

Curriculum vitae Michael Mattsson

1. Formal education and academic appointments

1.1 Degrees

- 2000 Ph.D. (Teknologie Doktor) in Software Engineering, Dept. of Software Engineering and Computer Science, University of Karlskrona/Ronneby (renamed to Blekinge Institute of Technology), Sweden.
- 1996 Licentiate of Technology (Teknologie Licentiat) in Computer Science, Dept. of Computer Science, Lund University, Sweden
- 1988 Master of Science in Mathematics, University of Växjö, Sweden

1.2 Appointments

- 2006- Deputy Vice Chancellor (vicerektor), Blekinge Institute of Technology, Sweden, November 2006 – January 2011
- 2009-2010 Acting University Director, Blekinge Institute of Technology, Sweden, November 2009 to August 2010
- 2006 Deputy Vice Chancellor (vicerektor), Blekinge Institute of Technology, Sweden, February 2006 to May 2006, Area: Identification of New Multi-disciplinary Areas for Research and Education
- 2005-2006 Member of the Educational Strategy Board, School of Engineering, Blekinge Institute of Technology, Sweden, March 2005 to June 2006
- 2004-2005 Head of Department, Department of Systems and Software Engineering, Blekinge Institute of Technology, Sweden, April 2004 to June 2005
- 2002-2004 Head of Department, Department of Software Engineering and Computer Science, Blekinge Institute of Technology, Sweden, July 2002 to March 2004
- 2000-2002 Director of undergraduate studies (including M.Sc. education), Department of Software Engineering and Computer Science, Blekinge Institute of Technology, Sweden, January 2000 to June 2002
- 1996 Director of undergraduate studies (including M.Sc. education) within Software Engineering and Computer Science, Department of Computer Science and Business Administration, University of Karlskrona/Ronneby (renamed to Blekinge Institute of Technology), Sweden

2. Proofs of academic excellence

- 2004 Blekinge Institute of Technology's award "Prominent pedagogical achievements". Motivation in Swedish:
"Michael Mattsson har under lång tid varit en engagerad och drivande utvecklare av nya utbildningar vid BTH samtidigt som han inspirerat kolleger i denna utveckling. Han har tagit en mängd initiativ till förnyelse, förädling och förbättring. Hans driftighet, bredd och förmåga att effektivt slutföra utvecklingsuppdrag är imponerande. Michael Mattsson arbetar för hela BTH. Också som akademisk ledare har hans gåvor nyttjats."

3. Professional experience and services

3.1 Employment and appointments

3.1.1 Employments

- 2000- Assistant Professor (universitetslektor) in Software Engineering, Blekinge Institute of Technology, Sweden, www.bth.se
- 1992-2000 Lecturer (universitetsadjunkt) in Software Engineering, University of Karlskrona/Ronneby (now Blekinge Institute of Technology), Sweden, www.bth.se
- 1988-1992 Consultant, Elektronikcentrum i Svängsta AB, Sweden, www.ec.se, Consultant company in Computer and Software Engineering

3.1.2 Appointments

- 2009 Appointed to Docent (Associate Professor) in Software Engineering at Blekinge Institute of Technology

3.2 Boards etc.

3.2.1 Industry-academia research collaboration boards

- 2008 - Vice chair of the board for EASE - the Industrial Excellence Centre for Embedded Applications Software Engineering, a 10 year software engineering initiative with the following members and sponsors, Blekinge Institute of Technology, Lund University, Sony Ericsson, Ericsson, ABB, VINNOVA, ease.cs.lth.se
- 2008-2010 Member of the steering group for ESWERC- Ericsson SoftWare Research Center, collaboration project with Ericsson and funded by Ericsson. Research is carried out in the following areas, Distributed development, Software asset reuse and Software value

3.2.2 Third stream activities boards

- 2006- Deputy board member (replacing the vice chancellor) of TelecomCity, www.telecomcity.org, a cluster organization in mobile telecommunication
- 2006- Deputy board member of Netport.Karlshamn AB, www.netport.se, a cluster organization in digital media, experience-based learning, and logistics

3.2.3 Academic boards

- 2002-2003 Chairman of the Board of Department of Software Engineering and Computer Science, Blekinge Institute of Technology, July 2002 to December 2003
- 2002 Deputy Chairman of the Board of Department of Software Engineering and Computer Science, Blekinge Institute of Technology, Sweden, January 2002 to June 2002

3.2.4 University wide workings groups

- 2005 Project leader and main investigator for identifying new future potential student groups at Blekinge Institute of Technology on behalf of the Vice Chancellor. This was one of six simultaneous strategic projects at the university.
- 2004 Member of the working group for development of new internal economical model at Blekinge Institute of Technology on behalf of the Vice Chancellor. In total 3 people in the group.
- 2003 Member of the working group for improved administrative processes regarding initiation and approval of new courses and study programmes at Blekinge Institute of Technology on behalf of the Vice Chancellor. In total 4 people in the group.
- 2003 Member of the working group for defining scope and budget for a faculty pedagogical development program at Blekinge Institute of Technology on behalf of the Vice Chancellor. In total 5 people in the group.

