

Curriculum Vitae

Aila Särkkä

Personal Data

Address: Department of Mathematical Sciences
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Phone: 46 (0) 31 772 3542

Birth: December 20, 1962, Pirkkala, Finland

Sex: Female

Nationality: Finnish

Languages: Finnish, English, Swedish

Positions

Present Position 1/6/1999: Associate Professor (Swedish: Docent) at Chalmers, Dept.
of Mathematical Sciences

1/1 2003-30/6 2003: 80% Maternity leave

1/9/2000-31/7/2001 and 19/4-31/12 2002: Maternity leave

1/9/1999-31/8/2000: Visiting Assistant Professor at Emory University,
Dept. of Biostatistics

1/1/1998-31/5/1999: Lecturer at Chalmers,
Dept. of Mathematical Sciences

1/11/1996-30/4/1997: Postdoc at University of Western Australia,
Dept. of Mathematics

1/8/1995-31/12/1997: Research associate (Swedish: forskarassistent) at Göteborg Uni-
versity, Dept. of Statistics

1/2/1994-31/7/1995: Postdoc at INRA, Avignon, France,
Laboratory of Biometry

Degrees

Docent: Mathematical Statistics, Chalmers University of Technology, 1999.

Docent: Statistics, University of Gothenburg, 1997.

Ph.D. Statistics, Jyväskylä University, 1994.

Dissertation Title: Pseudo-likelihood Approach for Pair
Potential Estimation of Gibbs Processes

Thesis Advisor: Antti Penttinen

Ph.Lic. Applied mathematics, Jyväskylä University, 1989.

M.S. Mathematics, Jyväskylä University, 1988
(including teacher education).

Research Interests

My research areas are spatial statistics and spatio-temporal modelling. A lot of my research has been on Gibbs point processes, especially pseudo-likelihood estimation of the parameters of the process, and construction of new models. More recently, I have been working on spatio-temporal models, and developed edge-corrected estimation methods for spatio-temporal data. My main application areas are forestry, materials science, and neurology.

Fellowships

1994: Academy of Finland
Postdoctoral Fellowship

1995: INRA, Avignon, France
Postdoctoral Fellowship

1996: University of Western Australia
Postdoctoral Fellowship

Special Evaluation Tasks

Faculty opponent for the Ph.D. Thesis of Mari Myllymäki, Jyväskylä University, Finland, 2009

Faculty opponent for the Ph.D. Thesis of Ingrid Svensson, Umeå University, Sweden, 2007

Outside examiner for a Ph.D. Thesis of Carlos Comas, University of Strathclyde, UK, 2005

Faculty referee (diskutant) for the Licentiate Thesis of Ingrid Svensson, Umeå University, Sweden, 2004

Faculty referee for the Licentiate Thesis of Salme Kärkkäinen, Jyväskylä University, Finland, 1999.

Outside expert for lectureships in mathematical statistics/statistics at Högskolan Skövde, 1999 and 2000, for an associate professorship (førsteamanuensis) in statistics at NTNU, Trondheim, 2005, and 2006, and for a lectureship in mathematical statistics at Umeå University in 2009.

Member of the evaluation committee of 8 Ph.D. theses.

Regular referee for papers for statistical and forestry journals

Organizational Work

Member of the program committee of the 24th Nordic Conference on Mathematical Statistics, Umeå, Sweden, 2012.

Co-organizer of the initiative seminar “Scientific models”, Chalmers, Sweden, 2010

Co-organizer of the workshop “Spatial and Spatio-temporal Models in Science, Engineering, and Medicine” Chalmers, Sweden, 2010

Session organizer at the 23rd Nordic Conference on Mathematical Statistics, Voss, Norway, 2010

Co-organizer of the workshop “Random Modelling in Science, Engineering and Medicine”, Chalmers, Sweden, 2008

Session organizer at a Bernoulli Society satellite meeting of ISI’2007, Porto, Portugal, 2007

Member of the program committee of “Sonja Kovalevsky-dagarna”, 2006 and 2007

Co-organizer of the workshop “Spatial and Spatio-temporal Modelling in Biology, Ecology and Geosciences”, Chalmers, Sweden, 2006.

Co-organizer of the workshop “Spatial statistics, image analysis and signal processing within bioscience and technology”, Chalmers, Sweden, 2004.

