Curriculum Vitae (short) of Thomas Schön

Uppsala, December, 2022

Academic degrees

Docent, Automatic Control, Linköping University, Sweden, 2009.
Doctor of Philosophy (PhD), Automatic Control, Linköping University, Sweden, 2006.
Licentiate of Engineering, Automatic Control, Linköping University, Sweden, 2003.
Master of Science, Applied Physics and EE, Linköping University, Sweden, 2001.
Bachelor of Science, Business Administration, Linköping University, Sweden, 2001.

Academic positions

Beijer Professorship in Artificial Intelligence, Uppsala University, since 2020.
Professor of the Chair of Automatic Control, Uppsala University, 2013-2020.
Associate Professor, Linköping University, 2008-2013.
Assistant Professor, Linköping University, 2006-2008.
PhD student, Linköping University, 2001-2006.

Membership professional and academic societies

Member of **The Royal Swedish Academy of Engineering Sciences (IVA)**, since 2018.
Member of **The Royal Society of Sciences at Uppsala**, since 2018.
Fellow of the **ELLIS Society**, since 2019.
Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), since 2011.

Longer scientific visits

University of Newcastle, Newcastle, Australia, November 2019, November 2017, November 2016, November 2015 (shared with the **University of Sydney**), October 2012, October 2011, September 2010, February-March 2009, April 2006 and February-May 2005. **Universidad Técnica Federico Santa María**, Valparaíso, Chile, January 2014. **Abisko Scientific Research Station**, Abisko, Sweden, September 2014 and February 2012. **University of Cambridge**, Cambridge, UK, April-September 2001.

Awards and honours (selected)

Y-alumnus of the year, Applied Physics and Electrical Engineering (Y), Linköping University, 2019.
Tage Elanders prize for natural sciences and technology by the **Royal Swedish Academy of Sciences (KVA)**. *"For significant contributions to nonlinear identification and particle filtering"*, 2017.
Arnberg prize (Arnbergska priset) by the **Royal Swedish Academy of Sciences (KVA)**. For excellent work in technical science, 2016.
Automatica best paper award for papers published in Automatica 2011-2013.
Best PhD thesis award by The European Association for Signal Processing (EURASIP), 2013.
Best teacher award at the Institute of Technology, Linköping University (**"Gyllene moroten"**), 2009.
Travel grant for the London International Youth Science Forum, London, UK. Awarded for successful projects presented at annual exhibit of The Swedish Federation of Young Scientists, Stockholm, Sweden, 1995 and 1996.

Publications and bibliometry

66 journal papers, **133** conference papers, **1** textbook, **3** monographs, **6** book chapters, **1** editorial, and **1** debate article. Google Scholar h-index **47**, i10-index: **151**, citations: **10 304**.

Grants (selected)

Endowed Professorship in Artificial Intelligence, **Kjell och Märta Beijer Foundation**, 2020-2025.

Deep probabilistic regression – new models and algorithms. **Swedish Res. Council (VR)**, PI, 2022-2025.
News from a missing continent: the earliest tetrapods. **Swedish Res. Council (VR)**, co-PI, 2021-2024.
Modelling complex dynamic systems from data. **Australian Research Council (ARC)**, Co-PI, 2019-2022.
Deep probabilistic neural networks for survival analysis. **KAW (WASP)**, Co-PI, 2019-2023.
Learning flexible models of nonlinear dynamics. **Swedish Research Council (VR)**, PI, 2018-2021.
Automating system specific model-based learning. **Swedish Found. for Strat. Res. (SSF)**, PI, 2016-2021.
Probabilistic modeling of dynamical systems. **Swedish Research Council (VR)**, PI, 2014-2017.
Calibrating nonlinear dynamical models. **Swedish Research Council (VR)**. PI, 2011-2013.
New directions in learning dynamical systems. **Swedish Research Council (VR)**. Co-PI, 2017-2022.
Next generation Monte Carlo algorithms for image synthesis. **Swedish Res. C. (VR)**. Co-PI, 2016-2019.
Collaborative unmanned aircraft systems. **Swedish Found. for Strat. Res. (SSF)**, Co-PI, 2011-2016.
Control, autonomy and decision-making in complex systems. **Swedish Res. Council (VR)**. Co-PI, 2008-2018.

