

# Future Internet Protocols and Security Perspectives

<https://www.ce.cit.tum.de/cm/teaching/winter-term-2025-26/future-internet-protocols/>

# Outline

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# 1. Seminar Structure and Grading Scheme

- Regular conference paper publication process:
  - Call for Papers: Submission until specified date
  - Round of reviews by technical committee: decision to accept/reject?
  - Presentation of accepted/revised papers during conference sessions
    - Followed by discussion and Q&A
- In this Seminar:    Reviews + Presentation *Grading*
  - Pre-selected (published) papers on Secure Protocol Design
  - Each student reviews papers for the sessions *40%*
    - Focus on relevance for future work and discussion questions
  - Each student presents 1 paper (**~12-13 min + 8-7 min discussion**) *40%*
    - Include your own thoughts on the paper in 1 slide
  - Discussion participation throughout the seminar *20%*

# 1. Learning Goals and Outcomes

- Learn about latest research in the area of **Secure Protocol Design**
  - Current problems, state-of-the-art methodology, open questions
- Acquire general skill set by taking roles of a reviewer and presenter
  - Scientific conference/workshop, peer reviewing, paper publication process
    - How are good research papers presented in written form?
    - Importance of reproducibility and artifacts
  - Critical thinking while reading/reviewing papers and listening to talks
    - Questioning content, identifying strengths/weaknesses
    - Extract key results and main findings → takeaways
    - Presentation and discussion of results in concise manner for a talk

# 3. HotCRP Example <https://hotcrp.com>

Internet Measurements Seminar 2018 Home

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(All) in Submitted papers Search

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ID	Title	# Reviews	RepCod
<input type="checkbox"/> #1	Characterizing a Meta-CDN	0	
<input type="checkbox"/> #2	Open Connect Everywhere: A Glimpse at the Internet Ecosystem through the Lens of the Netflix CDN	6	
<input type="checkbox"/> #3	A First Look at QUIC in the Wild	6	
<input type="checkbox"/> #4	Real-time Video Quality of Experience Monitoring for HTTPS and QUIC	5	
<input type="checkbox"/> #5	Mission Accomplished? HTTPS Security after DigiNotar	5/6	
<input type="checkbox"/> #6	Understanding the Role of Registrars in DNSSEC Deployment	7	
<input type="checkbox"/> #7	Performance Characterization of a Commercial Video Streaming Service	0	
<input type="checkbox"/> #8	Vroom: Accelerating the Mobile Web with Server-Aided Dependency Resolution	6	
<input type="checkbox"/> #9	Deep Diving into Africa's Inter-Country Latencies	6/7	
<input type="checkbox"/> #10	Inside the Walled Garden: Deconstructing Facebook's Free Basics Program	6	
<input type="checkbox"/> #11	Cell Spotting: Studying the Role of Cellular Networks in the Internet	6/7	
<input type="checkbox"/> #12	Dissecting VOD Services for Cellular: Performance, Root Causes and Best Practices	7	
<input type="checkbox"/> #13	Challenges in Inferring Internet Congestion Using Throughput Measurements	5/6	
<input type="checkbox"/> #14	TCP Congestion Signatures	7/8	

Select papers (or select all 14), then [Download](#) · [Tag](#) · [Assign](#) · [Decide](#) · [Mail](#)

## Write Review

Offline reviewing Upload form: [Choose File](#) No file chosen [Go](#)  
[Download form](#) · Tip: Use [Search](#) or [Offline reviewing](#) to download or upload many forms at once.

## Paper summary

Please summarize the paper briefly in your own words.

## Strengths

What are the paper's strengths? You may comment on the importance of the problems addressed, the novelty of the proposed solutions, the technical depth and potential impact.

## Weaknesses

What are the paper's weaknesses? Just a couple sentences, please.

## Technical Aspects

Is the research question well-motivated? What technical aspects are missing to understand the paper?

## Security Considerations

Did the authors cover attacks and defense mechanisms (implicitly/explicitly)? Are there others that are missing?

## Presentation of Proposal

Does the abstract convince the reader to read the full paper? Is the paper well-written and well-organized overall? Does the conclusion address the problem identified in the introduction?

### 3. Reviewing Process

- We invite each of you to our HotCRP instance
- Check email address (login) in invitation email
- Registration form: affiliation/collaborators can be anything (e.g., TUM), unused field
- Presented papers will be imported to HotCRP for reviewing
- Review form provides prompts to assist in commenting on the papers
- Your 2-3 reviews are due until the presentation date **if not presenting** on that day
  - i.e., before a session you either review (X)OR prepare a presentation
- Overall each of you will write 4-6 reviews throughout the seminar

### 3. Writing Hints for Reviews and Presentations

- For **Reviews and Presentation**:
  - Use tools like connectedpapers, researchrabbit or [undermind.ai](https://undermind.ai) to figure out the **context of the paper, the state of the art and the research gap**
    - e.g., what else have people tried, do newer approaches exist?
  - Based on that context try to figure out the “**impact**” that the paper has on the state of the art and on future work
  - Avoid unnecessary fluff in your writing
  - Reviews in the wild are not always the best example to go by (the technical committee consists of people with limited time)
  - Try to be constructive: when criticizing something, try to understand the author’s intent and give concrete steps for improvement
- For in-depth questions and discussion items:
  - Avoid generic questions such as “*Can we apply AI/ML?*”
  - Try to ask questions that, e.g., propose changing the design or configuration of the study and briefly elaborate on why

## 4. Presentation Hints

- Presentations typically follow the structure of the paper
  - Motivate the subject (∼15% of time)
  - Explain methodology or system design (∼40% of time)
    - Keep it simple: don't lose yourself in details; add background if needed
  - Present and discuss **main/most interesting results** (∼30% of time)
    - Usually summarized in abstract
  - Summarize main findings/conclusions and describe outlook (∼10% of time)
  - Add your own thoughts on the paper in 1 slide (∼5% of time)
    - e.g., strengths weaknesses, limitations
- Practice your presentation
  - Get feedback from your fellow students
  - Be aware of the **time limit of ∼12-13 min**



## 5. Organizational Matters

- Paper selection
  - List of seminar papers in Moodle
  - Send us your preferences by <Month Day> 23:59 via email:
    - Papers: Top 7 papers in descending order
    - Presentation dates: Top 3 presentation dates in descending order
  - We will assign the papers and presentation dates by <Month Day>, and announce them via Moodle

## 5. Organizational Matters (contd.)

- Seminar sessions will take place roughly every two weeks (to provide enough time for reading and preparation of papers) on BBB (<Link to BBB>)
- Sessions start at 4 p.m.
- Next dates:
  - Preferences – <Month Day> (**check Moodle!**)
  - Session 1 – <Month Day>
  - Session 2 – <Month Day>
  - Session 3 – <Month Day>
  - Grading – <Early/Late Month>