

JOHAN MALMQVIST

CURRICULUM VITAE

Personal information

Name: Johan Malmqvist
Date of birth: September 30, 1964
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Professional address and contact information

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Education

Docent 1997 in Machine and Vehicle Design at Chalmers University of Technology, Göteborg, Sweden

Tekn. doktor (Ph.D.) 1993 in Machine and Vehicle Design at Chalmers University of Technology, Göteborg, Sweden

Tekn. licentiat (Lic.Eng.) 1991 in Machine and Vehicle Design at Chalmers University of Technology, Göteborg, Sweden

Civilingenjör (M.Sc.Eng.) 1988 in Mechanical Engineering at Chalmers University of Technology, Göteborg, Sweden

Positions

2005:- **Chair Professor** (professor) in Product Development in the Department of Product & Production Development, Chalmers University of Technology, Göteborg.

2004-: **Dean of Education** at Chalmers University of Technology, Göteborg, Sweden. Responsible for three Msc programs (sw. civilingenjör) and six BEng/BSc programs (sw. högskoleingenjör). Also responsible for overall quality of Chalmers bachelor and master level education.

2001-2005: **Professor** (biträdande professor) in Product Development in the division of Product & Production Development, the Department of Mechanical Engineering, Chalmers University of Technology, Göteborg.

1998-2004: **Vice Dean** in the Department of Mechanical Engineering, Chalmers University of Technology, Göteborg, Sweden. Responsible for the MSc program (sw. civilingenjör) in Mechanical Engineering.

1998-2001: **Associate professor** (docent) in the division of Machine and Vehicle Design in the Department of Mechanical Engineering, Chalmers University of Technology, Göteborg, Sweden.

1994-1997: **Assistant professor** (forskarassistent) in the division of Machine and Vehicle Design in the Department of Mechanical Engineering, Chalmers University of Technology, Göteborg, Sweden.

Research interests

- Systems engineering, especially requirements management, including product-service system development
- Product lifecycle management (PLM), especially configuration and PLM implementation processes
- Curriculum development based on the CDIO (Conceive-Design-Implement-Operate) approach
- Quality assurance and enhancement of engineering education

Publications

Five books and ca 110 academic papers. See separate list.

Externally funded research projects

2010-2011: **Project leader** for project “**MASIT+**”

The aim of this project is to identify what approaches manufacturing firms adopt today when they develop new service ideas towards commercialisation. What challenges are experienced? Moreover, what kind of data and method support is needed at different decision points of the service development process, and how do these differ from the decision points in the development of traditional products? The project was sponsored by the Swedish Agency for Innovation Systems (Vinnova), and run in collaboration with Volvo.

2009-2011: **Project leader** for project “**Configuration Rule Management**”

The purpose of this project is to create tools and strategies in order to understand what’s driving documentation complexity, how to reduce it in order to make engineering documentation more efficient. The project is sponsored by the Swedish Agency for Innovation Systems (Vinnova), and run in collaboration with Saab Automobile, Volvo Cars and Volvo Trucks.

2008-2009: **Sub-project leader** for project “**MASIT**”

The project developed a methodology for creation of innovative services. The methodology includes methods for problem analysis, for service concept generation, and for service concept evaluation. A co-creative approach is adapted where representatives from the service provider and its customers collaborate to develop new services. The project was sponsored by the Swedish Agency for Innovation Systems (Vinnova), and run in collaboration with Volvo Technology and Green Cargo.

2009-2010: **Sub-project leader** for project “**DOCET / EQF-CDIO Correspondence model for the recognition and Enhancement of engineering degrees**”

The DOCET project aims to develop and test an EQF-CDIO correspondence model able to enhance the attractiveness of European higher engineering degrees and improve their recognition by worldwide students and universities, strengthening the links between the University and the labour market, promote the use of the EQF for the recognition and improvement of engineering degrees. The project is lead by the Politecnico di Milano and includes partners in Italy, Sweden, France, Spain, Canada and the United States. The project is funded through the Erasmus Mundus programme.

2007-2009: **Sub-project leader** for project “**Common Product Model for Requirements Management and Model-Based Development**”

The project aims to develop and implement an environment for vehicle electronics development. Specific issues to be considered are product information models, tools and appropriate work practices. The project is sponsored by the Swedish Governmental Agency for Innovation Systems (Vinnova) and Scania, and run in collaboration with Scania and KTH.

2006-2007: **Project leader** for project “**Swedish Engineering Education Network**”

The project aimed to establish a common approach for writing program and course goals for all Swedish engineering educational programmes, facilitating comparisons, quality development and student mobility. The project is part of the Swedish implementation of the Bologna agreement. 23 universities and with about 150 educational programmes took part. The project was sponsored by the Swedish Agency for Networks and Cooperation in Higher Education.

2006-: **Sub-project leader** for project “**Knowledge Based Engineering Systems in the Product Development Process**”

The aim of this project is to create a vision for the future use of KBE systems in product development processes, along with a strategy to fulfil that vision. The project has a ten-year perspective. The project is sponsored by the Swedish Governmental Agency for Innovation Systems (Vinnova), and run in collaboration with the Volvo Technology.

2003-2007: **Co-project leader** for project “**Requirements-driven Product Platform Development**”

Project sponsored the Swedish Foundation for Strategic Research, and run in collaboration with Volvo Cars, Volvo IT, Saab Automobile and Pharmadule-Emtunga. The project investigated how to represent and use

requirement, variant and platform product information in the context of an integrated, requirements-driven product life cycle model for multi-technological products

2001-2006: **Co-project leader** for project “**Product Data Management for Multi-technology Products**”.

