Steffi Knorn

Signals and Systems, Uppsala University, PO Box 534, 75121 Uppsala, Sweden
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University degree

Ph.D., *Hamilton Institute, National University of Ireland Maynooth*, Ireland. Study period: 11/2008 – 01/2013. **2013**
Supervisor: Prof. Richard H. Middleton, Co-Supervisor: Prof. Robert N. Shorten
Title: A Two-Dimensional Systems Stability Analysis of Vehicle Platoons

Diplom Ingenieur, *Otto-von-Guericke University Magdeburg*, Germany. Study period: 10/2003 – 09/2008. **10/2008**
Degree: Master of Engineering in Control (Diplom Ingenieur Systemtechnik und Technische Kybernetik), with First Class Honours, Master thesis: Stability Issues in Distributed Systems of Vehicle Platoons

Employment history

Associate Senior Lecturer, *Uppsala University*, Uppsala, Sweden. **02/2016 –present**
Research interests: multi-sensor estimation, energy harvesting and energy sharing, scalability and stability of multi-agent systems, modelling and system identification in medical applications
Teaching: Main teacher for third year courses "Embedded Signal Processing Systems" and "Signals and Systems"

Postdoc, *Uppsala University*, Uppsala, Sweden. **02/2014–01/2016**
Research interests: multi-sensor estimation, energy harvesting and energy sharing, scalability and stability of multi-agent systems, and linear and nonlinear two-dimensional system theory
Teaching: third year course "Embedded Signal Processing Systems"

Postdoc, *University of Newcastle*, Callaghan, NSW, Australia. **01–12/2013**
Research interests: control theory and its applications, linear and nonlinear two-dimensional system theory, controller design, and scalability and stability of port-Hamiltonian systems
Teaching: Developing online self-study material for first year course "Electrical Engineering 1",
Tutoring for fourth year course "Control System Design"

Casual Academic Lecturer, *University of Newcastle*, Callaghan, NSW, Australia. **04–07/2013**
Main teacher for third year course "Signal Processing"

Freelance work, Maynooth, Ireland. **03–12/2011**
Development, data acquisition and programming of an Apple iOS application ("Maynooth App")
Sold to the National University of Ireland Maynooth

Research Intern, *Hamilton Institute, National University of Ireland Maynooth*, Maynooth, Ireland. **04–09/2008**
String stability problems in vehicle traffic

Research Intern, *Research and Development, Daimler AG*, Böblingen, Germany. **10/2007–03/2008**
Design, implementation and comparison of different observer strategies to detect the roll angle of passenger vehicles

Research Assistant, *Department of Automation and Systems, Federal University of Santa Catarina*, Florianópolis, SC, Brazil. **03–09/2007**
Modelling, design and implementation of supervisory control of a manufacturing cell

Research Assistant, *Max Planck Institute for Dynamics of Complex Technical Systems*, Magdeburg, Germany. **10/2004–02/2007**
Simulation of biological networks using Matlab

Grants

Starting grant, *Vetenskapsrådet (VR) / Swedish Research Council*, Sweden, 3.920.000   **01/2019–12/2022**
SEK.
Robust Scalability of Multi-Agent Systems

Innovation for sustainable cities, *Naturvårdsverket*, Sweden, 490.00 SEK.   **07/2018-06/2019**
Smarta vattennät - Övervakning av dricksvattennät med avancerad dataanalys (co-applicant)

Gamification Projects, *Luleå University of Technology*, Sweden, 200.00 SEK.   **07/2018-06/2019**
Pelvic floor activation through gamified exercising (co-applicant)

TUFF - funding for pedagogical development, *Faculty for Science and Technology, Uppsala*   **01-12/2018**
University, Sweden, 141.00 SEK.
Adaptation of examination form and grading to complexity and ambition level

Pedagogy project funds, *Project grants for pedagogic development, Uppsala University*,   **07/2017-12/2018**
Sweden, 250.300 SEK.
Development of a Concept Inventory Test tool for Electrical engineering (CITE)

Teaching and Learning Grant, *Faculty for Engineering and Built Environment*, The University of   **09/2013**
Newcastle, Australia, 9500AUD.
Development of self study material for the first year course "Electrical Engineering 1"

Project Management

Assistent Project Leader, *Advancing System Integration in Process Industry: Sensor*   **07/2015–06/2018**
Data Gathering, Wireless Networking, and Supervisory Control.
Financed by Vinnova, Sweden
Project partner:
– Uppsala University, Uppsala, Sweden
– Kungliga Tekniska högskolan (KTH), Stockholm, Sweden
– ABB Corporate Research, Västerås, Sweden
– Holmen Iggesund paper mill, Iggesund, Sweden

Distinctions and Awards

Benzelius Award, *Kungliga Vetenskaps-Societeten*, Uppsala, Sweden.   **2017**
Awarded for fundamental results in the area of vehicle platooning and multiagent systems (including 25000SEK prize).

