

PhD Seminar 2011



Prof. Dr.-Ing. Ahmad-Reza Sadeghi
Dr.-Ing. Thomas Schneider
Prof. Dr. rer. nat. Michael Waidner



<http://www.trust.cased.de/teaching/seminars/phd-seminar/>



Our Goals for the PhD Seminar



Your successful PhD in IT Security:

- Background Information
- Required Skills
- Goals
- Best Practices
- Learning-by-Doing

The Organizers



Prof. Dr.-Ing. Ahmad-Reza Sadeghi
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Director for Science, Fraunhofer SIT Darmstadt
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Prof. Dr. rer. nat. Michael Waidner
Head of SIT Research Group, TU Darmstadt
Director of Fraunhofer SIT Darmstadt
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Methods



- Interactive !
- Some Slides
- Exchange of Experiences + Best Practices
- Learning-by-doing
- Feedback
- Invited Talks (speakers to be announced)

Contents of the Seminar



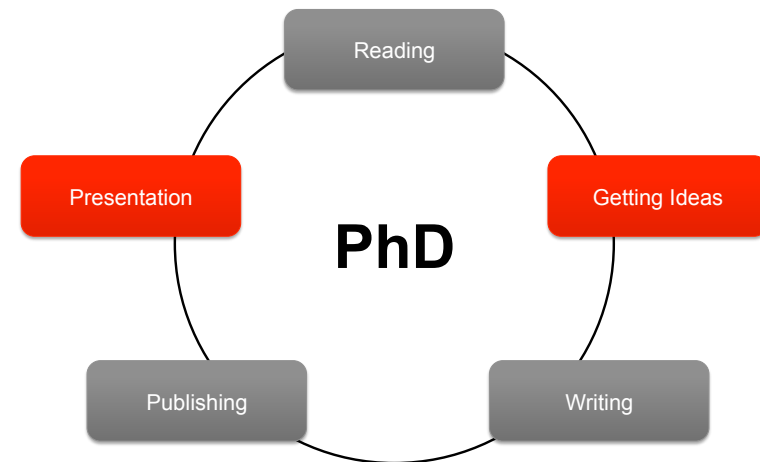
- **What is Research?**
 - Roles, Areas, Funding
 - **Obtaining a PhD**
 - Motivation, Goals, Tips & Tricks
 - **Research Skills**
 - **Getting Ideas**
 - Scientific Writing / Publishing / **Presentation**
- } **Last Seminar**
- } **Today**

Today's Schedule



Presentation	14:00 – 15:15	75min
Coffee Break	15:15 – 15:20	5min
2 of Your Presentations	15:20 – 16:00	40min
Coffee Break	16:00 – 16:05	5min
Ideas & Scientific Presentation	16:05 – 16:45	40min
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3-4 of Your Presentations	16:50 – 18:00	70min