Project sponsored by Swedish Governmental Agency for Innovation Systems (VINNOVA), and run in collaboration with the division of Transportation and Logistics at Chalmers, the Swedish Institute for Production Research, Dresser Wayne, Gambro, Volvo Car and Ericsson. The project aimed to develop and implement a unified model for management of product data for products based on multiple technologies, such as mechanics, electronics and software.

2000-: **Co-project leader** for “**The Wallenberg CDIO program for Reformed Engineering Education**”.

Project sponsored by the Knut & Alice Wallenberg Foundation and run in collaboration with Linköping University, Massachusetts Institute of Technology and the Royal Institute of Technology. The project aims at reforming engineering education by making the conception, design, implementation, and operation of technical systems its context.

1999-2004: **Sub-project leader** for project “**Integrated Product and Process Modelling**”.

Project sponsored by Swedish National Board for Technical Development (NUTEK, now renamed VINNOVA) and run in collaboration with Volvo Car, Kockums Naval Systems, the Swedish Institute for Production Research and Jönköping University. The project aims at developing and implementing an integrated product and process model that supports the entire product lifecycle, including requirements, functions, geometry, properties, manufacturing processes and so on.

1995-2000: **Project leader** for project “**PDM2000 - Integrated Product Data Management**”.

Project sponsored by Swedish National Board for Technical Development and run in collaboration with CelsiusTech Electronics, Celsius Aerotech, Volvo Cars and Volvo Trucks. The overall aim was to develop and implement a vision for product data management in the year 2000.

Educational assignments

Teaching & course development

Examiner and developer of four undergraduate courses:

- Introduction to Mechanical Engineering (1995-1999)
- Visual Simulation for Product Development (1997-2002)
- CAD & PDM (2002-2006)
- Product Lifecycle Management (PLM) (2008-2011)

Examiner for approximately 50 MSc thesis projects, 1994-present

Examiner for PhD courses:

- Design Methodology, literature course (1996, 2003)
- Integrated Product Development (1998-2002)
- Design Methodology (with MM Andreasen and LTM Blessing) (1999)
- Modeling of Engineering Processes, Systems and Organizations (with SD Eppinger) (2001)

Teacher in Chalmers professional development programs for engineering managers (1994-present)

Educational leadership, programme development and scholarship

2011-present: **Project leader** for Chalmers effort to prepare for national evaluation of engineering programs

The evaluation is similar to an accreditation process, but includes several novel elements including a national ranking of the programs. The effort comprises ca 50 bachelor and master programs.

2010-2011: **Project leader** for project “**N5T project Peer Evaluation of Master Programs**”.

The aim of this project was to develop, implement and evaluate a method for peer evaluation of engineering programs, applied to master programs at the N5T universities, the Norwegian University of Science and Technology, TU Denmark, Aalto University, the Royal Institute of Technology (KTH) and Chalmers University of Technology.

2009-2010: **Sub-project leader** for project “**DOCET / EQF-CDIO Correspondence model for the recognition and Enhancement of engineering degrees**”.

The projects developed and tested an EQF-CDIO correspondence model able to enhance the attractiveness of European higher engineering degrees and improve their recognition by worldwide students and universities, and to promote the use of the EQF for the recognition and improvement of engineering degrees. The project partners came from five countries.

2006-2007: **Project leader** for project “Swedish Engineering Education Network” (2006-2007).

The project aimed to establish a network including all Swedish engineering educational programmes, facilitating exchange of experiences, quality development and student mobility. The project was part of the Swedish implementation of the Bologna agreement. 23 universities and with about 150 educational programmes took part. The project was sponsored by the Swedish Agency for Networks and Cooperation in Higher Education.

2004-present: **Dean of education**, Chalmers

Responsible for three Msc programs (sw. civilingenjör) and six BEng/BSc programs (sw. högskoleingenjör, sjökaptan, sjöingenjör). Also responsible for overall quality of Chalmers first and second cycle education. Was a main actor in Chalmers’ implementation of the Bologna framework. Member of Chalmers executive committee for education.

2000-present: **Co-director** for international **CDIO (Conceive-Design-Implement-Operate) Initiative** for reformed engineering education

The Initiative was founded by Chalmers, Massachusetts Institute of Technology, The Royal Institute of Technology and Linköping University, and has now grown to ca 90 universities from 25 countries.

1998-2004: **Programme chair**, MScEng (sw. Civilingenjör) programme in **Mechanical Engineering**, Chalmers

Initiated and lead first part of effort that ultimately awarded Chalmers’ Mechanical engineering programme the status of Centre of Excellence in Higher Education, issued by the Swedish National Agency for Higher Education (2008), and Teknikföretagen’s Engineering Education of the Year award (2012).

1998: **Project leader** for project “**Design at Chalmers University of Technology**”

The project aimed to coordinate research and education activities within the area of “Design” at Chalmers, including creating a new international master’s program in Automotive Industrial Design Engineering in collaboration with the Design Institute, Umeå University.

1995-2004: **Member of education committee M**, Chalmers

Educational publications:

Co-authored book “*Rethinking Engineering Education - The CDIO Approach*”. ISBN/ISSN: 978-0-387-38287-6 Springer-Verlag, New York, 2007. (With EF Crawley, S Östlund and DR Brodeur). Translated into Spanish, Chinese and Vietnamese.

Published ca 40 papers on engineering education in scientific journals and conference proceedings.

