

Simone Ferlin

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Research Interests and Expertise

Networks: Wired and wireless. Internet architecture, transport protocols and multipath transport, congestion control, network measurements and data analysis.

Education

Making MPTCP work over heterogeneous wireless networks Simula Research Laboratory

PhD in Computer Science

2012–2017

<http://simula.no/people/ferlin>

Information Transmission and Mobile Communications Friedrich-Alexander Universität

Dipl.-Ing. Information Technology

2004–2010

Work Experience

Research and Technical Security Consultant

IBM Security

Oslo, Norway

2017–Present

I work with IBM's Security product line portfolio, mostly focused on network security.

Visiting Research Engineer

Internet Initiative Japan (IIJ)

Tokyo, Japan

2017

Research in DPI (Deep Packet Inspection) techniques.

Research and Development Engineer

AnsuR Technologies

Oslo, Norway

2016–2017

Research and ESA-project management, research and implementation for smart networking for mission-critical systems.

Visiting PhD Researcher – Supervisor: Dr. H. Claussen

Bell Labs, Small Cells Research

Dublin, Ireland

2015–2016

Research in multipath transport and next generation networks.

Visiting PhD Researcher – Supervisor: Dr. O. Mehani

NICTA, Networks and Mobile Systems Research Group, <http://www.nicta.com.au>

Sydney, Australia

2015

Multipath scheduling algorithm evaluation with MPTCP. MPTCP scanning in the wild.

Research Assistant

Munich Network Management Team, <http://www.nm.ifi.lmu.de/ferlin>

Munich, Germany

2011–2012

- Teaching: Assignments for computer networks and distributed systems, IT-security and principles of scientific working seminar. Bachelor and master student theses supervision.
- Research: Data management challenges for large-scale computing systems. Linux system programming, parallel computing: MPI, interconnects: Ethernet, Infiniband and data storage architecture.
- Local committee organisation EGI-CF 2012 and PDP 2012.

Diploma Student – Supervisor: Dr.-Ing. S. Schwarzer

Siemens AG, Wireless High-Frequency Department

Munich, Germany

2010

Diploma thesis (equivalent to master thesis) in baseband communication system for a 60 GHz unidirectional data transmission system in a medical environment. Simulation with Matlab and Simulink. Prototype with FPGA development, and wireless channel measurement.

Visiting Student Researcher – Supervisor: Prof. T. Kunz **Ottawa, Canada**
Carleton University, Systems and Computer Engineering Department 2009–2010

Research with powerline communication for smart home systems. Powerline channel characterization and initial protocol stack analysis and implementation with C and Matlab for low-rate signalling and data transmission using Yitran IT700 powerline modems.

Research Student Intern – Supervisor: Dr.-Ing. H. Perkuhn **Aachen, Germany**
Ericsson Research Laboratory, Systems Engineering Group 2009

Web service application development in Java with NetBeans and integration for content distribution networks (CDN) with Amazon CloudFront interface.

Research Student Intern – Supervisor: Dr.-Ing. K. Dussa-Zieger **Erlangen, Germany**
methodpark Software AG, Content Development Department 2007–2009

Software requirements engineering analysis for the automotive industry according to Automotive SPICE and ISO 26262. Elaboration of training material.

Research Student Intern – Supervisor: A. Sarcinelli **São Paulo and Rio de Janeiro, Brazil**
Ericsson Telecommunications, Radio frequency Department 2003–2004

2 and 2.5G network traffic measurement and optimization on site and through drive-tests, instrument calibration, and QoS evaluation tests for GSM features (GPRS and EDGE) and TDMA voice signal quality in São Paulo and Rio de Janeiro terrains with TEMS CellPlanner, DeskCat, and Investigation.

Teaching

Research Assistant **Munich, Germany**
Munich Network Management Team 2011–2012

- Computer networks and distributed systems, IT-security and principles of scientific work

Student Assistant **Erlangen, Germany**
Institute for Electrical Engineering 2009

- Assignments for the signal processing techniques for high rate signal transmission lecture

Student Assistant **Erlangen, Germany**
Institute for Electrical Engineering 2004–2005

- Assignments and notes for the introduction in electronics lecture

Honors and Awards

IEEE Infocom
Best in session presentation award 2016

Make Me Green **ITU**
1st ITU Green ICT Application Challenge, one of four special mentions 2011

Student research visit abroad **Richard Winter Foundation**
MSc. Scholarship 2010–2011

Selected Latin American students **Heinrich J. Klein Foundation**
BSc. Scholarship 2004–2010

Community

- ACM, IEEE and N2Women
- Internet Engineering Task Force (IETF):
 - **Multipath TCP Working Group**
 - *A Linked Slow-Start Algorithm for MPTCP*
 - **Multipath TCP Working Group**
 - *MPTCP Experiences in the NorNet Testbed*
 - **RTP Media Congestion Avoidance Techniques (RMCAT)**
 - *Shared Bottleneck Detection for Coupled Congestion Control for RTP Media*
- I serve as reviewer in some venues in both IEEE and ACM communities.