3.3 Scientific journals

- 2005 Guest co-editor of a special issue on “ Trade-off Analysis of Software Quality Attributes” for the Software Quality Journal

3.4 Scientific conference committees

- 2004- Editor for Product Lines area, IEEE Software Engineering Online, IEEE Computer Society, a web portal for software engineering knowledge,
- 2008 Member of program committee of the conference Software Engineering Research and Practice in Sweden (SERPS'08), Karlskrona, Sweden, November 4-5, 2008
- 2007 Member of program committee of the conference Software Engineering Research and Practice in Sweden (SERPS'07), Göteborg, Sweden, October 24-25, 2007
- 2007 Member of program committee of the Global Requirements Engineering Workshop, GREW'07, Munich, Germany, August 27, 2007
- 2006 Member of program committee member of the Software Process and Product Improvement (SPPI) track of Euromicro on Software Engineering and Advanced Applications, Cavtat/Dubrovnik, Croatia, August 28 to September 1, 2006
- 2006 Member of program committee of the Sixth Conference on Software Engineering Research and Practice in Sweden, SERPS'06, October 18-19, 2006, Umeå, Sweden
- 2005 Member of program committee member of the Software Process and Product Improvement (SPPI) track of Euromicro on Software Engineering and Advanced Applications, August 30- September 3, 2005, Porto, Portugal
- 2005 Member of program committee of the conference Software Engineering Research and Practice in Sweden (SERPS)
- 2002 Conference chair, Second Conference on Software Engineering Research and Practice in Sweden, SERPS'02, October 24-25 2002, Ronneby, Sweden
- 2001-2004 Initiator and member of program committee and steering committee of the conference Software Engineering Research and Practice in Sweden (SERPS)

3.5 Industry seminars

- 2005 Organizer and Chair, "Model Driven Architecture and Test - Research and Industry Experiences", Blekinge Software Engineering Seminars Four industry speakers and three academic speakers, number of participants 45 (23 from industry).

3.6 Scientific expert reviewer

3.6.1 Reviewer for international scientific journals

- 2008 Journal of System and Software, Elsevier B.V
- 2006 Empirical Software Engineering: An International Journal, Kluwer
Academic Publishers
Information and Software Technology, Elsevier B.V.
- 2005 Software, IEEE Computer Society
Information and Software Technology, Elsevier B.V.
- 2003 Information and Software Technology, Elsevier B.V.
Journal of Software Maintenance: Research and Practice,
John Wiley & Sons, Ltd.

3.6.2 Reviewer for conferences (when not member of program committee)

- 2005 The Seventeenth International Conference on Software Engineering
and Knowledge Engineering, July 14 to 16, Taipei, Taiwan, Republic
of China

4. Research projects

4.1 Major projects

- 2002-2008 Member of project management team for a profile project on engineering of software qualities, Blekinge - Engineering Software Qualities (BESQ). The project is funded by the KK Foundation in Sweden. The maximum funding is 36 MSEK for six years. The project was granted after an international evaluation. In total four projects out of 22 project proposals were granted funding. Industry funding (in kind) was approximately 54 MSEK.
- 2000-2001 Swedish project leader for a research project funded by ITEA (Nutek), ESAPS - Engineering software architectures, Processes and Platforms for System-Families, ITEA project #99005, Participating Swedish organizations: University of Karlskrona/Ronneby, Combitech Systems, Axis and Ericsson (Stockholm).
- 1999-2001 Project member of "ESAPS - Engineering software architectures, Processes and Platforms for System-Families", ITEA project #99005, a European community industry-university collaboration project in the area of software product line architecture and software product lines. Mattsson's technical work concerned object-oriented frameworks as product-line architecture components and software architecture evaluation.
- 1990-1994 Project member of "REBOOT - Reuse Based on Object-Oriented Techniques, ESPRIT III project #7808, a four year European community industry-university collaboration project in the area of software reuse based on object technology. In the REBOOT project Mattsson worked mainly with development methods for and with software reuse and training activities. The work was carried out when Mattsson was employed at Elektronikcentrum i Svängsta AB and when employed at University of Karlskrona/Ronneby