PhD student supervision

Main advisor for six graduated PhDs (Daniel Svensson, 2003; Krister Sutinen, 2004; Lars Almfelt, 2005; Trond Zimmerman, 2008; Dag Bergsjö, 2009; Amer Catic, 2011)

Main advisor for six graduated Licentiates of Engineering (Peter Pikosz, 1997; Johan Malmström, 1998; Samir Mesihovic, 2004; Karl Hallin, 2004, Anna Tidstam, 2012)

Member of advisory committee for one graduated PhD (Tobias Holmqvist, Chalmers, 2004)

External advisor for three graduated PhDs (Gunilla Sivard, KTH, 2001; Michael Blackenfeldt, KTH, 2001; Björn Avak, ETH Zürich, 2005) and one graduated Licentiate of Engineering (Jörgen Sidén, KTH, 2002).

Currently main advisor for 2 PhD students

Conference organization

Initiator and conference chair for “NordPLM’06” (2006) and for “NordPLM’09” (2009). The conference series aims to create a Nordic forum for presenting and exchanging new research results and experiences from industrial applications of PLM.

Conference chair for 7th Product Structuring Workshop (2004). International workshop on the development of product platform development.

Member of national organization committee for ICED 03, Stockholm, 2003

Theme chair at ICED 11, Copenhagen, 2011

Member of international advisory committee for conferences: NordDesign 2002-2012, IJIE 2003, Design 2002-2012, ICED 2007-2011, ConnectED 2007, 1st-8th International CDIO Conferences (2005-2012), ICoRD 2009-2013.

Conference paper reviewer for INCOSE, ICED, Design, ConnectED, MMEP, PLM, TMCE and the ASME Design Theory and Methodology conferences.

Journals

Member of editorial boards for Journal of Industrial Engineering, 1997-2003; Engineering Education: The Journal of the Higher Education Academy Engineering Subject Centre, 2006-; Journal of Engineering Design, 2006-; International Journal of Quality Assurance in Engineering and Technology Education, 2009-

Journal paper reviewer for CAD, Concurrent engineering, Design Studies, European Journal of Engineering Education, International Journal of Production Research, Journal of Computers and Information Science in Engineering, Journal of Computers in Industry, Journal of Engineering Design, Journal of Industrial Engineering, Journal of Mechanical Design, Research in Engineering Design

External commissions

External evaluator for academic positions and degrees

External reviewer (“sakkunnig”) for assistant professor/professor appointments: KTH (1999, 2010), Karlstad University (2001), Trollhättan University College (2003), Lund University (2005) and Dalarna University (2005), Skövde University (2006), Umeå University (2008), Technical University of Denmark (2008, 2009, 2012), Aarhus University (2011), Luleå University of Technology (2012).

Opponent/external examiner at PhD defences: Timo Lehtonen (Tampere University of Technology, 2007), Marcus Sandberg (Luleå University of Technology, 2007), Eduard Sevtsenko (Tallinn University of Technology, 2008), Gudmundur Valur Oddson (Technical University of Denmark, 2008), Tero Juuti (Tampere University of Technology, 2008), Ole Fiil Nielsen (Technical University of Denmark, 2010), Morten Kvist (Technical University of Denmark, 2010).

Member of dissertation committees or equivalent; Petri Makkonen (KTH, 1999), Stephan Eskilander (KTH, 2001), Johan Andersson (Linköping University, 2001), Trond Lamvik (Norwegian Institute of Science and Technology, 2001), Mark Lange (KTH, 2001), Parviz Ahari, (KTH, 2003), Björn Johansson (Linköping University, 2003), Erik Herzog (Linköping University, 2004), Tapio Korpela (Oulu University, 2004), Peter Almström (Chalmers, 2005), Seppo Suistoranta (Tampere University of Technology, 2007), Martin Ivarsson (Chalmers University of Technology, 2010), Kristofer Bengtsson (Chalmers University of Technology, 2012) Jorma Nevaranta (Tampere University of Technology, 2012)

External examiner for licentiate thesis; Peter Ringstad (Linköping university, 1996), Fredrik Börjesson (KTH, 2012)

External evaluator for research centers, programs and proposals

External evaluator of research proposals: Estonia, Competence centre application (2009), Luxemburg National Research Fund, PhD project proposal (2010), Germany-Israel, Germany-Israeli Scientific Foundation, Project proposal (2012).

Expert, ACER AHELO Expert Group (2010)

Assessor, KTH Education Assessment Exercise (2011)

Scientific expert, evaluation of Competence Center, Estonia (2012)

Expert, evaluation of study programmes in Production and Manufacturing, Lithuania (2012)

Bibliographics

Data from Google Scholar October 08, 2012

Number of publications: 120

Citations: 1174

Most cited publication: 348

h-index: 16

i10-index: 31

Invited talks

Invited talks at universities in Jönköping, Umeå, Porto, Wismar, Lund, Esbo (Metropolia), Barcelona, Turku, Tokyo, Copenhagen, Gdansk, Zagreb, Ho Chi Minh City, Brest.

Invited guest speaker at Produktmodeller-2000, SULF 2001, RET 2004, A2E2 2010, CDIO 2011, CDIO 2012, ICEE 2012, numerous presentations at industrial and consulting companies

Awards

Saab-Scania award, 1992 (for Licentiate thesis)

Professional societies

Co-director for the CDIO Initiative (2000-present)

Member of the board for professional societies; SigPM (Special Interest Group for Product Models, 2000-2006), INCOSE Sweden (2000-2003).

Member of the Design Society

NordDesign steering committee

Publications

PhD thesis

Malmqvist, J. (1993) *Towards Computational Design Methods for Conceptual and Parametric Design*. Chalmers University of Technology, Göteborg, Sweden.

