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Curriculum Vitae

Name: Maria Magnusson

Date of birth: 1961-10-07

Nationality: Swedish Citizen

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1. Higher education qualification

1986 Master of Science in Applied Physics and Electrical Engineering at Linköping University

2. Doctoral degree

1993 PhD in the subject area of Computer Engineering at Linköping University
Thesis title: Linogram and Other Direct Fourier Methods for Tomographic Reconstruction
Supervisor: Prof. Per-Erik Danielsson. Assistant supervisor: Prof. Paul Edholm.

3. Postdoctoral positions

4. Qualification required for appointment as a docent

5. Current position

2007 – Associate Professor at the Division of Computer Vision (CVL), at the Department of Electrical Engineering (EE), at Linköping University (LiU) and the Division of Radiation Physics, at the Department of Medical and Health Sciences (IMH), at Linköping University (LiU) (≈60% teaching, ≈30% research)

6. Previous positions and periods of appointment

- 2002-03-01 – 2006-12-31 Associate Professor at CVL, EE, LiU. (55% teaching, 25% research)
- 2001-08-01 – 2002-02-28 Associate Professor at CVL, EE, LiU. (50% teaching, 50% research)
- 1998-06-01 – 2001-07-31 Associate Professor at Image Processing Laboratory, EE, LiU (50% teaching, 50% research)
- 1996 – 1998 Assistant Professor (50%) and Research Assistant (50%) at Image Processing Laboratory, EE, LiU (Research amount: 50%)
- 1994 – 1995 Research Assistant at Image Processing Laboratory, EE, LiU (Research amount: 50%)
- 1993 University teacher at Image Processing Laboratory, EE, LiU (Research amount: 80%)
- 1986 Adopted as graduate student at Image Processing Laboratory, EE, LiU

7. Interruption in research

8. Supervision

- 1996 – 2009 Assistant supervisor for a few PhD students.

Scientific work

6 peer-reviewed articles in scientific journals,
26 peer-reviewed international conference papers,
12 Swedish conference papers, (Swedish Society for Automated Image Analysis (SSBA)),
21 other technical reports (at Dept. of EE, Linköping University).

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Scientific collaboration

- 1986 –, Per-Erik Danielsson, LiU, Linköping (CT)
- 1999 –, Gudrun Alm-Carlsson, Alexandr Malusek, Michael Sandborg, LiU, Linköping (Radiation physics)
- 2003 –, Karl Stierstorfer, Siemens, Germany (CT)
- 2004 –, Johan Sunnegårdh, LiU, Linköping / Siemens, Germany (CT)
- 2007 –, Peter Lundberg, Olof Dahlqvist Leinhard, LiU, Linköping (MRI)
- 2013 –, Hans Bornefalk, Mats Persson, Mats Danielsson, KTH, Stockholm (spectral CT)
- 2013 –, Michael Felsberg, LiU, Linköping (Computer Vision)
- 2014 –, Eva Lund, Håkan Gustafsson, LiU, Linköping (EPRI)

Referee

- 2003 – Physics in Medicine and Biology (and occasionally other journals and conferences)

Industrial cooperation

- 1994, General Electric Medical Imaging Systems, Milwaukee, USA, (CT reconstruction)
- 1997, SAQ Kontroll AB, Gothenburg, (CT for crack detection in pipes)
- 2001, IVP, Integrated Products AB, Linköping, (course in Image Analysis)
- 2002 – 2003, InVision Technologies, CA, US, (CT for luggage scanning)
- 2002 – 2005, Siemens, Forchheim, Germany, (combination of FPB and ART in CT reconstruction)
- 2006, FOI, Swedish Defense Research Agency, Linköping, (course in Signal- and Image Processing)
- 2008, Autoliv Electronics, Linköping, (course in Digital Image Processing)
- 2012 – 2013, Siemens, Forchheim, Germany, (DECT for tissue classification)

Teaching, undergraduate

- 1986 – Digital Image Processing (Examiner from 2001).
- ≈1986 – 2001 Computer Graphics, Computer architecture, Digital technology.
- 1994 Image Reconstruction.
- 1997 – Signal processing (Examiner from 1997).
- 2008 – Image sensors (also includes camera geometry and calibration)
- 2012 – Medical images (CT, SPECT, PET, ultrasound and MRI. A Signal Processing Perspective.)
- 1997 – Examiner and/or supervisor for Master Theses, ca 3/year.

Teaching, PhD-courses

- 1994-2000 Image reconstruction and computed tomography.
- 1996 The book “The Fourier transform and its applications” by Bracewell.
- 2008 Nine articles from 2003-2007 about new reconstruction techniques in the area of non-iterative computed tomography.
- 2009 The book “Principles of Magnetic Resonance Imaging. A Signal Processing Perspective” by Z. Liang and P.C. Lauterbur.

Course Development

- 2012 Development of the novel course “Medical Images” at LiU. The course has a focus on signal processing and covers basic techniques and physics for CT, SPECT, PET, ultrasound and MRI.