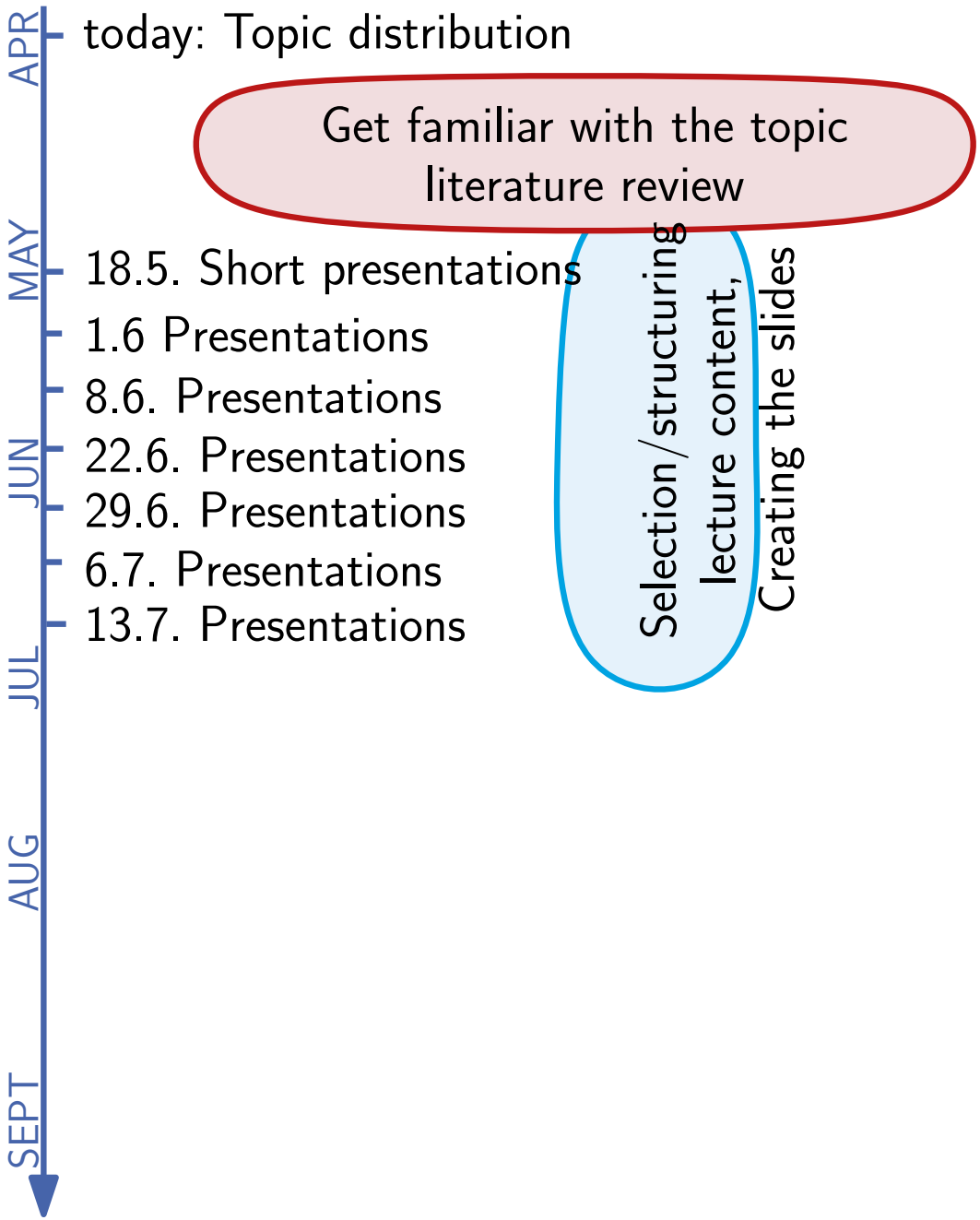
JUN

JUL

AUG

SEPT

Structure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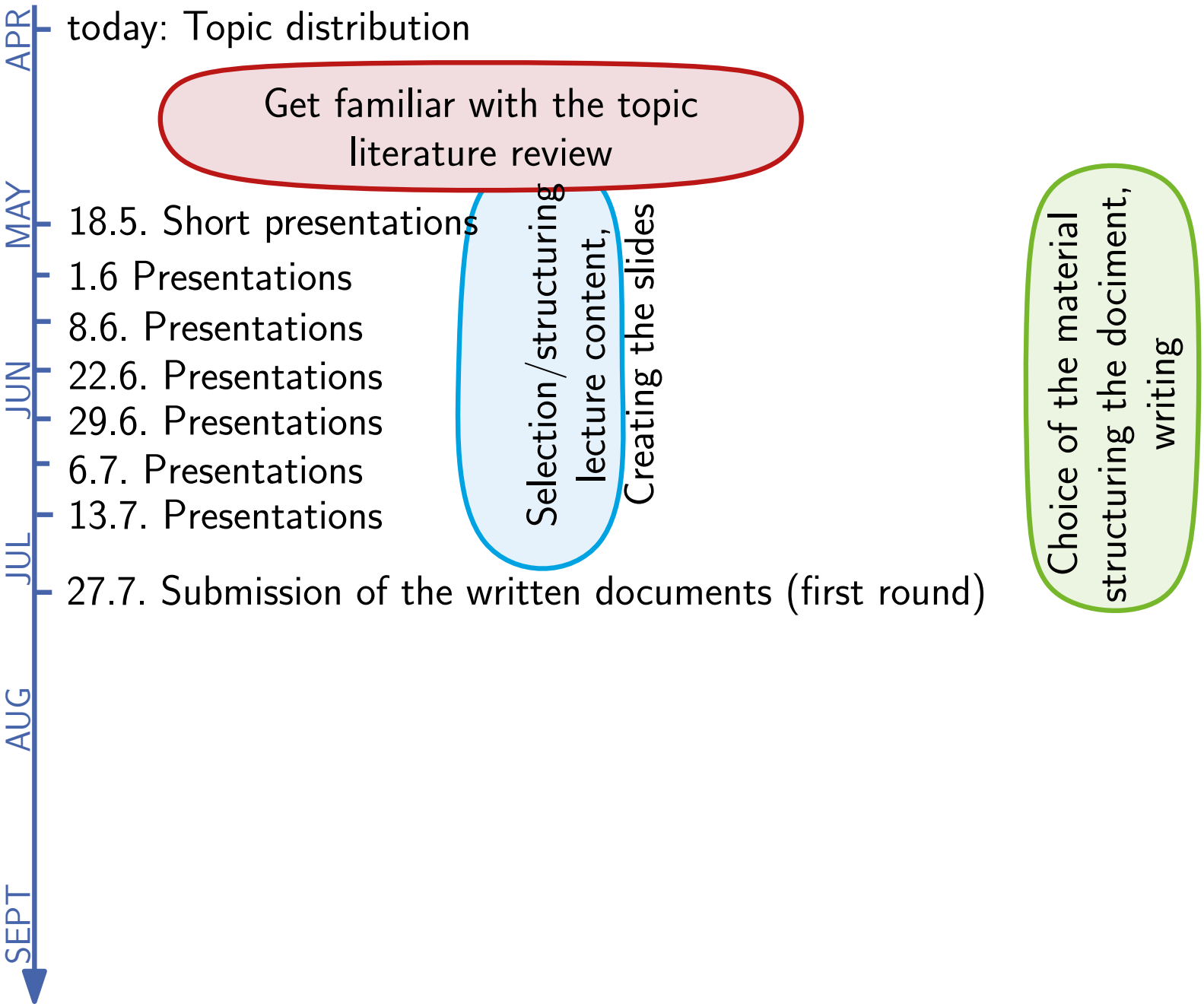
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Choice of the material
structuring the dociment,
writing
27.7. Submission of the written documents (first round)

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18.8.Submission of the reviews

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SEPT
08.09. Final submission of the written document

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08.09. Final submission of the written document
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Approximate time	4LP = 120h
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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short presentation and the first version of the document are not graded

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Familiarization phase

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   - Which works and results are cited? $\rightarrow$ Related Work
   - Which of these are fundamental?
   - What is the state of the art of the research area of the paper?