Licentiate thesis

Malmqvist, J. (1991) *Product Models and Optimization in a Design System for Complex Products*. Chalmers University of Technology, Göteborg, Sweden.

Master of Science thesis

Malmqvist, J. (1988) *Driveline Simulation Model*. Chalmers University of Technology, Göteborg, Sweden.

Books

Culley, S., Hicks, B., McAloone, T., Howard, T., Malmqvist, J. (editors) (2011) *Proceedings of the 18th International Conference on Engineering Design (ICED11)*, Vol. 5: Design for X, Design to X.. ISBN/ISSN: 978-1-904670-25-4.

Malmqvist, J., Gustafsson, G. (editors) (2009) *Proceedings of the 2nd Nordic Conference on Product Lifecycle Management - NordPLM'09*. ISBN/ISSN: 978-91-975079-7-4, Chalmers University of Technology, Göteborg, Sweden.

Crawley, E. F., Malmqvist, J. Östlund, S., Brodeur, D. R. (2007) *Rethinking Engineering Education - The CDIO Approach*. ISBN/ISSN: 978-0-387-38287-6 Springer-Verlag, New York

Malmqvist, J., Berglund, F. (editors) (2006) *Proceedings of NordPLM'06 - the 1st Nordic Conference on Product Lifecycle Management*, Chalmers University of Technology, Göteborg, Sweden.

Malmqvist, J. (editor) (2004) *Product Platform Development – Proceedings of the 7th Workshop on Product Structuring*, Chalmers University of Technology, Göteborg, Sweden.

Papers

2012

Bokinge, M., Malmqvist, J. PLM implementation guidelines – relevance and application in practice: a discussion of findings from a retrospective case study. *International Journal of Product Lifecycle Management*, (1) pp. 79-98.

Bokinge, M., Levandowski, C., Malmqvist, J., Johannesson, H. A Method to Identify Risks Associated with a PLM Solution. *Proceedings of 9th International Conference on Product Lifecycle Management*, Montréal, Canada.

Högfeldt, A.-K., Cornell, A., Cronhjort, M., Jerbrant, A., Lyng, R., Kantola, R., Malmi, L., Lundqvist, U., Malmqvist, J., Hussman, P. M., Villadsen, J., Brattebö, H., Torvatn, T. Program leadership from a Nordic perspective - Managing education development. *Proceedings of 8th International CDIO Conference*, Brisbane, Australia.

Levandowski, C., Bokinge, M., Malmqvist, J., Johannesson, H. PLM as Support for Global Design Reuse - Long Term Benefits and Immediate Drawbacks. *Proceedings of 9th International Conference on Product Lifecycle Management*, Montréal, Canada.

Malmqvist, J. A. Comparison of the CDIO and EUR-ACE Quality Assurance Systems. *International Journal of Quality Assurance in Engineering and Technology Education (IJQAETE)*, 2 (2) pp. 9-22.

Hussmann, P. M., Bisi, A., Malmqvist, J., Carlsson, B., Lysne, H., Högfeldt, A.-K. Peer Evaluation of Master Programs: Closing the Quality Circle of the CDIO Approach?. *International Journal of Quality Assurance in Engineering and Technology Education (IJQAETE)*, 2 (2) pp. 67-79.

Rissanen, N., Malmqvist, J., Pulkkinen, A. Evaluating the Structural Complexity of a Product Family. *Proceedings of Design 2012*, Dubrovnik, Croatia, pp. 1597-1604.

Tidstam, A., Bligård, L.-O., Ekstedt, F., Voronov, A., Åkesson, K., Malmqvist, J. Development of Industrial Visualization Tools for Validation of Vehicle Configuration Rules. *Proceedings of 9th International Symposium on Tools and Methods of Competitive Engineering*, 7-11 May, Karlsruhe, Germany.

Voronov, A., Tidstam, A., Åkesson, K., Malmqvist, J. Verification of Item Usage Rules in Product Configuration. *Proceedings of 9th International Conference on Product Lifecycle Management*, Montréal, Canada.

2011

Bokinge, M., Malmqvist, J. Challenging Requirements Management Issues in PLM Implementation - Findings from a Retrospective Case Study. *Proceedings of 8th International Conference on Product Lifecycle Management*, Eindhoven, The Netherlands.

Crawley, E., Malmqvist, J., Lucas, W., Brodeur, D. The CDIO Syllabus v2.0. An Updated Statement of Goals for Engineering Education. *Proceedings of 7th International CDIO Conference*, Copenhagen, Denmark.

Enelund, M., Larsson, S., Malmqvist, J. Integration of Computational Mathematics Education in the Mechanical Engineering Curriculum. *Proceedings of 7th International CDIO Conference*, Copenhagen, Denmark.

Malmqvist, J., Knutson Wedel, M., Enelund, M. Constructive Alignment (CA) for Degree Projects - Intended Learning Outcomes, Teaching and Assessment. *Proceedings of 7th International CDIO Conference*, Copenhagen, Denmark.

Munkebo Hussman, P., Bisi, A., Malmqvist, J., Carlsson, B., Lysne, H., Högfelft, A-K. Peer Evaluation of Master Program - Closing the Quality Circle of CDIO Programs? *Proceedings of 7th International CDIO Conference*, Copenhagen, Denmark.

Rexfelt, O., Almfelt, L., Zackrisson, D., Hallman, T., Malmqvist, J., Karlsson, M. A Proposal for a Structured Approach for Cross-company Teamwork: A Case Study of Involving the Customer in Service Innovation. *Research in Engineering Design*, 22 (3) pp. 153-171.

Tidstam, A., Malmqvist, J. Authoring and Verifying Vehicle Configuration Rules. *Proceedings of 8th International Conference on Product Lifecycle Management*, Eindhoven, The Netherlands.