Co-organizer of the session Spatial point processes at the ENAR meeting, Charlotte, North Carolina, USA, 2001.

Co-organizer of the workshop “Image Analysis and Spatial Statistics”, Chalmers, Sweden, 1999.

Organizer for the workshop “Spatial Statistics and GIS”, University of Gothenburg, Sweden, 1997.

Research grants

1999: NFR grant for the project Spatial statistics (main applicant), 600,000 SEK.

2002: Co-applicant for the SSF grant (ramanslag) for the project Spatial statistics and image analysis for environment and health (main applicant Professor Ulla Holst, Lund University), 9,000,000 SEK total.

2003: VR grant for the project Statistical models for the influence of trees on the abundance of understory vegetation species in boreal forests (main applicant), 200,000 SEK.

2005: Coapplicant for the SSF grant for Gothenburg Mathematical Modelling Center (main applicant Professor Holger Rootzen, Chalmers), 22,000,000 SEK total.

2006: VR grant for the project Development of spatio-temporal models for tree growth (main applicant), 1,950,000 SEK.

KVA grants for collaboration with researchers from the former Soviet Union 1998 (30,000 SEK), 2004 (35,000 SEK), 2005 (35,000 SEK), 2006 (30,000 SEK), 2007 (20,000 SEK)

Local academic boards and administration

Deputy member of the department board, Mathematical sciences, Chalmers, 2001–2004, ordinary member 2005–2008, and deputy member (as the deputy head of the department) since 2009.

Member of the central hiring committee, Chalmers, 2005–2008

Member of the faculty senate, Chalmers, 2008–2011.

Depute head (Swedish: proprefekt) of the department of Mathematical Sciences, Chalmers, since 2009.

Statistical consulting center

I was the head of the Center for Applied Mathematics and Statistics (University of Gothenburg and Chalmers) 1/4 2005 - 31/3 2008. The main task of the center is to offer statistical consulting for reasearchers in other fields both at universities and in industry.

Teaching Experience

Undergraduate courses: Courses on calculus, problem sessions on probability theory and mathematical statistics (University of Jyväskylä); Course on mathematical statistics, course on probability theory, and basic courses in statistics and probability theory (University of Gothenburg and Chalmers)

Master level courses: A special course on geometry (University of Jyväskylä); Statistical computing (Emory University); Statistical consulting and Design of experiments (University of Gothenburg and Chalmers)

Ph.D. courses: Markov random fields and Spatial statistics (University of Gothenburg and Chalmers); Computer intensive methods for zoologists (University of Gothenburg)

Completed Doctoral Student

2000 Eric Järpe, University of Gothenburg (coadvisor with Marianne Frisé)

2004 Sharon Kühlmann-Berenzon, Chalmers University of Technology (main advisor)

2005 Mats Kvarnström, Chalmers University of Technology (coadvisor (biträdande handledare) with Mats Rudemo)

2005 John Gustafsson, Chalmers University of Technology (coadvisor (biträdande handledare) with Mats Rudemo)

2008 Viktor Olsbo, Chalmers University of Technology (main advisor)

2011 Ottmar Cronie, Chalmers University of Technology (main advisor)

2011 Sofia Tapani, Chalmers University of Technology (coadvisor (biträdande handledare) with Torbjörn Lundh)

Doctoral Students (not completed)

Magnus Röding, Chalmers University of Technology, will present his licentiate thesis in June 2011 (coadvisor (biträdande handledare) with Mats Rudemo)

Undergraduate advising

2008 1 Bachelor thesis (Swedish: kandidatarbete)

2011 2 Master's theses

Postdocs

Claudia Lautensack (May-October, 2007)

Mari Myllymäki (August-September, 2010)