4.2 Grants

- 2002-2008 C. Wohlin, L. Lundberg, M. Mattsson and Y. Dittrich, BESQ – Blekinge Engineering Software Qualities, funded by the Knowledge Foundation, 36 million SEK in cash funding and matching (in-kind funding) from industry 54 million SEK. The vision of the project was 'Quality-balanced software'. My area of expertise was software architecture. The project had 20 sub-projects and 8 industrial partners.
- 2008 M. Mattsson, "Research, development and innovation in support of Blekinge", funded by Region Blekinge, the project aims at strengthen the Blekinge Institute of Technology's profile in software-intensive systems, knowledge exchange to SMEs, and strategic recruitment, Project volume 10 million SEK. The BTH net cash share 5 million SEK.

- 2008 M. Mattsson, R. Torkar, CROWN, a small research school in software engineering, together with Växjö university, funded by Sparbanksstiftelsen Kronan, Project volume 1 787 000 SEK. The BTH net cash share 898 000 SEK.
- 2008 M. Mattsson, R.Lidén, “ICT Blekinge”, funded by the European Regional Development Fund Skåne-Blekinge. Joint project aimed to support key areas in mobile services and software development of importance for economic growth between BTH and TelecomCity, This project has enabled a closer cooperation between companies and the university resulting in better company-student contacts, projects about innovation and regional growth. Project volume 13.9 million SEK, BTH share 5.15 million SEK, net cash share 3.15 million SEK
- 2007 M. Mattsson, R.Lidén, S. Henningsson, “Pre study in Media and ICT”, funded by the European Regional Development Fund Skåne-Blekinge. Joint project aimed to identify key areas in mobile services, moving media and software development of importance for economic growth between BTH, Netport.Karlshamn and TelecomCity, Project volume 2.8 million SEK, BTH share 0.4 million SEK, net cash share 0.2 million SEK
- 2007 M. Mattsson, “I3- infrastructure for ICT Innovation”, funded by Region Blekinge, a project supporting lab infrastructure. Project volume 1.9 millions SEK, BTH net cash share 900 000 SEK

4 External examiner

4.3.1 Ph. D. exams

1. Chairman of the Ph.D. committee for Rikard Land, Department of Department of Computer Science and Electronics, Mälardalen University, supervised by Professor Ivica Crnkovic. Thesis title: “Software Systems In-House Integration: Observations and Guidelines concerning Architecture and Process ”, 2006
2. Member of the Ph.D. committee for Enrico Johansson, Department of Communication systems, Lund Institute of Technology, Lund University, supervised by Associate Professor Dr. Martin Höst. Thesis title: “Quality Improvement with Focus on Performance in Software Platform Development”, 2005
3. Chairman of the Ph.D. committee for Tomas Panas, School of Mathematics and Systems Engineering, Växjö University, supervised by Professor Welf Löwe. Thesis title: “A Framework for Reverse Engineering”, 2005

4.4.2 Licentiate level

1. Opponent on Licentiate exam for Fredrik Öberg (supervised by Prof. Göran Goldkuhl), University of Linköping, Sweden. Thesis title: “Object-oriented Frameworks - A New Strategy for CASE Tool Development”, 1998
2. Opponent on Licentiate exam for Håkan Petersson (supervised by Prof. Claes Wohlin), University of Lund, Sweden. Thesis title: “On Fault Content Estimations Applied to Software Inspections and Testing”, 2000

5. Teaching

I have been responsible for 10 courses during the years; Object-oriented Systems Development, Computer Science 1 (C++), Object-oriented Design Patterns and Frameworks, *Software Metrics*, *Software Economics*, *Advanced software engineering topic*, *Product Line Architecture*, Individual Software Engineering Project, Data Structures and Algorithms in C++, Software Engineering. In addition I have taught at the following courses; Analysis and Design Methods, Small Team Software Engineering Project, Large Team Software Engineering Project, Software Architecture.

I have developed the following courses; Object-oriented Systems Development, Software Engineering, Object-oriented Design Patterns and Frameworks, *Software Metrics*, *Software Economics*, *Advanced software engineering topic*, *Product Line Architectures*.

In addition, I have been responsible for the master thesis course in software engineering that includes matching of student topics, companies and supervisors, planning of presentation and defence of the student's thesis as well as being the formal examiner.