2010

Bergsjö, D., Almfelt, L., Dinar, M., Malmqvist, J. Customizing Product Data Management for Systems Engineering in an Informal Lean-Influenced Organization, *Systems Research Forum*, Vol. 4(1): 101-120.

Bergsjö, D., Almfelt, L., Malmqvist, J. Supporting Requirements Management in Embedded Systems Development in a Lean-Influenced Organization. *Proceedings of DESIGN 2010*, Dubrovnik, Croatia.

Bergsjö, D., Mahmoud, D., Malmqvist, J. Customizing PDM for Systems Engineering Process. *Proceedings of CSER 2010*, Paper #1569270849.

Castelli, A., Marinoni, C., Bisagni, C., Brodeur, D., Crawley, E., Causi, A., Fortin, C., Malmqvist, J., Maury, C. An Integrated CDIO-EQF Framework for Europe. *Proceedings of 6th International CDIO Conference*, Montreal, Canada.

Catic, A., Malmqvist, J. Requirements Management when Introducing New Mechatronic Sub-Systems – Managing The Knowledge Gaps. *Proceedings of DESIGN 2010*, Dubrovnik, Croatia.

Catic, A., Malmqvist, J. Implementing a Wiki to Capture and Share Engineering Knowledge. *Proceedings of NordDesign 2010*, pp. 171-184. ISBN/ISSN: 978-91-633-7064-9, Gothenburg, Sweden.

Malmqvist, J., Bankel, J., Enelund, M., Gustafsson, G., Knutson Wedel, M. Ten Years of CDIO - Experiences from a Long-Term Education Development Process. *Proceedings of the 6th International CDIO Conference*, Montreal, Canada.

Tidstam, A., Malmqvist, J. Information Modelling for Automotive Configuration. *Proceedings of NordDesign 2010*, Gothenburg, Sweden.

Yström, A., Peterson, L., von Sydow, B., Malmqvist, J., Using Personas to Guide Education Needs Analysis and Program Design. *Proceedings of 6th International CDIO Conference*, Montreal, Canada.

2009

Crawley, E., Malmqvist, J., Lucas, W., Brodeur, D., Modification to the CDIO Syllabus: Updates and Expansions to include Leadership and Entrepreneurship. *Proceedings of the 5th International CDIO Conference*, Singapore.

Kero, T., Bergsjö, D., Catic, A., Malmqvist, J., Söderberg, R., Andersson, M., Assessing Methods for Management of R&D Process Information. *International Association for Management of Technology, IAMOT 2009 Proceedings*.

Knutson Wedel, M., Rychwalski, R., Rigdahl, M., Malmqvist, J., Persson, G., Karlsson, B. Experiences of and Improvement of Writing Skills in a Lecture Based Course in Polymeric Materials. *Proceedings of the 5th International CDIO Conference*, Singapore.

Malmqvist, J., Gustafsson, G. [editor(s)]. *Proceedings of the 2nd Nordic Conference on Product Lifecycle Management - NordPLM'09*. Göteborg : Chalmers University of Technology. ISBN/ISSN: 978-91-975079-7-4

Malmqvist, J., A Comparison of the CDIO and EUR-ACE Quality Assurance Systems. *Proceedings of the 5th International CDIO Conference*, Singapore.

Malmqvist, J., Sadurskis, A. Quality Assurance of Engineering Education in Sweden. *Engineering Education Quality Assurance - A Global Perspective*, ISBN/ISSN: ISBN: 978-1-4419-0554-3

Saalman, E., Peterson, L., Malmqvist, J. Lessons Learned from Developing and Operating a Large-Scale Project Course. *Proceedings of the 5th International CDIO Conference*, Singapore.

Ström, M., Malmqvist, J. Jokinen, K. Redesign of the Engineering Change Process of a Supplier in the Automotive Industry. *Proceedings of the 2nd Nordic Conference on Product Lifecycle Management - NordPLM'09*, pp. 221-234. Göteborg, Sweden.

2008

Bergsjö, D., Catic, A., Malmqvist, J. Implementing a Service Oriented PLM Architecture Focusing on Support for Engineering Change Management. *International Journal of Product Lifecycle Management*, vol 3(4): 335-355.

Bergsjö, D., Catic, A., Malmqvist, J. Implementing a Service Oriented PLM Architecture Using PLM Services 2.0. *Proceedings of Design-2008*, Dubrovnik, Croatia, pp. 271-280.

Bergsjö, D., Catic, A., Malmqvist, J. Towards Integrated Modelling of Product Lifecycle Management Information and Processes. *Proceedings NordDesign 2008*, Tallinn, Estonia.

Catic, A., Bergsjö, D., Malmqvist, J. Supporting Engineering Change Management by Integrating KBE and PLM in a Service Oriented Architecture. *Proceedings of PLM08*, Seoul, Korea.

Crawley, E., Cha, J., Malmqvist, J., Brodeur, D. On Engineering Education Environment, *Research in Higher Education of Engineering*, No 4. In Chinese.

Crawley, E., Cha, J., Malmqvist, J., Brodeur, D. The Context of Engineering Education. *Proceedings of the 4th International CDIO Conference*, Gent, Belgium.

Knutson Wedel, M., Malmqvist, J., Arehag, M., Svanström, M. Implementing Engineering Education for Environmental Sustainability into CDIO Programs. *Proceedings of the 4th International CDIO Conference*, Gent, Belgium.

Malmqvist, J., Gunnarsson, S., Vigild, M. Faculty Professional Competence Development Programs - Comparing Approaches from Three Universities. *Proceedings of the 4th International CDIO Conference*, Gent, Belgium.

