Curriculum Vitae:
Lars Michael Kristensen, Ph.D.

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CONTACT INFORMATION

Lars Michael Kristensen
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PERSONAL INFORMATION

Born September 1, 1971 in Nakskov, Denmark

Married to Kjersti K. Mørner (norwegian), two daughters

Nationality: Danish

EDUCATION

Ph.D. in Computer Science, University of Aarhus, April 2000. Dissertation title: *State Space Methods for Coloured Petri Nets*. Evaluation committee: Prof. Kim Gulstrand Larsen (University of Aalborg), Prof. Rudiger Valk (University of Hamburg), and Prof. Mogens Nielsen (University of Aarhus). Supervisor: Prof. Kurt Jensen.

M.Sc. in Computer Science and Mathematics, University of Aarhus, June 1997. Thesis title: *Computer Tools Supporting Occurrence Graph Analysis of Coloured Petri Nets*. Supervisor: Prof. Kurt Jensen.

RESEARCH AREA

Concurrent and Distributed Software Systems, Communication Protocols and Protocol Engineering, Internet Protocols, Mobile Ad Hoc Networking and Sensor Networks, Formal Methods for Software Specification and Verification, State Space Methods and Model Checking, Coloured Petri Nets, Computer Tools for Validation and Verification of Software Systems.

AWARDS

The Danish Independent Research Councils' Young Researcher's Award, 2007. The award was given in relation to the project *Advanced State Space Methods and Computer Tools for Verification of Communication Protocols*. The award is given to talented young researchers below the age of 35 who have earned recognition for their work to such an extent that is unusual for their age.

ACADEMIC CAREER

Professor — February 2009 – present
Department of Computer Engineering, Bergen University College.

Associate Professor — July 2007 – January 2009
Department of Computer Science, University of Aarhus.

Research Associate Professor — April 2005 – June 2007
Department of Computer Science, University of Aarhus.

Research Assistant Professor — September 2002 – March 2005
Department of Computer Science, University of Aarhus.

Research Fellow — January 2002 – August 2002
Computer Systems Engineering Centre, University of South Australia.

Research Associate — August 2000 – December 2001
Computer Systems Engineering Centre, University of South Australia.

Research Assistant Professor — February 2000 – August 2000
Department of Computer Science, University of Aarhus.

Research Assistant — February 1998 – July 1998
Department of Computer Science, University of Aarhus.

Ph.D. Student — August 1995 – January 2000
Department of Computer Science, University of Aarhus.

Teaching Assistant — August 1995 – January 2000
Undergraduate courses, Department of Computer Science, University of Aarhus.

Part-time Programmer — June 1994 – July 1995
Department of Computer Science, University of Aarhus.

M.Sc. Student — September 1991 – July 1995
Department of Computer Science, University of Aarhus.

RESEARCH VISITS

Visiting Researcher — November 2007
Bergen University College, Department of Computer Engineering

Visiting Researcher — November 2007
University of Bergen, Department of Informatics

Visiting Researcher — September 2004
Computer Systems Engineering Centre, University of South Australia.

Visiting Researcher February 2004
Australian Defence Science and Technology Organisation, Edinburgh, South Australia.

Visiting Professor July – August 2003
Laboratoire Specification et Verification, ENS Cachan, France.

Visiting Ph.D. Student January – May 1997, September 1997, May 1999
Verification Algorithm Research Group, Tampere University of Technology, Finland.

TEACHING EXPERIENCE AND SUPERVISION

See Portfolio of Teaching Experience.

INVITED TALKS AND TUTORIALS

L.M. Kristensen. Explicit State Space Exploration of Coloured Petri Nets: Past, Present, and Future. Invited talk at the 32nd International Conference on Application and Theory of Petri Nets and other Models of Concurrency, 2010.

M. Westergaard and L.M. Kristensen. State Space Exploration of Coloured Petri Nets and the ASAP Model Checking Platform. Tutorial at the 32nd International Conference on Application and Theory of Petri Nets and other Models of Concurrency, 2010.

K. Jensen and L.M. Kristensen. Coloured Petri Nets: Modelling and Validation of Concurrent Systems. Invited tutorial at the 10th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, 2009.

