FG INET: Internet Network Architectures

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http://www.inet.tu-berlin.de/
INET: Research Group

- Location
  - MAR-4

- Office hours
  - Tuesday 12:30 – 13:00
  - After the lecture or per e-mail

- Contact
  - Best per e-mail 😊

- Teaching contact
  - Thorben Krüger

- Web site http://www.inet.tu-berlin.de/
Current research topics

- IXP data analysis
- ISP-application collaboration
  - Content aware traffic engineering
  - Caching and content distribution networks
- Software defined networks
  - Berlin Open Wireless Mesh, OpenFlow, Software defined radios
- Broadband access evolution
  - Multipath TCP, Socket Intents Licensed/unlicensed spectrum, Mobile user experience
- Cloud Networking
Teaching

- Lectures (Vorlesungen)
- Seminars (Seminare)
- Lab course (Praktika)
- Projects (Projekte)
- Theses (Diplom / Master / Bachelor)

- PGT: Project Group Meeting (Ph.D. Seminar)
- NLS: Networking Lecture Series (External visitors)
Lectures

- Network protocols and architectures (VL+UE)
  - Design principles of the Internet....
  - Base for all other INET classes

- Internet Control Plane (VL)
- Internet Security (VL)
- Network Algorithms (VL+UE)

- Internet Measurement (VL)
Seminars

- Internet Routing
- Internet Measurement
- How
  - Topics: Current research papers
  - Task:
    - Summary paper + presentation
    - Participation in discussion during the seminar
  - En-block after the end of term
Lab courses

- Hands on exercises
- **Wireless Lab**
  - Understanding various wireless concepts (e.g., interference, MAC layer, multi-hop routing)
  - Experiments with mesh routers in the BOWL indoor network
- **Router Lab**
  - Configuring and managing networks
  - Internet experiments in a Lab
Projects and theses

Topics:
- See Web pages
- Talk to members of INET
- Suggest your own topic

Work flow:
- Literature/background search
- Presentation of idea at students’ talks series (20 minutes 😊)
- Execution of idea / preparation of thesis document
- Presentation of results at students’ talks (20 minutes)
Teaching at INET / Anja Feldmann

Topics

Internet Protocols:
- Routing and IP
- Transport (TCP/UDP)
- Applications
- Future Internet

- Traffic Measurement
- Workload Modeling
- Wireless
- Performance analysis
- Network Security

Example Module Paths

Bachelor
0-15 LP

- NPA (6LP)
- SE+PJ (9LP)

- ICP, IS, IM, SE (6/9LP)
- WL or/and RL (6/12 LP)

Master
12-27LP

- NPA (6LP)
- IR, IS, IM, SE (6/9LP)
- WL or/and RL (6/12 LP)

- ICP, IS, IM (6LP)
- WL or/and RL (6/12 LP)

Course Overview

WiSem

- NPA (VL+UE) 6LP
- Network Algorithms 6LP

SoSem

- ICP or IS or IM: Internet Routing, Security, Measurement (VL) 3LP
- WL: WirelessLab (PR) 6LP
- SE: Routing (SE) 3LP
- SE: Measurement (SE) 3LP
- PJ: Projekt (PJ) 6LP or 12LP

Bachelor Thesis (12LP)

Master Thesis (30 LP)

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