2007

Berglund, F., Malmqvist, J. CDIO-Based Master Programme in Product Development. *Proceedings of the 3rd International CDIO Conference*, Cambridge, Massachusetts, USA.

Berglund, F., Malmqvist, J. Experiences from developing a Master's programme in Product Development. *Proceedings of the International Conference on Design Education (Connected 2007)*, Sydney, Australia.

Bergsjö, D., Vielhaber, M., Malvius, D., Burr, H., Malmqvist, J. Product Lifecycle Management for Cross-X Engineering Design. *Proceedings of ICED'07*, Paris, France.

Catic, A., Malmqvist, J., Towards Integration of KBE and PLM. *Proceedings of ICED'07*, Paris, France.

Knutson Wedel, M., Malmqvist, J., Goodhew, P. CDIO Applied in the Context of Materials Science. *Proceedings of the 3rd International CDIO Conference*, Cambridge, Massachusetts, USA.

Malmqvist, J., Arehag, M. Experiences from Using Integrated Program Descriptions to Support Program Development. *Proceedings of the 3rd International CDIO Conference*, Cambridge, Massachusetts, USA.

Träff, P.-A., Knutson Wedel, M., Gustafsson, G., Malmqvist, J. To Rescue Eggs - A Design-Build-Test Experience for Children. *Proceedings of the 3rd International CDIO Conference*, Cambridge, Massachusetts, USA.

Zimmerman, T., Malmqvist, J. Facilitating Interdisciplinary PLM through Usage of Hub Methodology and 3D Lightweight Visualisation Data. *Proceedings of ICED'07*, Paris, France.

2006

Almefelt, L. Berglund, F., Nilsson, P., Malmqvist, J. Requirements management in practice: findings from an empirical study in the automotive industry. *Research in Engineering Design*, 17 (3) pp. 113-134.

Bergsjö, D., Malmqvist, J., Ström, M. Architectures for Mechatronic Product Data Integration in PLM Systems. *Proceedings of Design-2006*, pp. 1065-1076. Dubrovnik, Croatia.

Bergsjö, D. Malmqvist, J., Ström, M. Implementing Support for Management of Mechatronic Product Data in PLM Systems - Two Case Studies. *Proceedings of IMECE2006 2006 ASME International Mechanical Engineering Congress and Exposition*, Chicago, USA.

Malmqvist, J. Edström, K., Gunnarsson, S., Östlund, S. The Application of CDIO Standards in the Evaluation of Swedish Engineering Degree Programmes. *World Transactions of Engineering and Technology*, 5 (2) pp. 361-364.

Malmqvist, J.; Östlund, S.; Edström, K. Using Integrated Programme Descriptions to Support a CDIO Programme Design Process. *World Transactions on Engineering and Technology Education*, 5 (2) pp. 259-262.

Malmqvist, J., Östlund, S., Edström, K. Integrated Program Descriptions – A Tool for Communicating Goals and Design of CDIO Programs. *Proceedings 2nd International CDIO Conference*. Linköping, Sweden.

Zimmerman, T., Bergsjö, D., Malmqvist, J. Coordinating the Engineering and Aftermarket Disciplines in Early Phases of Product Development. *Proceedings NordPLM'06*, pp 13-26. Göteborg, Sweden.

2005

Andersson, S. B., Malmqvist, J., Knutson Wedel, M., Brodeur, D. R. A Systematic Approach to the Design and Development of Design-Build-Test Project Courses. *Proceedings ICED-05*, Melbourne, Australia.

Crawley, E. F., Edström, K., Malmqvist, J., Soderholm, D. H., Östlund, S. Curriculum Design Based on the CDIO Model, *Proceedings of SEFI-05*, Ankara, Turkey.

Knutson Wedel, M., Boldizar, A., Malmqvist, J. Active Learning Through Group Dialogue in a Project Course on Environmentally Adapted Product Development. *Proceedings 1st Annual CDIO Conference*, Kingston, Canada.

Malmqvist, J., Edström, K., Gunnarsson, S., Östlund, S. Use of CDIO Standards in Swedish National Evaluation of Engineering Educational Programs. *Proceedings 1st Annual CDIO Conference*, Kingston, Canada.

Young, P. W. Malmqvist, J., Hallström, S. Kutteneuler, J., Svensson, T., Cunningham, G. C, Design and Development of CDIO Student Workspaces – Lessons Learned. *Proceedings ASEE-05*, Portland, Oregon.

2004

Hallin, K., Zimmerman, T., Malmqvist, J. Towards a Framework for Integrated Information Management in Mechatronic Product Development. *Proceedings of NordDesign-2004*, Tampere, Finland.

Malmqvist, J., Young, P. W., Hallström, S., Kutteneuler, J., Svensson, T. Lessons Learned from Design-build-test-based Project Courses. *Proceedings of Design-2004*, Dubrovnik, Croatia.

Mesihovic, S., Malmqvist, J., Pikosz, P. Product Data Management (PDM) System-Based Support For Engineering Project Management. *Journal of Engineering Design*, vol 15(4): 389-403.

Mesihovic, S., Malmqvist, J. A Process-oriented Approach for Management of Product Configuration Models. *Proceedings of ASME DETC-2004, Paper No DETC2004-57384*, Salt Lake City, Utah, USA.

Sutinen, K., Gustafsson, G., Malmqvist, J. Computer Support for Requirements Management in an International Product Development Project. *Proceedings of ASME DETC-2004, Paper No DETC2004-57329*, Salt Lake City, Utah, USA.