L.M. Kristensen and M. Westergaard. The ASAP Platform: Next Generation of Tool Support for State Space Analysis of CPN Models. Invited tutorial at the 10th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, 2009.

L.M. Kristensen: *Modelling Dynamic and Behaviour: How to Detect Critical Errors in Software Components Prior to Implementation and Deployment.* Invited talk at Bergen University College EXPO 2009, Den Norske Dataforening, 2009.

L.M. Kristensen. The ASAP Platform: Next Generation Tool Support for State Space Analysis of CPN Models Invited talk at International Workshop on Petri Nets and Distributed Systems, Xian, China, 2008

L.M. Kristensen and M. Westergaard. The ASAP Platform: Next Generation of Tool Support for State Space Analysis. Invited tutorial at the 9th Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, 2008.

L.M. Kristensen: *Discovering the Critical Errors in a System Prior to Deployment.* Invited talk at the annual Industrial Software Development conference organised by the Danish Technological Institute, 2007.

L.M. Kristensen: *Modelling and Validation of Communication Protocols using Coloured Petri Nets*. Ph.D. School on Verification of Protocols for Security and Mobility. IT University of Copenhagen. October 2006.

L.M. Kristensen and J. Billington: *Tutorial on Application of Coloured Petri Nets to Protocols.* Third Workshop and Tutorial on Practical Use of Coloured Petri Nets and the CPN Tools. October 2004.

L.M. Kristensen: *Mobile Computing*. Knowledge-day seminar at the Alexandra Institute A/S. May 2004.

L.M. Kristensen: *Using Coloured Petri Nets in the Development of Protocols for Ad-Hoc Networking.* Third International Workshop on Integration and Specification Techniques for Applications in Engineering. April 2004.

L.M. Kristensen, K. Jensen, and S. Christensen: *Coloured Petri Nets and their Application*. Fourth Advanced Course on Petri Nets. September 2003.

L.M. Kristensen: *IPv6 and Ad Hoc Networking*. Danish national seminar on the future and perspectives of IPv6 in Denmark. May 2003.

L.M. Kristensen: *Tutorial on Sweep-Line State Space Exploration for Coloured Petri Nets.* Third Workshop and Tutorial on Practical Use of Coloured Petri Nets and the CPN Tools. August 2001.

L.M. Kristensen: *Techniques for Modelling Operational Planning.* Workshop on Critical Aspects of Complex Systems. Australian Defence Science and Technoligy Organisation. May 2001.

L.M. Kristensen: *Tutorial on Functional Programming and Standard ML*. Australian Defence Science and Technology Organisation. March 2001.

L.M. Kristensen, T. Mailund, and L.Wells: *Advanced Tutorial on Practical Use of Coloured Petri Nets and Design/CPN*. Second Workshop and Tutorial on Practical Use of Coloured Petri Nets and Design/CPN. October 1999.

L.M. Kristensen: *Advanced Tutorial on State Spaces*. First Workshop and Tutorial on Practical Use of Coloured Petri Nets and Design/CPN. June 1998.

L.M. Kristensen: *Introductory Tutorial on State Spaces*. First Workshop and Tutorial on Practical Use of Coloured Petri Nets and Design/CPN. June 1998.

INTERNATIONAL COOPERATION

Computer Systems Engineering Centre, University of South Australia (Prof. J. Billington and Dr. G.E. Gallasch).

Verification Algorithm Research Group, Tampere University of Technology (Prof. A. Valmari).

Laboratoire d'Informatique, l'Universit Paris Nord (Prof. L. Petrucci).

Department of Computer Science, Adelaide University (Dr. C. Lakos).

Humboldt-Universitat zu Berlin and Universitat Rostock (Prof. K. Wolf).

Australian Defence Science and Technology Organisation, Adelaide, South Australia. (Dr. Lin Zhang and Dr. K. I'anson).

Research collaboration with Hewlett-Packard laboratories in Ft. Collins and Roseville, US, and Edinburgh, UK.

