

Seminar

Security and Privacy in the Information Society

- Co-Evolution of Society and Technology as a Requirement for Resilience



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Prof. Günter Müller / Julius Holderer, MSc.

Institut für Informatik und Gesellschaft (IIG) – Abteilung Telematik

mueller@inatech.uni-freiburg.de / holderer@inatech.uni-freiburg.de

- *The focus of the seminar is not the plain technology but the way it impacts resilience and is a co-evolution with societal progress.*
- *Olympic ideals (higher, faster, better) important, but not whole story.*
- **Is there Technology Enabling Privacy in Smart Grids?**
The gathering of consumption data by using intelligent meters (Smart meter) required for operation and coordination threatens the households' privacy.
- **Machine Learning: A new Challenge for Privacy?**
Machine learning maybe seen as a reversal of long custom where the user learns how the machine works, instead the machine learns from the user exploiting stored data and predicting future behavior.
- **Paradigm Shift in Business Process Security?**
This topic discusses process analysis with regard to process management as well as process mining.
- **Assure all Models of Privacy complete Privacy?**
Privacy includes the concealment of personal information as well as the ability to control what happens with this information. The right to privacy can be considered either as a basic and inalienable human right, or as a personal right or possession.

Selected Seminar Topics for Resilience



Topics:

- 1) L-diversity: Privacy beyond k-anonymity
- 2) Basic concepts and taxonomy of dependable and secure computing
- 3) Differential Privacy: A Survey
- 4) Differential privacy under fire
- 5) Compliance monitor for early warning risk determination
- 6) Is Analysis and design of Algorithms dependent upon normative intentions?
- 7) Show examples of personality tests and how they can be used for Big Data and assessment of people
- 8) Security and Privacy in Business Process Management
- 9) Which connections from „Security and Privacy“ can be drawn to Process Mining?
- 10) Discuss mode of collection of Data with either Google or any other Social net and make a privacy assessment.
- 11) Does Blockchain Architecture guarantee privacy?
- 12) Why is (re)Captcha not sufficient to assure human identification?
- 13) Secure Authentication and Authorization Protocols for Internet of Things – What new privacy and security threats arise?

Smart Grid

Machine Learning

Business Processes

Privacy Models

For more information see the “Topics” document.

How to get a Grade



- Participants of the seminar have to create a report on the assigned topic in form of a written report. The report has to be presented in a 20-minute presentation during the seminar presentation appointments.
- **Written Report (50%)**
- **Presentation (40%)**
- **Discussion Preparation (10%)**

Formalities (see slides for scientific correctness)



■ Tasks:

- Written report
 - Discussion of the structure/content with the supervisor
 - Adherence to the formalities (guidelines on the website)
 - Adherence to the rules of “scientific writing” (see slides for scientific work)
- Presentation
 - Presentation of your results (ca. 20 minutes)
- Additional requirements
 - As a preparation for the discussion phases, every participant has to read the basic literature of all four subject areas given in the topics document.

■ Materials

<https://www.telematik.uni-freiburg.de> → Teaching

<http://www.telematik.uni-freiburg.de/teaching/courses/course?term=20172&courseID=68>

- **Objectivity and Comprehensibility**
 - Precise, target-oriented reasoning
- **Clarity and Precision**
 - Use technical terms correctly
 - Avoid colloquial language
 - Use terms consistently
 - Do not use ambiguous formulation
 - Do not make vague statements and avoid generalizations
- **Authenticity**
 - Mark (partially) borrowed content/ideas
 - consistent und complete
 - Plagiarism will result in failing the seminar

- **Reading papers and find interesting new ones**
 - The Topics Document contains a rough idea of the problems and a hint on literature. This is only a start. You are free, to go different direction.
 - Thus, an important part of your work is to identify state of the art and latest publications about your selected topic.
 - Try to find a measure of completeness covering the literature of your topic.
 - Do not repeat the papers since they are already written. So scientific originality is not in understanding the papers, but in putting them in perspective and classify them in your structure.
 - Identify differences in scientific approach and results, and explain this.
 - Though, the seminar report is your work. We recommend to first write an exposé and discuss this with your supervisor.

- **Composing the written report**
 - Write an outline first so that the report is not just a collection of ideas, but has a storyline.
 - Redo the report, or parts of it, if you think that some sections have not a direct contribution to the given topic.
 - Check spelling and grammar.

Important Dates and Steps



- **October 17th: Introduction in the seminar:**
 - Think about your set of topics.
 - If you like, you may send an ordered list of you favorite three topics to holderer@inatech.uni-freiburg.de. If possible, and following date of submission, the first topic will be assigned to you.
- **October 24th: Final assignment of Topics:** Questions to the supervisor concerning seminar objectives and specifically to the topic.
- **December 15th 15:00 p.m. :** Submission Deadline of reports
- **January 9th:** Begin of Presentations (two presentations per week)
- **February 13th:** Last day of seminar
- **Where:** Room SR 01 016 (Building 101)

Where you find us



- **INATECH @ Solar Info Center**
- **Emmy-Noether-Straße 2**
- **2. OG, OST-Turm**