

Curriculum Vitae FREDRIK TUFVESSON

Title: Professor

Date and place of birth: March. 14, 1970, Lund, Sweden

Nationality, sex: Swedish, male

Affiliation: Lund University, Dept. of Electrical and Information Technology,
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Education: 2007, *Docent* (~ habilitation, reader, senior lecturer) in Radio Systems, Lund University
2000, Ph.D. in Applied Electronics, Lund University
1998, Licentiate in Engineering in Applied Electronics, Lund University,
1994, M.Sc. in Electrical Engineering, Lund University,

Academic employments:

2014 – Professor in Radio Systems,
Department of Electrical and Information Technology, Lund University
2003 – 2014 Associate Professor in Radio Systems,
Department of Electrical and Information Technology, Lund University
2002 – 2003 Researcher, Department of Electrosience, Lund University
2000 – 2002 System specialist, Fiberless Society, Lund, Sweden
1995 – 2000 Ph.D. candidate, Department of Applied Electronics, Lund University

Post doc:

2000 – 2002 System specialist at a startup company, Fiberless Society

Major research grants and project experience:

2016-2019 “Highly accurate phase based positioning”, VR, 3 600 kSEK, PI
2015-2025 “Wallenberg Autonomous Systems Program”, KAW, 1 800 MSEK, co-applicant
2013-2017 “Wireless Communication in Automotive Environment”,
FFI/ Vinnova, 71 MSEK, co-applicant
2012-2017 ”Distributed Antenna Systems for Highly Efficient Wireless systems”,
Swedish Foundation for Strategic Research (SSF), 27 200 kSEK, PI
2011-2014 ”mmWave-pulses above 10 Gbps”, VR multi project grant, 9600 kSEK, co-applicant
2011-2014 ”Scaling up MIMO: Challenges and Opportunities with Very Large Arrays”,
VR multi project grant, 12 800 kSEK, co-applicant
2011-2013 “Chanel modelling for multi user MIMO with multiple base stations”,
VR, 2 400 kSEK, PI
2008-2010 ”Channel modelling for cooperative and interfering MIMO systems”, VR, 2 250 kSEK, PI
2007-2010 “WILATI+”, NORDITE/Vinnova, 4 638 kSEK, project leader
2004 ”MIMO channel sounder”, KAW, 4 400 kSEK equipment grant, co-applicant
Participant and WP leader in EU projects MAMMOET, MAGNET, MANGET beyond

Publications: 7 book chapters, 67 journal papers, 130 conference papers, 4 patent applications. H-index 43, 10 000 citations (Google scholar March. 2017). See www.eit.lth.se/staff/fredrik.tufvesson for a full list of publications.

Editorship and review assignments: Associate editor for IEEE Transactions on Wireless Communications, 2009 – 2013. Reviewer for a number of journals such as IEEE Trans. Comm., IEEE Trans. Wireless Comm., IEEE Trans. Vehicular Techn., IEEE Sel. Areas in Comm., IEEE Trans. Ant. and Prop., IEEE Trans. Sig. Proc.

Conference chairing and technical program committee memberships:

Co-chair of Wireless Communication Symposium at IEEE International Conference on Communications 2013. In total we managed 462 submitted papers and 260 Technical Program Committee members. 175 papers were presented at the conference held in Budapest, Hungary, June 2013. Member of the organizing committee and financial officer for SWE-CTW, Swedish Communication Technologies Workshop, 2012.

Selected invited talks and tutorials:

Invited talk, New frontiers in Channel modeling, "Massive MIMO channel characterization and modeling", EuCAP 2017, Paris, France, March 2017

IEEE Communications Society webinar, "Massive Signal Processing for Massive MIMO: Challenges and Lessons Learned", October 18, 2016.

Panel at IEEE PIMRC "mmWave - The Path to 5G Enhanced Mobile Broadband", August 2016

Keynote at IEEE Intelligent Vehicles Symposium (IV16), Workshop on Cooperative Communication and Positioning (CCP), "Channel characteristics for cooperative ITS and positioning", Gothenburg, Sweden, June 19, 2016

Tutorial at ICC 2015, "Massive MIMO for 5G: From Theory to Practice", London, U.K.

Invited talk at International Solid State Circuit Conference, ISSCC 2015, "More Bits via the Same Spectrum - Massive MIMO Opportunities", San Francisco, USA, Feb. 2015

Tutorial at ICC 2013, "Massive MIMO systems", Budapest, Hungary, June 2013.

Tutorial at ICASSP 2012, "Very Large MIMO", Kyoto, Japan, March 2012.

Awards: IEEE Fellow 2017, Neal Shepherd Memorial Award 2015 - Best propagation paper in IEEE Transactions on Vehicular Technology. Co-author of 4 conference papers that were granted best paper/student paper awards. Awards in Ventrue Cup 2006, 2011, 2013. Stipend to realize and commercialize a cell phone based search and rescue system, which was the foundation for our startup ResQU AB.

Supervision: Main advisor for 6 PhDs, co-advisor for 5 PhDs where I took an active role, main advisor for 2 students finishing with a Licentiate in Engineering. Currently the main advisor for 5 PhD students.

International collaboration: Strong network with other universities and research institutes, with well-established collaboration in terms of joint projects, publications or applications, examples include: University of Southern California, US (A. Molisch), TU Vienna, Austria, (C. Mecklenbräuker), FTW Forschungszentrum Telekommunikation Wien/Austrian Institute of Technology, Austria (T. Zemen), Alcatel-Lucent Bell labs, USA (T. Marzetta), Aalto University, Finland (K. Haneda), UCL Belgium (C. Oestges). More than 50 % of the papers are written jointly with international collaborators.

Management experience: Co-director of the strategic research area ELLIIT, director of the Lund part (2017-), board member (2012-present); Deputy head of the EIT department (2015-present), board member (2007-2014); PI of a larger SSF project on distributed antenna systems (26 MSEK/5 years, 2012-2017); Director for SSF High Speed Wireless Center (2011-2012), board member (2009-2010); National Swedish delegate in COST 2100 and IC1004 and CA15104; CTO and founder Hepkie AB (2009-2012).