6. Supervision

6.1 Master level supervision

1. Per Ströberg and Martin Kihl, "Economical Considerations in Framework Reuse", In Swedish, Co-supervised with Anders Nilsson (Lecturer in Business Administration), in Swedish, 15 ECTS credits, 1995. Note: Subject area Business Administration
2. Magnus Östvall, "Introducing product line reuse: a reuse assessment approach", 22,5 ECTS credits, 1998
3. Jonas Nilsson, "Identifying Test-Effort Consuming Software Modules", 30 ECTS credits, 1999
4. Christian Holmström and Rolf Svensson, "Realization of a theoretical framework model: life is too short to rewrite code", 15 ECTS credits, 1999
5. Magnus Nilsson and Thorbjörn Eriksson, "Modernization of Legacy Software", 15 ECTS credits, 2001
6. Per Jönsson and Frans Mårtensson, "Software Architecture Simulation", 30 ECTS credits, 2002
7. Johan Nilsson and Martin Persson, "Modifying an architecture for interface customization support", 30 ECTS credits, 2002
8. Asim Rahman, "Metrics for the Structural Assessment of Product Line Architecture", 30 ECTS credits, 2004
9. Imran Baig, "Measuring Cohesion and Coupling of Object-Oriented Systems -

Derivation and Mutual Study of Cohesion and Coupling” 30 ECTS credits, 2004

10. David Granflo, “Increasing availability in existing software systems - An assesment of three-tire replication”, 30 ECTS credits, 2004

6.2 Ph.D. level supervison

6.2.1 Doctoral courses taught

1. Responsible and teacher for a Ph.D. course “Experimentation in Software Engineering”, 7.5 ECTS credits, Blekinge Institute of Technology, 2000
2. Responsible and teacher for a Ph.D. course “Software Product Lines Management”, 7.5 ECTS credits, Blekinge Institute of Technology, 2007

6.2.2 Licentiate exams in software engineering (as main advisor/advisor)

Licentiate degrees (approx. half the effort of a doctoral exam in Sweden):

1. Tony Gorschek. Thesis title: “Software Process Assessment and Improvement in Industrial Requirements Engineering”, Blekinge Institute of Technology, Sweden, sucessfully defended 2004-06-15, advisor
2. Kennet Henningsson. Thesis title: “A Fault Classification Approach to Software Process Improvement”, Blekinge Institute of Technology, Sweden, sucessfully defended 2005-03-21, advisor
3. Per Jönsson..Thesis title: “Impact Analysis - Organisational Views and Support Techniques”, Blekinge Institute of Technology, Sweden, succesfully defended 2005-04-21, advisor
4. Frans Mårtensson, “Software Architecture Quality Evaluation —Approaches in an Industrial Context“, Blekinge Institute of Technology, Sweden, sucessfully defended 2006-02-28, 2006, main advisor

6.2.3 Doctoral degrees in software engineering (as advisor)

1. Mikael Svahnberg, Thesis title: “Supporting Software Architecture Evolution: Architecture Selection and Variability”, Blekinge Institute of Technology, Sweden, sucessfully defended 2003-10-31, advisor from 2001-11-21

6.2.4 Renounced Supervision

I renounced my supervisionship for two Ph.D. students due to my appointed to deputy vice-chancellor (an ethical decision since there would not be sufficient time for a fair supervision).

1. Hanna Scott, Thesis title: “Towards a framework for fault and failure prediction and estimation”, Blekinge Institute of Technology, Sweden, sucessfully defended 2008-09-01, 2005-10-08 to 2007-05-17 advisor. Change due to appointment to

deputy vice chancellor.

2. Mahvish Khurum, Thesis work ongoing, Blekinge Institute of Technology, Sweden, 2006-11-26 to 2007-05-17, main advisor. Change due to appointment to deputy vice chancellor.

7. Academic Management and Leadership Training

- 2009- Higher Education Leadership Program held by The Association of Swedish Higher Education, one candidate per Swedish university was selected by the Vice-chancellors, October 2009 to January 2011, in total 9 times á 3 days
- 2004-2005 7 day course in Research Management, held by FENIX Center for Research on Knowledge & Business Creation, Stockholm School of Economics and Chalmers University of Technology.
- 2005 2 day workshop about “Graduate Schools in Europe: How can they enhance university research?”, London, organized by the European University Association
- 2005 Appointed by the Vice Chancellor as one of two university candidates for the programme “To Manage in Academia 2020”, organized by IDAS, www.idas.nu