$\rightarrow$ Article search Google Scholar or DBLP; Access from the university network

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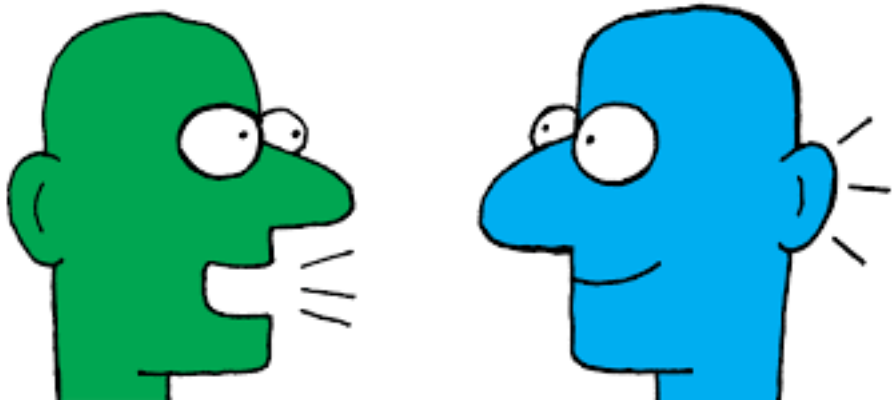
4) What should you read in the literature?

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

Short Presentation



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

Short Presentation

Content

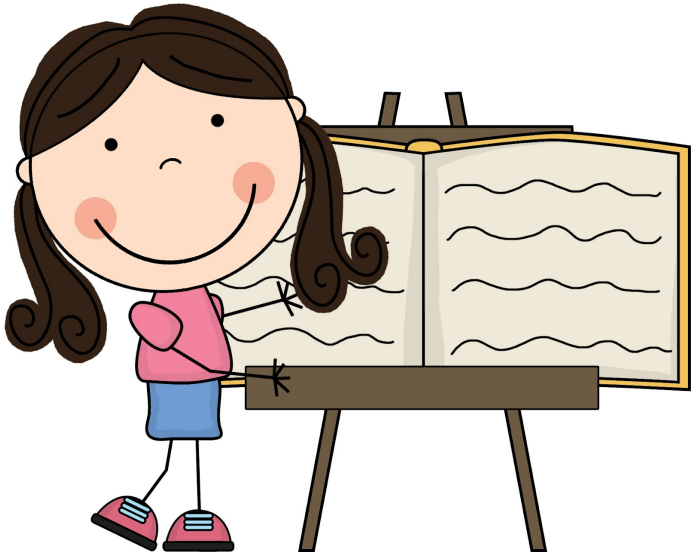
- „Advertisement“ of the main presentation
- **Motivation:** applications in the humanities that use these techniques
- **What results you will concentrate on:**
  Model, Algorithms and used techniques, evaluation, experimentations ...

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`

Main Presentation



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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Struct.:
- What can be explained clearly in 30 minutes? Make a selection of the essentials issues. **Talk to your class-mate**
- What is your target group?
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Karlsruhe Institute of Technology

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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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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

Writen Document

Learning Effects:

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

Writen Document

Size: 12–15 in a given LaTeX-format

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Structure:

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

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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

Mutual Reviews

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 superviser:

- $\geq$ *2 Weeks before the main presentaion*:
  discussion of the concepts to present
- $\geq$ *1 Week before the main presentarion*:
  discussion of the slides
- *The latest till 27.6 (a month before the write-up submission)*:
  to discuss the content of the written document
- *The latest till 28.8 (10 days before the final submission)*:
  Discussion of the corrected version of the document

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Topic Overview

1) Storyline Visualizations (Tamara)
2) Stemmatology or “Who Copied from Whom?” (Danah)
3) Stylometric Text Analysis with Distance Metrics (Danah)
4) Stilometric analysis of medieval german texts (Danah & Michael R.)
5) Phylogenetic Analysis of Dante’s Monarchia (Alexis)
6) Phylogenies of Natural Languages (Alexis)
7) Measuring Coherence of Statements (Gregor)
8) Multi-Party Conversation (Gregor & Tamara)
9) Automated Topic Classification (Michael H.)
10) Automatic Sentiment Summarization (Michael H. & Lucas)
11) Information Evolution in Social Networks (Lucas)

Next Meetings

now:

personal communication with your supervisor

18. May 9:45 am:

Short Presentations

1. June 9:45 am:

Presentation of two topics

8. June 9:45 am:

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