Other Projects.....

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| Student Project, Friedrich-Alexander Universität
<i>Prof. Dr. Friedrich W. Oehme</i>
Book "Elektronik und Schaltungstechnik: Ein verständlicher Einstieg" (illustration and content), 1st and 2nd editions, Hanser, ISBN-13: 978-3-446-42961-1 | Erlangen, Germany
2006–2010 |
| Student Project, Friedrich-Alexander Universität
<i>Prof. Dr. Ulrich Tietze</i>
Book "Schaltungstechnik" (illustration and content), 12th edition, Springer, ISBN-13: 978-3-642-01621-9 | Erlangen, Germany
2006–2009 |
| Student Research Scholarship in History of science, PUC-SP
<i>Prof. Dr. José Luiz Goldfarb</i>
Scientific material documentation about Prof. Mario Schenberg, content for the book "Pensando a Física", ISBN-10: 8587731432 | São Paulo, Brazil
2002–2003 |

Selected Publications

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| IEEE/ACM Transactions on Networking
<i>MPTCP meets FEC: Supporting Latency-Sensitive Applications over Heterogeneous Networks</i> | 2017 |
| ACM CoNEXT Student Workshop
<i>TCP with dynamic FEC For High Delay and Lossy Networks</i> | 2016 |
| IEEE International Conference on Computer Communications (INFOCOM)
<i>Revisiting Congestion Control for Multipath TCP with Shared Bottleneck Detection</i> | 2016 |
| Computer Networks (COMNET) Journal
<i>Is Multi-Path Transport Suitable for Latency Sensitive Traffic?</i> | 2016 |
| IEEE IFIP Networking
<i>BLEST: Blocking Estimation-based MPTCP Scheduler for Heterogeneous Networks</i> | 2016 |
| ACM Workshop on Hot Topics in Planet-Scale Measurement (HotPlanet)
<i>An Early Look at Multipath TCP Deployment in the Wild</i> | 2015 |
| IEEE Global Internet Symposium (GI)
<i>Leveraging the IPv4/IPv6 Identity Duality by using Multi-Path Transport</i> | 2015 |
| ACM SIGCOMM Capacity Sharing Workshop (CSWS)
<i>Experimental Evaluation of Multipath TCP Schedulers</i> | 2014 |
| IEEE Conference on Local Computer Networks (LCN)
<i>Practical Passive Shared Bottleneck Detection Using Shape Summary Statistics</i> | 2014 |

IEEE/ACM International Symposium on Quality of Service (IWQoS) <i>Tackling the Challenge of Bufferbloat in Multi-Path Transport Over Heterogeneous Wireless Networks</i>	2014
ACM Workshop on Mobility in the Evolving Internet Architecture (MobiArch) <i>Preempting State Promotions to Improve Application Performance in Mobile Broadband Networks</i>	2013
IEEE International Symposium Antenna Technology and applied ElectroMagnetics (ANTEM) <i>Antenna evaluation for wireless data transmission in magnetic resonance imaging</i>	2012

Extra-Curricular

Volunteer WORLD WIDE FUND FOR NATURE (WWF) Online activist	2014–Present
Volunteer ENERGY GLOBE: Research of initiatives tackling the problem of clean energy, water improvement and education	Oslo, Norway 2014
Volunteer HOLMEKOLLEN FIS WORLD CUP NORDIC Cross-country track supervision	Oslo, Norway 2013
ARIADNE Mentoring, Volunteer FRIEDRICH-ALEXANDER UNIVERSITÄT Mentoring and foreigner-friendly support to female students in engineering	Erlangen, Germany 2004–2010
Volunteer IAAF WORLD CUP Media language center	Berlin, Germany 2009
Volunteer FIFA WORLD CUP RFID check and media language center	Erlangen, Germany 2006
Volunteer FIFA CONFEDERATIONS CUP Media language center	Erlangen, Germany 2005

Languages

Brazilian Portuguese, English and German: Fluent
Spanish and Norwegian : Intermediate
French: Basic

Hobbies

- Music instruments
- History of Science
- Biodiversity tracking and communication technology into conservation
- Singing, choir
- Environmental politics
- Bikes and recumbent bikes