

# Carolina Lidström

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## Education

### **Ph.D. student in Automatic Control, Lund University**

*June 2013 – June 2018 (expected)*

Advisor: Anders Rantzer

Co-advisors: Bo Bernhardsson and Richard Pates

Thesis topic: Modeling and distributed control of large-scale systems with applications in power networks

### **M.Sc. in Engineering Physics, Lund University**

*August 2008 – May 2013*

GPA: 4.97/5

Exchange student at University of California, San Diego, USA.

August 2011 – June 2012. GPA: 3.6/4

Master's Thesis in Automatic Control with title *Network Analysis of the Molecular Layer Interneurons in the Cerebellum*.

## Research Interests

Control of complex systems with focus on distributed control.  
Scalability of conventional control methods.

## Publications

### **Peer reviewed conference publications**

C. Lidström and A. Rantzer.

*Optimal  $H$ -infinity state feedback for systems with symmetric and Hurwitz state matrix.*

IEEE American Control Conference (ACC), 2016, 3366–3371.

C. Lidström, A. Rantzer and K. A. Morris.

*$H$ -infinity optimal control for infinite-dimensional systems with strictly negative generator .*

IEEE 55th Conference on Decision and Control (CDC), 2016, 5275-5280.

## Research Visits

### **Institute for Mathematics and its Applications, University of Minnesota, Minneapolis, USA**

Visiting student, *September-October 2015 and May 2016*

Reviews  
Reviewer for IEEE American Control Conference 2017  
and European Control Conference 2016.

Workshops  
**Institute for Mathematics and its Applications,  
University of Minnesota, Minneapolis, USA**  
  
Distributed Control and Decision Making Over Networks  
September 28 – October 2, 2015  
Presented a poster on distributed H-infinity Control  
  
Analysis and Control of Network Dynamics  
October 19-23, 2015  
  
Control at Large Scales: Energy Markets and Responsive Grids  
May 9-13 , 2016  
Presented a poster on control of the heat equation  
  
**Workshop at CDC 2014, Los Angeles, USA**  
How to Engineer Resilient Cyber-Physical Infrastructures  
  
**LCCC Linnaeus Center, Lund**  
Dynamics and Control in Networks, 15-17 Oktober, Lund.

Internship  
**The Scripps Research Institute, San Diego, USA**  
Internship in Bioinformatics, *Spring 2012*.

Pedagogical Training  
Over five weeks of pedagogical training including:  
Introduction to Teaching and Learning in Higher Education  
(3 ECTS), Communicating Science (5 ECTS).

Teaching  
**Department of Automatic Control, Lund University**  
Instructor, Physiological Models and Computation, 2013–2016  
Gave lectures, constructed material for exercise sessions, exams  
and supervised weekly tutorials.  
  
Teaching assistant, Network Dynamics, 2015–2016  
Constructed material for exercise sessions, exams and  
supervised weekly tutorials.  
  
**Department of Mathematics, Lund University**  
Teaching assistant, Numerical linear algebra, 2012  
  
**Department of Physics, Lund University**  
Teaching assistant, basic course for engineering students, 2009

Relevant Courses Convex Optimization (7.5 ECTS), Matrix Theory (7.5 ECTS), Network Dynamics (9 ECTS), Robust Control (9 ECTS), Functional Analysis in System Theory (9 ECTS), Theory of Stochastic Processes (7.5 ECTS), Optimal Control (7.5 ECTS), Linear Systems (9 ECTS), Bioinformatics (5 ECTS), Integration Theory (7.5 ECTS), Electric Power Systems (7.5 ECTS), Statistical Machine Learning (9 ECTS), Introduction to Research Methodology, Ethics, and Innovation for Computing Disciplines (4.5 ECTS)

Miscellaneous **Chairing project meetings**  
Project ICT-Psi monthly meetings

**Working group on gender equality and diversity at the Department of Automatic Control, Lund University**  
Arrange seminars and discussion sessions to raise awareness on gender equality and diversity at the university.

**Other**  
Arranged study visit for girls from high school at the Department.

Languages and Skills English (advanced), Swedish (native), French (baisc)  
MatLab, L<sup>A</sup>T<sub>E</sub>X, Python, Java, Mathematica