Invited conference talks

- 1995: IUFRO XX world congress, Tampere, Finland
- 1996: The French-Danish Workshop on Spatial statistics and image analysis in biology, Garchy, France
- 1998: The French-Danish Workshop on Spatial statistics and image analysis in biology, Sandbjerg, Denmark
- 1999: SEMSTAT (Séminaire Européen de Statistique Complex Stochastic Systems) meeting, Eindhoven, The Netherlands
- 1999: The 52nd Session of the International Statistical Institute, Helsinki, Finland (invited discussant)
- 2000: EURANDOM Workshop on Stochastic Geometry and Spatial Statistics, Eindhoven, The Netherlands
- 2000: 18th Nordic Conference on Mathematical Statistics (unable to participate)
- 2003: Symposium: Surveillance and other topics in medical statistics, Gothenburg, Sweden
- 2006: Miniworkshop on spatial statistics and stochastic geometry, Jyväskylä, Finland
- 2006: The French-Danish Workshop on Spatial Statistics and Image Analysis in Biology, Skagen, Denmark
- 2007: Stochastic geometry, spatial statistics and their applications, Schloss Reisenburg, Günzburg, Germany
- 2007: The First Nordic-Baltic Biometric Conference, Research Centre Foulum, Denmark
- 2007: Uncovering Hidden Patterns - A Symposium in Honour of Mats Rudemo, Chalmers, Sweden
- 2007: Probability and Statistics in Science and Technology, a Bernoulli satellite meeting of ISI'2007, Porto Portugal
- 2008: The French-Danish Workshop on Spatial Statistics and Image Analysis in Biology, Toulouse, France
- 2009: The 57th Session of the International Statistical Institute, Durban, South Africa (invited discussant)
- 2010: The French-Danish Workshop on Spatial Statistics and Image Analysis in Biology, Copenhagen, Denmark
- 2010: The 23rd Nordic Conference on Mathematical Statistics, Voss, Norway

2010: Symposium in honour of Bo Ranney, Swedish University of Agricultural Sciences, Umeå, Sweden

Contributed conference talks

- 1990: 13th Nordic conference on mathematical statistics, Odense, Denmark
- 1992: 14th Nordic conference on mathematical statistics, Røros, Norway
- 1993: IUFRO conference Stochastic spatial models in forestry, Thessaloniki, Greece
- 1993: The 5th symposium on biometrical problems in agricultural, forestry and animal investigations, Garpenberg, Sweden
- 1994: 15th Nordic conference on mathematical statistics, Lund, Sweden
- 1995: 21st European meeting of statisticians, Aarhus, Denmark
- 1996: 16th Nordic conference on mathematical statistics, Lahti Finland
- 1998: Spatial and computational statistics workshop, Aussois, France
- 1998: 17th Nordic conference on mathematical statistics, Elsinore, Denmark
- 1998: 22nd European meeting of statisticians, Vilnius, Lithuania
- 1999: Image analysis and spatial statistics, Gothenburg, Sweden
- 1999: 2nd Workshop on Spatial and Computational Statistics, Crete, Greece
- 2001: ENAR meeting, Charlotte, North Carolina, USA (session organizer and speaker).
- 2004: Spatial point process modelling and its applications, Castellón, Spain.
- 2004: Workshop: Spatial statistics, image analysis and signal processing within bio-science and technology”, Smögen, Sweden (organizer and speaker)
- 2005: Workshop: Spatial Statistics and Image Analysis for Environment and Medicine, Lund, Sweden
- 2006: Spatial and spatio-temporal modelling in biology, ecology and geosciences, Smögen workshop, Sweden (organizer and speaker)
- 2006: Internatinal workshop on spatio-temporal modelling (METMA3), Pamplona, Spain

Seminars (outside my own department)

- 1990: Bergakademie Freiberg, Germany
- 1996: Department of Statistics, University of Jyväskylä
- 1998: Department of Mathematical Statistics, Lund University, Sweden
- 1998: Department of Mathematics, University of Jena, Germany
- 1999: Department of Statistics, Rice University, USA
- 1999: Department of Biostatistics, Emory University, Atlanta, USA
- 2001: Department of Statistics and Modelling Science, University of Strathclyde, U.K
- 2002: Astra Zeneca, Göteborg, Sweden
- 2005: Fraunhofer ITWM, Kaiserslautern, Germany
- 2005: Department of Mathematical statistics, Stockholm University, Sweden
- 2007: Centre of Biostochastics, Swedish University of Agricultural Sciences, Umeå, Sweden
- 2009: Department of Mathematics and Statistics, University of Jyväskylä, Finland
- 2009: Department of Mathematics, University of Oslo, Norway
- 2011: Department of Mathematics, University of Kaiserslautern, Germany
- 2011: Department of Statistics, Lund University