Invited plenary/keynote speaker and other invited talks

11 invited plenaries at conferences and workshops around the world. For example: The 19th IFAC Symposium on System Identification SYSID (Padova, Italy, 2021, Online), Swedish operations analysis conference (Nyköping, Sweden, 2019), IFAC Conf. on Modelling, Id. and Control of Nonlinear Systems MICNON (Guadalajara, Mexico, 2018), Max Planck ETH Workshop on Learning Control (Zürich, Switzerland. 2018), European Conf. on Optical Com., Machine Learning in opt. com. (Gothenburg, Sweden. 2017), Workshop on nonlinear system identification benchmarks (Brussels, Belgium, 2016), SIGRAD (Norrköping, Sweden, 2013). 3D Analysis of Human Movement (**H. J. Woltring lecture**) (Amsterdam, The Netherlands, 2008).

35 invited talks at conferences and workshops around the world. For example: One World Signal Processing Seminars (2021, Online), Nordic patient oriented products (NordicPOP) annual meeting (Uppsala, Sweden, 2021, Online), Symposium on Advances in Approximate Bayesian Inference (Montreal, Canada, 2018), Workshop on Advances in Kernel Methods (The Univeristy of Sheffield, Sheffield, UK, 2018), SIAM Conference on Uncertainty Quantification (Garden Grove, CA, USA, 2018), DALI meeting - Data lerning and inference (Tenerife, Canary Islands, 2017), The 9th Int. Conf. on Computational and Methodological Statistics (Seville, Spain, 2016), Isaac Newton Institute for Mathematical Sciences (Cambridge, UK, 2014), Workshop of the European Research Network on Sys. Id. (Nancy, France, 2013), Workshop on Machine Learning for Sys. Id. (Int. Conference on Machine Learning ICML, Atlanta, GA, USA, 2013).

66 invited talks at universities and museums around the world. For example: University of Cambridge (Cambridge, UK, 2020), University of Sydney (Sydney, Australia, 2019), Delft University of Technology (Delft, The Netherlands, 2018), University of Tübingen (Tübingen, Germany, 2018), Harvard University (Cambridge, MA, USA, 2018), Shanghai Jiao Tong University (Shanghai, China, 2016), University of Newcastle (Newcastle, Australia, 2015), Aalto University (Espoo, Finland, 2015), University of Oxford (Oxford, UK, 2014), The Hebrew University of Jerusalem (Jerusalem, Israel, 2014), The University of British Columbia (Vancouver, Canada, 2013), University of Cambridge (Cambridge, UK, 2013), University of California Santa Barbara (Santa Barbara, CA, USA, 2013), University of California Berkeley (Berkeley, CA, USA, 2013).

29 invited talks at companies around the world. For example: Mitsubishi Electric Research Labs (Cambridge, MA, USA, Online, 2021), Tobii (Stockholm, Sweden, 2021, Online), Peltarion (Stockholm, Sweden, 2020), Skandinaviska Enskilda Banken (SEB, Stockholm, Sweden, 2019), ABB Corporate Research (Västerås, Sweden, 2018), Bosch center for AI (Renningen, Germany, 2018), Elekta (Stockholm, Sweden, 2018), Eriksholm Research Center (Helsingør, Denmark, 2017), Swedbank Quantitative Research (Stockholm, Sweden, 2017), Autoliv (Linköping, Sweden, 2015), Sennheiser Research & Innovation (San Francisco, CA, USA, 2013).

12 Popular scientific lectures For example: The yearly exhibition of Young Researchers (Södertälje, Sweden, 2022), Folkuniversitetet (Östersund, Sweden, 2021), The Diplomatic Forum (Uppsala, Sweden, 2020), Understanding the Human Brain (Geneva, Switzerland, 2018).

PhD supervision and postdocs

Main supervisor of **17 PhD students** (10 former, 7 current).
Active co-supervisor **12 PhD students** (10 former, 2 current).
Main supervisor of **12 postdocs** (9 former, 3 current).
Supervisor of **13 predocs**.