Research Skills

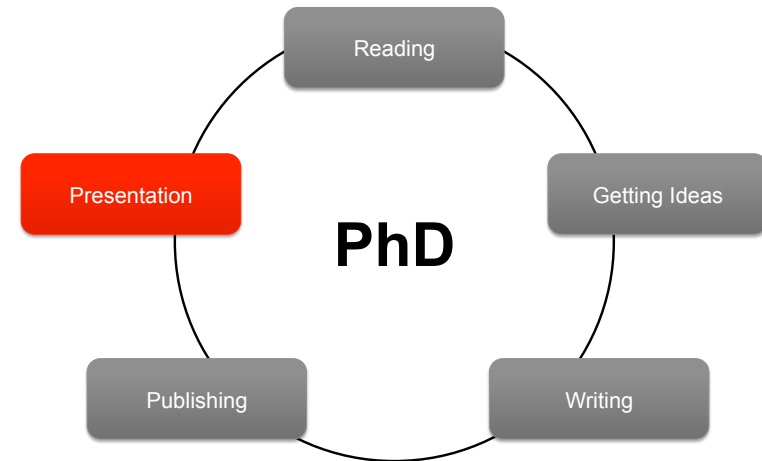


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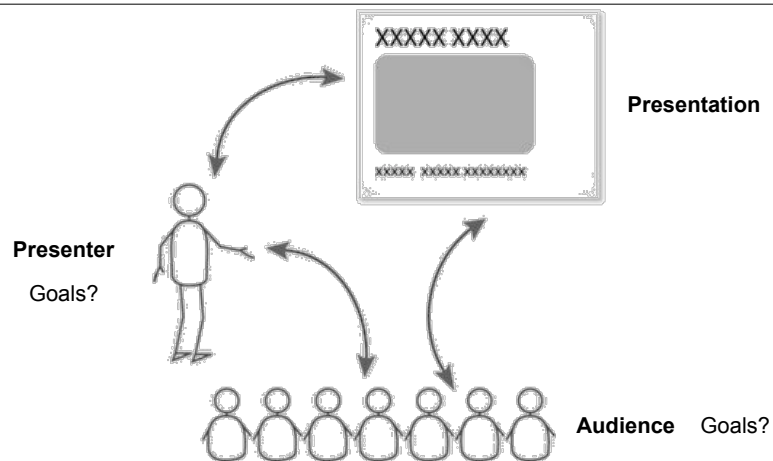


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PRESENTATION



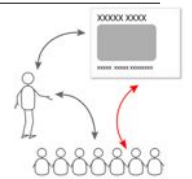
The Interactivity Triangle



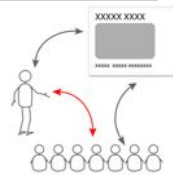
Presentation = Informing

Present to inform, not to impress;
if you inform, you will impress.

Fred Brooks



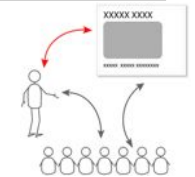
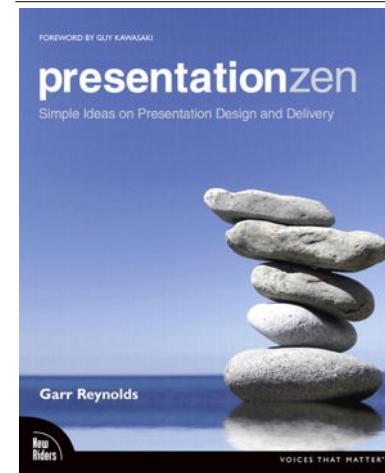
Presentation = Entertaining



Garr Reynolds

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Presentation = Zen



<http://www.presentationzen.com>

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Spontaneous Presentation Exercise



You want to apply for a research grant (\$100,000) for the research idea you have prepared at home.

Convince all of us, the non-expert committee with some background in CS, to give the grant to you!

Timeline:

- 10min preparation (pick whatever tools you like)
- For each participant:
 - 3min talk (strict!)
 - 2min quick feedback (1 good & 1 bad point each)
- **Vote who gets the grant**



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Homework from previous Seminar



- Summarize most important research idea you are currently doing and present this within 15 minutes.
- **Presentation Guidelines:**
 - 2 minutes per slide
 - Structure:
 - First 1/3 for undergraduate students
 - Second 1/3 for people in security area
 - Third 1/3 for experts in your area



PRESENTATION OF YOUR RESEARCH IDEAS

(2 Presentations)



Today's Schedule

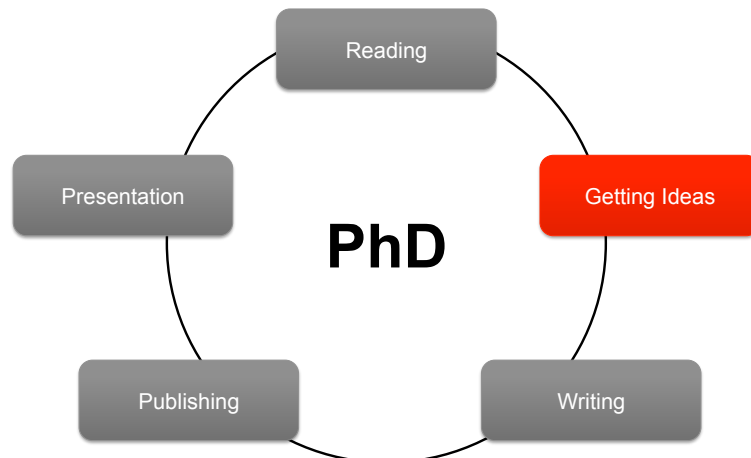


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GETTING IDEAS & SCIENTIFIC PRESENTATION

