

Curriculum Vitae — Magnus Karlsson

Personal details

- Full name: Lars Magnus Ingemar Karlsson
- Date of Birth: March 23, 1967
- Citizenship: Swedish
- Marital status: Engaged, two children
- email, web: magnus.karlsson@chalmers.se, [Chalmers webpage](#)

University degrees

- Master of Science in Engineering Physics, Chalmers University of Technology, 1991.
- Doctor of Philosophy (Ph. D) in Electromagnetic Field Theory at Chalmers University of Technology, 1994. Dissertation title: “Nonlinear propagation of optical pulses and beams.” Supervisors: Profs. Dan Anderson and Mietek Lisak
- Oct 1999, Docent (Honorary research associate) at the Department of Microelectronics, Photonics Laboratory, Chalmers University of Technology.

Postdoctoral positions

- Dec. 1994–May 1995, Research associate at the Department of Electromagnetic Field Theory, Chalmers University of Technology. Theoretical research in nonlinear optics, with emphasis on self-action effects such as self-focusing, self-phase modulation, solitary wave propagation and instabilities.
- June 1995–Oct. 1999, Assistant Professor at the Department of Microelectronics, Photonics Laboratory, Chalmers University of Technology.

Present and previous positions

- Professor in Photonics at the Department of Microtechnology and Nanoscience, Chalmers University of Technology, since 2003. Since Nov. 2013 pro-dean (Dep. head of department) at the Department of Microtechnology and Nanoscience (staff 210), with special responsibility for the graduate school (comprising approx. 80 graduate students). The percentage of research varies over the years in the range 30–70 % and is 40 % in 2020-21, including supervision.
- Nov 1999–June 2003, Docent and Associate Professor at the Department of Microelectronics, Photonics Laboratory, Chalmers University of Technology. Theoretical and experimental research in fiber optic communications. Responsible for TFR and SSF projects and projects with Ericsson Telecom.

Interruption in research

- Paternity leave 2x3 months; april-june 1996, april-june 2001.

Supervision

- Graduated Ph.D students 2001: Henrik Sunnerud, main supervisor (ms), Jonas Hansryd, co-supervisor (cs); 2004: Jie Li (cs); 2006: Per Kylemark (ms), Thomas Torounidis (cs); 2008: Mats Sköld (ms), Hongxia Zhao (cs); 2012: Martin Sjödin (ms), Ekawit Tipsuwannakul (cs), Carl Lundström (cs); 2013: Lotfollah Beygi (cs), Johnny Karout(cs), Krzysztof Szczerba (ms); 2015: Samuel Olsson (cs), Tobias Eriksson (ms); 2017: Abel Lorences Riesgo (ms); 2018: Cristian Czeglédi (cs), Henrik Ekiasson (cs); 2019: Tamas Lengyel (ms), Lars Lundberg (ms), Mikael Mazur (ms), Christoffer Fougstedt (cs), Alireza Sheik (cs), 2020: Arni Alfredson (cs) .
- Currently main supervisor of 3 students: (Ali Mirani, Alexander Caut, Ekaterina Deriushkina), co-supervising 8 PhD students (Kovendhan Vijayan, Erik Börjesson, Krishna Twayana, Shen Li, Zonglong He, Rasmus Larsson, Mohammad Farzi, Frida Olofsson).
- PostDoc hosting/supervision: Ping Zhao (2019–present), Ben Foo (2018-2019), Diego Villafani 2018–2019, Elham Nazemosadat 2015–2018, Vitor Ribeiro 2015–2017, Nishan Dharmaweera (2015–2016), Ales Kumpera 2013–2015, Rohit Malik, 2013–2014, Bill Corcoran 2011–2013, Jianqiang Li,

2011–2012, Pontus Johannisson, 2009–2011, Zhi Tong, 2009–2011, Claudio Vinegoni, 2002–2003.