RESEARCH PROJECTS

DISTECH: Software Technologies for Distributed Systems. **Partner Investigator**. Strategic research project at Bergen University College. 2009 – present.

A Platform for Galileo Based Pervasive Positioning. **Joint Primary Investigator**. Supported by the Danish National Advanced Technology Foundation involving the University of Aarhus, Alexandra Institute A/S, Terma A/S, Danish Agricultural Advisory Service, Systematic Software Engineering A/S, Aarhus School of Business, Aalborg University, and 8 other industrial partners. 2007 – 2010.

SensoByg : Sensor-based Surveillance in the Construction Industry. **Primary Investigator**. Innovation consortium supported by the Danish Agency for Science, Technology and Innovation involving the Technical University of Denmark, the Danish Technological Institute, University of Aarhus, the Alexandra Institute A/S, and 12 industrial partners. 2007 – 2010.

Formal Methods and Computer Tools for the Development of Communication Protocols. **Primary Investigator**. Supported by the Danish Natural Science Research Council, the Carlsberg Foundation, and the Danish Research Council for Technology and Production. 2002 – present.

Mobile Internet Services for Online Support of Agricultural Machinery. **Joint Primary Investigator**. Joint cooperation between Danish Institute of Agricultural Sciences, University of Aarhus, Alexandra Institute A/S, Lund Institute of Technology, Agrifood Research Finland, Swedish Institute of Agricultural and Environmental Engineering. Supported by the Nordunet 3 Programme. 2006 – 2009.

IPv6: Design and Validation of Communication Protocols. **Primary Investigator**. Collaborative industrial research project between the University of Aarhus and Ericsson Telebit A/S. Supported by the Danish National Centre for IT-Research. 2002 – 2005.

LIfe WArning Systems: Development of Communication Protocols for Vehicular Ad-hoc Networks. **Joint Primary Investigator**. Collaborative industrial research project between between the University of Aarhus and LIWAS ApS. Supported by ISIS Katrinebjerg. 2003 – 2006.

State Space Analysis in Operational Planning. **Primary Investigator**. Collaborative industrial research project between the Command and Control Division of the Australian Defence Science and Technology Organisation, the University of Aarhus, Adelaide University, Australian National University, and National ICT Australia. 2002 – 2005.

Sweep-line State Space Methods for the Verification of Concurrent and Distributed Systems. **Primary Researcher**. Joint research project between University of Adelaide and University of South Australia. Supported by a Discovery Grant from the Australian Research Council. 2001 – 2004.

State Space Analysis in Operational Planning. **Primary Researcher**. Collaborative industrial research project between the Command and Control Division of the Australian Defence Science and Technology Organisation (DSTO) and University of South Australia. 2000 – 2002.

Modelling and Analysis of Avionic Mission Systems. **Primary Researcher**. Collaborative industrial research project between the Air Operations Division of the Australian Defence Science and Technology Organisation and University of South Australia. 2000 – 2002.

Information Infrastructure for Electronic Commerce. **Researcher**. Supported by the Danish Natural Science Research Council, the Division of Information Technology, Engineering and the Environment at the University of South Australia, and the Australian Research Council. 2000 – 2002.

Modelling, Validation and Capacity Planning of Distributed Systems. **Researcher**. Collaborative industrial research project between the University of Aarhus and Hewlett-Packard laboratories in Edinburgh UK, Ft. Collins and Roseville US. Supported by the Danish National Centre for IT-Research. 1998 – 2000.

RESEARCH GRANTS

T. gotnes, H. Helstrup, Y. Lamo, and L.M. Kristensen. *FormGRID: Formal Verification of GRID Systems* **Partner Investigator**. Supported by the Norwegian Research Council. NOK 4,100,000. 2009 – 2012.

K. Grønbæk, L.M. Kristensen, K.M. Hansen, and L.A. Arge. *A Platform for Galileo Based Pervasive Positioning.* Supported by the Danish National Advanced Technology Foundation. DKR 5,800,000 (University of Aarhus part). 2007 – 2010.

L.M. Kristensen. *SensoByg : Sensor-based Surveillance in the Construction Industry.* Innovation consortium supported by the Danish Agency for Science, Technology and Innovation. DKR 1,800,000 (University of Aarhus part). 2007 – 2010.