Zimmerman, T., Hallin, K., Malmqvist, J. Information Model for the Mechatronic Product focusing the Functional Abstraction. *Proceedings of Design-2004*, Dubrovnik, Croatia.

2003

Almefelt, L., Andersson, F., Nilsson, P., Malmqvist, J. *Requirements Management in Practice – Findings from an Empirical Study in the Automotive Industry*. Submitted to *Research in Engineering Design*. Short version presented at ICED 03.

Almefelt, L., Sutinen, K., Malmqvist, J. Computer Support for Systematic Design Applied in a Cross-functional Commercial Concept Development Project. *Concurrent Engineering – Research and Applications, vol 11(2): 107-120*.

Andersson, F., Sutinen, K., Malmqvist, J. Product Model for Requirements and Design Concept Management: Representing Design Alternatives and Rationale. *Proceedings of INCOSE-2003*, Washington, USA.

Berggren, K. F., Brodeur, D. R., Crawley, E. F., Ingemarsson, I., Litant, W. T., Malmqvist, J. & Östlund, S. CDIO: An International Initiative for Reforming Engineering Education. *World Transactions on Engineering and Technology Education, Vol 2, No 1, pp 49-52*.

Hallin, K., Zimmerman, T., Svensson, D., Malmqvist, J. Modelling Information for Mechatronic Products. *Proceedings of ICED 03*, Stockholm.

2002

Brodeur, D. R., Crawley, E.F., Ingemarsson, I., Malmqvist, J., Östlund, S. International Collaboration in the Reform of Engineering Education, *Proceedings of ASEE-2002*, Montreal, Canada.

Gustafsson, G. Malmqvist, J., Newman, D., Stafström, S. Wallin, H.-P. (2002) Towards A New Model for First-Year Introductory Courses in Engineering Programmes. *Proceedings of NordDesign-2002*, Trondheim, Norway.

Malmqvist, J. A Classification of Matrix-Based Methods for Product Modeling. *Proceedings of Design-2002*, Dubrovnik, Croatia.

Malmqvist, J., Young, P. W., Östlund, S., Berggren, K.-F., Crawley, E. F. Setting Goals for Design Education – An Approach Based on the CDIO Syllabus. *Proceedings NordDesign-2002*, Trondheim, Norway.

Sutinen, K., Almefelt, L., Malmqvist, J. Supporting Concept Development Using Quantitative Requirements Traceability. *Proceedings of INCOSE-2002*, Las Vegas, NA, USA.

Svensson, D., Malmqvist, J. Strategies for Product Structure Management at Manufacturing Firms. *ASME Journal of Computing and Information Science in Engineering*, vol 2(1): 50-58.

2001

Malmqvist, J. Implementing Requirements Management – A Task for PDM Systems or Specialized Software Tools? *Systems Engineering*: vol 4, no 1, pp 49-57.

Sutinen, K., Katchounov, T., Malmqvist, J. Using Distributed Database Queries and Composable Mediators to Support Requirements Analysis. *Proceedings of INCOSE'2001*, Melbourne, Australia.

Svensson, D., Malmqvist, J. Integration of Requirement Management and Product Data Management Systems. *Proceedings of DETC'2001*, Paper No DETC2001/CIE-21246, Baltimore, USA.

2000

Isaksson, O., ..., Malmqvist, J., *et al.* Trends in Product Modelling - an Endra Perspective. *Proceedings Produktmodeller-2000*, pp 65-88, Linköping, Sweden.

Mesihovic, S. & Malmqvist, J. Product Data Management (PDM) System Support for the Engineering Configuration Process. In *Proceedings of ECAI-2000, Configuration Workshop*, Berlin, Germany, August 21-23, 2000.

Mesihovic, S. & Malmqvist, J. PDM System Based Support for the Sales-Delivery Process of Engineer-to-Order Products. *Proceedings Produktmodeller-2000*, pp 157-172, Linköping, Sweden.

Sutinen, K., Almefelt, L., Malmqvist, J. Implementation of Requirements Management in Systems Engineering Tools, *Proceedings Produktmodeller-2000*, pp 313-330, Linköping, Sweden.

Svensson, D., Malmqvist, J. Cooperation Between Requirement Management Systems and PDM Systems in the Design Process. *Proceedings Produktmodeller-2000*, pp 297-312, Linköping, Sweden.

1999

Malmqvist, J., Svensson, D. A Design Theory Based Approach Towards Including QFD Data in Product Models. *Proceedings of ASME DETC'99*, Paper No DETC99/DTM-8769, Las Vegas, NA, USA

Malmström, J., Pikosz, P., Malmqvist, J. Complementary Roles of IDEF0 and DSM for the Modeling of Information Management Processes. *Concurrent Engineering: Research & Applications*, vol 7(2): 95-104.

Svensson, D., Malmström, J., Pikosz, P., Malmqvist, J. A Framework for Modelling and Analysis of Engineering Information Management Systems. *Proceedings of ASME DETC'99*, Paper No DET99/CIE-9006, Las Vegas, NA, USA.

1998

Pikosz, P., Malmqvist, J. A Comparative Study of Engineering Change Management in Three Swedish Engineering Companies. *Proceedings of ASME DETC'98*, Paper No DET98/EIM-5684, Atlanta, GA, USA.

Malmström, J., Malmqvist, J. Trade Off Analysis in Product Structures: A Case Study at Celsius Aerotech. *Proceedings of NordDesign'98*, pp 187-196, Stockholm.

1997

Egan, M. Malmqvist, J. The Use of a Computerised Chromosome Model as a Classification of Design for Assembly Redesigns. *Proceedings of the 3rd WDK Workshop on Product Structuring*, Delft, Nederländerna.