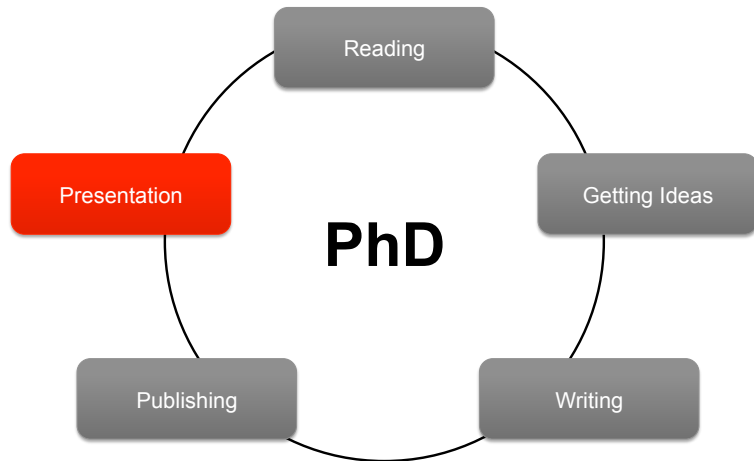
Research Skills



How to get research ideas ?



- **You can't enforce it, but prepare a fertile ground!**
- **Read**
 - Papers (proceedings of top conferences)
 - News
- **Listen, meet and talk to people**
 - In your institute
 - Colleagues
 - Seminars
 - Talks
 - At conferences
- **Discuss and revise ideas**



The following slides are intended to be a script.

⇒ Not so good example for presentation slides !!!

- Structure
 - Visible Content
 - Using Tools
 - Your Speaking
 - Your Interaction with the Audience
 - Your Physical Presence
- Prepare
- Be Prepared
- Present

(based on slides by Marc Dras, Macquarie University)

- Title Slide
- Make clear the aims of your talk first
- Concluding Slide (Take-Home Message)
- Repeat slides instead of navigating back and forth

Visible Content #1



- Know what you're talking about!
- Make a story out of what you have to tell
- Use examples
- Use graphics + illustrations
- Use statistics + numbers
- Make your slides attractive
- Don't clutter slides with too much information
- Always number your slides

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Using Tools



- Use your preferred presentation tool
- Make sure you know its basic machinery
- Keep your slide simple and not too flashy

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Visible Content #2



- Each slide has a role
- Don't use colors which are hard to see
- Choose slide titles carefully
- Explain terms that might be unfamiliar to audience
- Make sure grammar and spelling are correct
- Remove (all the) fill words !!!
- Check syntax and punctuation (bulleted lists)
- Back up your claims by referring to literature

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Be Prepared



- Always prepare for the worst case
 - Put Slides on 2 Media (USB stick + online)
 - Put Slides in 2 Formats (XXX + PDF)
- Check your slides before presentation
 - *non-standard fonts*
 - graphics

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Your Speaking



- Rehearse, rehearse, rehearse
- Do not run over the allocated time
- Don't just read the slides
- What you say must be related to content of slide
- Speak
 - Clearly and not too fast
 - Breathe !!!
 - Not in a monotone
 - At an appropriate volume
 - Don't use distracting verbal behaviors ("euehm", ...)

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Your Physical Presence



- Avoid physical behaviors that distract the audience
- Use your hands to add expression to your talk
- Point to things on the screen

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Your Interaction with the Audience



- Don't start by apologizing for feeling nervous
- Be relaxed
- Icebreaker (e.g., ask a question)
- Always look at the audience
- Try to avoid using notes
- Only use humor if you are confident it will work

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Homework until next PhD seminar



- **If your research idea has been discussed today:**
 - Rethink your idea according to the feedback you got
- **Otherwise:**
 - Revise your presentation w.r.t. what you've learned today
- **Write the abstract of your research paper:**
 - Max. 1 page + 1 page references
 - Structure:
 - Problem description
 - Related work & what's missing
 - Contribution
 - Send the abstract per email by Monday, June 13



PRESENTATION OF YOUR RESEARCH IDEAS

(3-4 Presentations)