L.M. Kristensen. *Advanced State Space Methods and Computer Tools for Verification of Communication Protocols.* Project Grant. Danish Research Council for Technology and Production. DKR 4,000,000. 2006 – 2009.

L.M. Kristensen, I. Thysen, J. Pagter, B. Magnussen, L. Personen, M. Gilbertsson, and T. Bak. *Mobile Internet Services for Online Support of Agricultural Machinery.* Nordunet 3 Programme Joint Committee of the Nordic Natural Science Research Councils. DKR 1,500,000. 2006 – 2009.

L.M. Kristensen. *Development and Validation of Communication Protocols for Mobile Ad-hoc Networking.* Carlsberg Foundation. DKR 1,100,000. 2005 – 2007.

K.M. Hansen and L.M. Kristensen. *Architecture for Communication between Mobile and Stationary Devices.* Project Grant from ISIS Katrinebjerg. DKR 2,800,000. 2003 – 2006.

L.M. Kristensen. *Formal Methods and Computer Tools for the Development of Communication Protocols.* Steno Grant. Danish Natural Science Research Council. DKR 1,771,000. 2002 – 2005.

L.M. Kristensen. *Information Infrastructure for Electronic Commerce.* Post Doc. Grant. Danish Natural Science Research Council. DKR 210,000. 2001 – 2002.

L.M. Kristensen. *State Space Methods for Coloured Petri Nets.* Ph.D. Grant. University of Aarhus Research Foundation and the Danish Natural Science Research Council. 1995 – 2000.

PUBLICATIONS

See List of Publications.

PROGRAMME COMMITEES AND EDITORAL BOARDS

Member of the editoral board for Transactions on Petri Nets and Other Models of Concurrency (ToPNoC). The journal is a subseries of Lecture Notes in Computer Science (LNCS) published by Springer-Verlag.

International Conference on Application and Theory of Petri Nets and Other Models of Concurrency (ICATPN), 2002, 2006, 2007, 2008, 2009, 2010, 2011 (co-chair).

International Workshop on Network Simulation Tools, 2009.

European Conference on Modelling and Simulation, 2008.

International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT), 2008.

International Workshop on Sensor Networks and Ambient Intelligence, 2008, 2009, 2010.

International Workshop on Petri Nets Tools and Applications (PN-TAP), 2008.

International Workshop on Petri Nets and Distributed Systems (PNDS), 2008

International Workshop on Petri Nets and Software Engineering (PNSE), 2009, 2010.

International Workshop on Network Simulation Tools, 2009.

International Workshop on Localized Algorithms and Protocols for Wireless Sensor Networks, 2007, 2009.

International Workshop on Teaching Concurrency, 2007.

International Workshop on Practical Use of Coloured Petri Nets and the CPN Tools, 2004, 2005, 2006, 2007, 2008, 2009.

International SPIN Workshop on Model Checking of Software, 2006.

International Workshop on Formal Methods Applied to Defence Systems, 2002 (co-chair).

Reviewer for more than 30 international journals, conferences, and workshops.

ADMINISTRATION

International contact for student exchange at the Departmetn of Computer Engineering, Bergen University College, since 2009.

Member of the PhD commitee, Department of Computer Science, University of Aarhus, 2007-2009.

Member of the teaching commitee for technical IT, electrical, and optical engineering, Aarhus Graduate School of Engineering.

Member of the technical advisory board for the joint electronics and IT educations of Aarhus Graduate School of Enginering and the University of Aarhus, 2008-2009.

Member of the Danish Censor Corpus for Computer Science, since 2006.

Member of the steering commitee for the SensoByg innovation consortium under the Danish Agency for Science, Technology, and Innovation.

Member of the Departmental Advisory Board, Department of Computer Science, University of Aarhus, since 2004.

Member of the seminar commitee, Department of Computer Science, University of Aarhus.

Member of the Organising Commitee for the International Conference on Application and Theory of Petri Nets, 2000, 2002.

Chair of Tool Presentations at the International Conference on Application and Theory of Petri Nets, 2002.