Malmqvist, J. Improved Function-Means Trees by Inclusion of Design History Information. *Journal of Engineering Design*, vol 8(2): 107-118.

Malmqvist, J. Ingenjörsmetodik - en ny kurs för första året på Maskintekniklinjen på Chalmers. *Presenterad vid Maskinkonstruktörsdagarna '97*, Linköping.

Malmqvist, J., Schachinger, P. Towards an Implementation of the Chromosome Model - Focusing the Design Specification. *Proceedings of ICED'97*, vol 3: 203-212, Tampere, Finland.

Pikosz, P., Malmström, J., Malmqvist, J. Strategies for Introducing PDM Systems in Engineering Companies *Advances in Concurrent Engineering - 97*, pp 425-434. Rochester, MI, USA

1996

Malmqvist, J., Axelsson, R. and Johansson, M. A Comparative Analysis of the Theory of Inventive Problem-Solving and the Systematic Approach of Pahl and Beitz. *Proceedings of ASME DTM'96*, Paper No 96DETC/DTM-1529, Irvine, CA, USA

Pikosz, P., Malmqvist, J. Possibilities and Limitations when using PDM Systems to support the Product Development Process. *Proceedings of NordDesign '96*, pp 165-176, Esbo, Finland, 1996.

Lanner, P and Malmqvist, J. An Approach Towards Considering Technical and Economic Aspects in Product Architecture Design. *Proceedings of NordDesign '96*, pp 263-271, Esbo, Finland.

1995

Malmqvist, J. A Computer-Based Approach towards Including Design History Information in Product Models and Function-Means Trees. *Proceedings of ASME DTM'95*, pp 593-602, Boston, MA, USA

1994

Malmqvist, J. Computational Synthesis and Simulation of Dynamic Systems. *Proceedings of ASME DTM'94*, pp 221-230, Minneapolis, MN, USA

Malmqvist, J. Computer-Aided Conceptual Design of Energy-transforming Technical Systems based on Technical Systems Theory and Bond Graphs. In *Computer Aided Conceptual Design. Proceedings of the 1994 Lancaster International Conference on Engineering Design*, pp 59-78, Lancaster, UK.

Johannesson, H. L., Malmqvist, J. and Söderberg, R. Theoretical and Methodological Base for Computer Aided Design. In *Proceedings of the CIRP International Workshop on Design Theory and Methodology*, pp 85-86, Stockholm.

1993

Malmqvist, J. Computer-Aided Conceptual Design of Energy-transforming Technical Systems. *Proceedings of ICED-93*, pp 1541-1550, Haag, Nederländerna.

1992

Malmqvist, J. Optimization in a Design System for Complex Products. *Advances in Design Automation - 1992*, pp 95-102. DE-Vol. 44-1. Book No. H0770A, ASME.

1990

Malmqvist, J. A Design System for Parametric Design of Complex Products, In *Advances in Design Automation - 1990*, pages 17-24. DE-Vol. 23-1. Book No. H0622A, ASME.

Reports

Malmqvist, J. (2006) Relation between the Dublin Descriptors and Program Goal Statements based on the CDIO Syllabus. Technical Report, Chalmers University of Technology, Göteborg, Sweden.

Hallin, K., Johansson, E., Malmqvist, J., Ström, M., Zimmerman, T. (2004) Hur dokumenteras produkter som innehåller inbyggda system – en jämförande studie från tre företag. Teknisk rapport, inst för Produkt- och Produktionsmodellering, Chalmers tekniska högskola, Göteborg och IVF, Mölndal

Malmqvist, J., Rask, I., Sunnersjö, S. (2004) IT-stöd för samordnad framtagning av produkter och produktionssystem. Teknisk rapport, inst för Produkt- och Produktionsmodellering, Chalmers tekniska högskola, Göteborg, IVF, Mölndal och Högskolan i Jönköping.

Andersson, D,, Malmqvist, J. et al. (2002) Sammanhållen informationsmodell för inbyggda system. Teknisk rapport, inst för Produkt- och Produktionsmodellering, Chalmers tekniska högskola, Göteborg och IVF, Mölndal.

Fuxin, F.,..., Malmqvist, J. et al. (2000) Produktmodellering i amerikansk verkstadsindustri. Reserapport. Endrea Produktmodelleringskluster.

Sutinen, K., Almefelt, L., Malmqvist, J. (2000) IT-systemstöd för systematisk konstruktion med tillämpning på cockpit/driving unit. Technical Report, Maskin- och fordonskonstruktion, Chalmers tekniska högskola, Göteborg.

Malmqvist, J. (1999a) Modellering av utvecklingsprocesser. Teknisk rapport, Maskin- och fordonskonstruktion, Chalmers tekniska högskola, Göteborg.

Malmqvist, J. (1999b) Kravdrivna integrerade produkt- och processmodeller, Teknisk rapport, Maskin- och fordonskonstruktion, Chalmers tekniska högskola, Göteborg.

Malmqvist, J., Pikosz, P. (1995) Koppling mellan produktframtagningsmodell, produktokumentation och PDM-system. Teknisk rapport, Maskin- och fordonskonstruktion, Chalmers tekniska högskola, Göteborg.

Educational materials

Malmqvist, J. (2002-2006) CAD & PDM Course binder.

Malmqvist, J. (1998-2001) Visual Simulation for Product Development Course binder.

Malmqvist, J. (1995-1999) Introduction to Mechanical Engineering Course binder.

Malmqvist, J. (2008) Product Lifecycle Management (PLM) Course binder.