Distinctions

- Appointed Fellow of the OSA (Optical Society of America) 2012
- Appointed Senior Member of IEEE 2013
- Best paper award, 2011 IEEE Global Communications Conference (GlobeCom)
- Supervised two best student paper awards, ECOC 2012.

Research grants (selected)

- 2018 H. Wymeersch, E. Agrell, P. Andrekson, M. Karlsson, V. Torres-Company and J. Schröder, "Unlocking full-dimensional fiber capacity", KAW grant, 31 MSEK
- 2017 A. Larsson, P. Andrekson, M. Karlsson, V. Torres-Company and L. Oxenloewe, "ITran - Integrated Terabit/s transmitters", VR framework, 20 MSEK
- 2016 M. Karlsson and E. Agrell, "Polarization-aware optical communication", VR project, 4 MSEK
- 2014 P. Andrekson, A. Larsson, M. Karlsson, E. Agrell, P. Larsson-Edefors, "Energy-efficient optical fiber communication", KAW Foundation, 34 MSEK
- 2014 P. Andrekson, M. Karlsson, E. Agrell and V. Torres-Company, "Spatial division multiplexing", VR framework, 12 MSEK
- 2011 M. Karlsson and P. Andrekson, "Channel estimation and performance monitoring", VR project, 4 MSEK
- 2010 P. Andrekson, M. Karlsson, E. Agrell and H. Wymeersch, "Power efficient Terabit/s transmission", VR framework, 9.6 MSEK
- 2008 P. Andrekson, M. Karlsson, and E. Agrell, "Next generation optical communication systems", SSF, 20.8 MSEK
- 2008 M. Karlsson, P. Andrekson, and E. Agrell, "Advanced optical communication technologies for access and transport networks," Vinnova/EU-Celtic, 9 MSEK

Publication, professional network and scientific community activities

- 11 900 citations, 5 book chapters and 2 patents, around 400 journal and conference papers and around 50 invited papers. Hirsch index: 52 (Based on Google Scholar, Jan 2021).
- Google Scholar citation page: [Magnus Karlsson at Google Scholar](#)
- In the advisory board for the 2012-2018 joint UC London and Aston University project "UNLOC".
- Mid-term and final referee for the EU/Celtic-plus project SASER, (budget: 80 000 kEuro).
- 2012-2015 in the committee for the IEEE Photonic Society Young Investigator Award, (2014-15 as committee chair).
- Associate Editor for Optics Express 2010-2015, Deputy Editor 2015-present. Associate Editor for Journal of Lightwave Technology, 2020-present.
- Member of the technical program committees (TPC) of ECOC (European Conference on Optical Communication) 2011-2014, 2016-present, and OFC (Optical Fiber Communication Conference) 2005–2009 (2009 as subcommittee chair), 2017–2019. CLEO 2018-present In the TPC for ICC (Int. Conf. on Communications and Globecom).
- Cofounder of Fibre-Optic Communications Research Centre (FORCE) at Chalmers, 2010 ([FORCE web at Chalmers](#)).
- External referee for > 25 PhD theses, of which 10 outside Sweden.
- Evaluator of tenure track positions at other universities, as well as research proposals and research quality evaluations for national funding agencies in other countries (e.g. Canada, Israel, Japan, Italy).
- Professional contact network and collaborations with, e.g., Aston Univ. (Prof. S. Turitsyn), Heinrich Hertz Inst., Berlin (Dr. C. Schubert), Univ. Southampton (Prof. D. Richardson, Prof. P. Petropoulos), Univ. California San Diego (Prof. S. Radic), Stanford University (Prof. J. Kahn), Techn. Univ. Denmark (Prof. L. Oxenloewe, Prof. K Rottwitt), Nokia Bell Labs, USA (Dr. Mazur), Mitsubishi El. Corp., Japan (Mr. T. Yoshida), Univ. L'Aquila, Italy (Prof. A. Mecozzi, Prof. C. Antonelli)