Pedagogy Prize, *Uppsala Teknolog- och Naturvetarkår*, Uppsala, Sweden.   **2015**
This annual prize is awarded for excellence in teaching in the faculty of science and technology at Uppsala University.

Best Student Paper Award, *2nd Australian Control Conference*, Sydney, Australia, IEEE Control Sys-   **2012**
tems Society technically co-sponsored national conference, attended by approximately 200 researchers.
The award (including 500AUD prize) is given to the best out of 50-100 papers authored by PhD students.

Faculty prize, *Faculty of Electrical Engineering and Information Technology*, Magdeburg, Germany.   **2009**

Scholarship, *German National Academic Foundation*.   **02/2007–09/2008**
Included an abroad scholarship to visit the Hamilton Institute, National University of Ireland Maynooth, Ireland, in 04-09/2008
and a travel scholarship to attend the ACM Symposium On Applied Computing 2008 in Fortaleza, CE, Brazil in 03/2008

Scholarship, *Friedrich Naumann Foundation for Freedom*.   **04/2006–09/2007**
Included an abroad scholarship to visit the Department of Automation and Systems, Federal University of Santa Catarina,
Florianópolis, SC, Brazil in 03-09/2007

Editorial Experience

01-12/2016: Guest Editor for Special Issue "Advanced Techniques for Networked Systems with Applications" for Mathematical Problems in Engineering

Scientific Reviewer Experience

since 2013: Automatica
since 2013: IEEE Transactions on Automatic Control
since 2014: Multidemensional Systems and Signal Processing
since 2015: IEEE Transactions on Control of Network Systems
since 2015: IEEE Transactions on Control Systems Technology
since 2015: IEEE Transactions on Intelligent Transportation Systems
since 2016: IEEE Transactions on Wireless Communications
since 2016: International Journal of Robust and Nonlinear Control
since 2013: IEEE Conference on Decision and Control
since 2014: several IFAC conferences
2014: Control Engineering Practice
2014: Robotics

Reviewed PhD theses

2018: Valerio Turri, "Look-ahead control for fuel-efficient and safe heavy-duty vehicle platooning", Kungliga Tekniska högskolan (KTH), Stockholm, Sweden

Supervision of Students

Ruslan Seifullaev, *Uppsala University*, Sweden.   **since 08/2018**
PhD student: Harvesting Based Signal Processing and Communications for Wireless Control Systems

Sinchan Biswas, *Uppsala University*, Sweden.   **since 05/2017**
PhD student: Energy harvesting in wireless communication networks

Paul Wijnbergen, *University of Groningen*, Netherlands.   **03–08/2018**
Research internship: Energy harvesting and wireless communication in control

25 students (Electrical Engineering, IT), *Uppsala University*, Sweden.   **since 03/2016**
B.Sc. and M.Sc. theses on different topics in the area of signal processing, communication and control

Robin Smit, *University of Groningen*, Netherlands.   **03–08/2018**
Research internship: String Stability of Vehicle Platoons with Synchronised Motion

Aarti Sheorayan, *The University of Newcastle*, Callaghan, Australien.   **07–11/2013**
Final Year Project (MSc): Development of Automatically Generated Exercise Questions Including Electrical Circuits

Participation in Courses and Programs

Academic leadership program, *Uppsala University*, Uppsala, Sweden.   **08/2017-03/2018**
To support new group leaders in building their group and develop leadership talents

Supervising PhD students, *Uppsala University*, Uppsala, Sweden.   **09-12/2016**
To inform and train young researchers in their role as supervisors to PhD students.

Doctoral supervisor training within the faculty of science and technology, *Uppsala University*, Uppsala, Sweden.   **02-05/2016**
To inform and train young researchers in their role as supervisors to PhD students in the field of science and technology.

Academic teacher training course, *Uppsala University*, Uppsala, Sweden.   **09-12/2014**
To strengthen the quality of education by developing competencies in planning and management of the teaching and learning process.

Student Representative

President of Student Representative, *Faculty for Process and Systems Engineering, Otto-von-*   **2005-2007**
Guericke University Magdeburg, Germany.
Initiated, organised and conducted first evaluation of faculty wide teaching and tutoring.

Elected Member of Student Representative, *Faculty for Process and Systems Engineering,*   **2004-2007**
Otto-von-Guericke University Magdeburg, Germany.

Languages

German: Native speaker
English: Full professional proficiency   *Lived in Ireland & Australia 2008-2013*
Swedish: Professional working proficiency   *Living in Sweden since 2014*
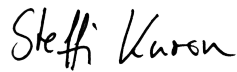**Spanish**: Professional working proficiency   *Lived in Argentina 2000-2001*
Portuguese: Professional working proficiency   *Lived in Brazil in 2007*
French: Limited working proficiency   *Six years of high school studies*

Steffi Karon

Uppsala, 07 February 2019