Invited courses, tutorials and lectures (teaching)

9 invited contributions at summer schools, tutorials, etc.: Gaussian Process Summer School (The Univeristy of Sheffield, Sheffield, UK, 2018), Wallenberg Autonomous Systems Program (WASP) (Stockholm, 2016), Tutorial at the 41st IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (Shanghai, China, 2016), The Summer school on foundations and advances in stochastic filtering, (Centre Tecnològic de Telecomunicacions de Catalunya, Barcelona, Spain, 2015), Vrije Universiteit Brussel (Brussels, Belgium, 2015), Machine Learning Summer School (Chalmers University of Technology, Göteborg, Sweden, 2015).

9 invited PhD courses: Learning nonlinear dynamical models (Benelux Meeting for Systems and Control, Elspeet, The Netherlands, 2020), Sequential Monte Carlo methods (Vrije Universiteit Brussel, Brussels, Belgium, 2017), Learning nonlinear dynamical models, DST group, Department of Defence (Adelaide, Australia, 2015), Computational learning in dynamical systems, (Universidad Técnica Federico Santa María (UTFSM), Valparaíso, Chile, 2014), Machine learning (Lund University, Lund, Sweden, 2013), Computational lnference in dynamical systems (The University of Sydney, Sydney, Australia, 2012), Computational lnference in dynamical systems (KTH, Stockholm, Sweden, 2012), Computational lnference in dynamical systems (Vrije Universiteit Brussel, Brussels, Belgium, 2012), Machine learning (Lund University, Lund, Sweden, 2011).

Organization of scientific events and scientific committees (selected)

Organizing committee of the workshop on sequential Monte Carlo methods, Madrid, Spain, May, 2022.
Scientific program committee (chair), European Research Network Sys. Id. (ERNSI) workshop (Online, 2021.
Organizing committee of the 18th IFAC Symp. on System Ident. (SYSID), Stockholm, Sweden, July, 2018.
Scientific committee, Workshop on nonlinear system identification benchmarks, Brussels, Belgium, April 2016.
Scientific committee, CIM Workshop on Machine Learning, Uppsala, Sweden, October, 2015.
Co-organizer of the workshop on sequential Monte Carlo methods, Paris, France, August, 2015.
Co-organizer of the OPTEC Workshop on moving horizon est. and sys. id., Leuven, Belgium, August, 2012.

Miscellaneous

Scientific leader, AI for Research (the university AI initiative), Uppsala University, 2020-present.
The vice chancellor's leadership program Research and leadership, designed for research leaders active in large knowledge-intensive environments, 2017.
Owner and founder of Schön Industrial Mathematics, providing technical consulting within machine learning, signal processing, and sensor fusion. Customers include; Saab, Autoliv and Electrolux, 2006-2020.
Associate Editor for the IEEE Control Systems, 2019- and the IFAC journal Automatica, 2015-2019.
PhD thesis opponent/external examiner for 12 PhD theses at e.g. University of Cambridge (UK), University of Padova, (Italy), Tampere University of Technology (Finland), University of Oulu (Finland), Aalto University (Finland), Technical University of Darmstadt, (Germany), University of Warwick (UK), University of Sydney (Australia), KU Leuven (Belgium), Luleå University of Technology (Sweden) and KTH (Sweden).
PhD thesis committee member for 30 PhD theses.
Licentiate thesis discussion leader/opponent for 7 Lic. theses.
Supervisor/examiner for more than 70 MSc students, 2003-present.
Expert reviewer for academic positions, 15 tasks from 13 different universities around the world.
Expert for funding agencies: the Swedish Research council (VR), Knut and Alice Wallenberg Foundation, Novo Nordisk Foundation, European Research Council (ERC), Swiss National Science Foundation, Research Grants Council (RGC) of Hong Kong, and Israel Science Foundation.
Organizer of invited sessions at international conferences: The 18th IFAC Symposium on System Identification (SYSID), Stockholm, Sweden, 2018. The 17th IFAC Symposium on System Identification (SYSID), Beijing, China, October, 2015. The 16th IFAC Symposium on System Identification (SYSID), Brussels, Belgium, July, 2012. The 15th IFAC Symposium on System Identification (SYSID), Saint-Malo, France, July, 2009.

Complete CV and publication list

Complete CV is available at http://user.it.uu.se/~thosc112/schoncv.pdf
Complete publications list is available at https://user.it.uu.se/~thosc112/schonpublist.pdf