Faculty engaged in the graduate study programme

ADIT: Database and Information Techniques

Patrick Lambrix, Ph. D., Linköping 1996. Associate professor (*docent,* universitetslektor).

Bioinformatics and intelligent information systems: knowledge representation, organization and management of information, information retrieval, ontologies, integration of biological databases.

Nahid Shahmehri, Ph. D., Linköping 1991. Professor of computer science. Group leader, IISLAB and EDSLAB. Head of the Division for Database and Information Techniques. Previous affiliation: Carlstedt Elektronik AB.

Engineering information systems and applications, information security, peer-to-peer computing, Internet and mobile services, information retrieval and information extraction.

Lena Strömbäck, Ph. D.,Linköping 1997. Assistant professor *(universitetslektor)*. Previous affiliations: Assistant professor, NLPLAB, Linköping University, Coordinator of research activities at Nokia Home Communications.

Multimedia databases, information extraction, functionalities for intelligent homes.

Juha Takkinen, Ph. D., Linköping 2002. Assistant professor (*forskarassistent*).

Intelligent Informations Systems: information retrieval and filtering, electronic mail and the semantic web, work-flow and task management.

AIICS: Artificial Intelligence and Integrated Computer Systems

Marcus Bjäreland, Ph. D., Linköping 2001. Assistant professor (*vik. universitetslektor*), computer science.

Artificial Intelligence, Knowledge Representation, Execution Monitoring, Constraint satisfaction, Reasoning about Action and Change.

Patrick Doherty, Ph. D., Linköping 1991. Professor of computer science. Group leader, KPLAB. Head of the Division for Artificial Intelligence and Integrated Computer Systems.

Artificial Intelligence, Knowledge Representation, Autonomous Systems, Deliberative/Reactive Systems, Reasoning about Action and Change, Planning, Non-monotonic Reasoning.

Anders Haraldsson, Ph. D., Linköping 1977. Associate professor *(bitr professor)*, computer science. Head of the department of computer science, 1990-1999. Chair of the board of undergraduate studies for the computer science and engineering programmes at Linköping Institute of Technology. Previous affiliation: Uppsala.

Programming languages and systems, programming methodology, program manipulation, partial evaluation.

Witold Lukaszewicz, Ph. D., 1979 in Warsaw University. On leave from College of Economics and computer science TWP Olsztyn.

Research interests include reasoning about action, non-monotonic reasoning, planning and knowledge base update.

Erik Sandewall, Ph. D., Uppsala 1969. Professor of computer Science. Group leader, CASL. Director of the WITAS project. Chairman of the Board for the National Graduate School in computer science (CUGS). Director of Linköping University Electronic Press.

Representation of knowledge with logic, reasoning about action and change, cognitive robotics, autonomous agents.

HCS: Human-Centered Systems

Lars Ahrenberg, Ph. D., Uppsala 1987. Professor of computational linguistics. Group leader, NLPLAB. Head of the Division for Human-Centered Systems.

Syntax, semantics and pragmatics of natural language; dialogue systems, natural language; machine-aided translation, parallel corpora.

Nils Dahlbäck, Ph. D., Linköping 1992. Associate professor (*universitetslektor*), cognitive science. Deputy/Dean in the Arts and Science faculty

Natural language processing, especially empirically based computational models of discourse. Individual differences in cognitive styles and abilities, including learning styles, and their relationship to hypermedia navigation and IT-based learning. Cultural differences in social responses to media.

Henrik Eriksson, Ph. D., Linköping 1991. Associate professor (*docent, universitetslektor*), computer science. Previous affiliations: Stanford University, Stanford, CA, 1991-94 and the Swedish Institute of computer science (SICS) 1996-97.

Knowledge-based systems, knowledge acquisition, ontologies, semantic web, medical informatics, software development environments, command-and-control systems, Internet-based applications, and Java programming

Niklas Hallberg, Ph. D., Linköping 1999. Assistant professor (*forskarassistent*), informatics.

System development, requirements engineering, organizational development, quality methods, participatory design, information technology.

Erik Hollnagel, Ph. D., Århus 1981. Professor of Human-Computer Interaction. Several previous affiliations in Denmark, England and Norway.

Cognitive systems engineering, risk and reliability analysis, user modelling and simulations, decision support and expert systems

Sture Hägglund, Ph. D., Linköping 1980. Professor of knowledge-based systems. Deputy head of the department of computer science. Manager Industry Research School. Group leader, ASLAB. Previous affiliation: Uppsala.

Expert systems and artificial intelligence applications, database technology, human-computer interaction, intelligent tutoring systems and software engineering.

Erland Jungert, Ph. D., Linköping 1980, consulting professor (*docent, adjungerad professor)* geographical information systems and computer science. Main affiliation: Swedish Defense Research Establishment (FOI).

Qualitative spatial reasoning, geographical information systems, database technology, visual languages.

Arne Jönsson, Ph. D., Linköping 1993. Associate professor (*docent*, *universitetslektor*), computer science. Director of undergraduate studies for the Cognitive Science program. Previous affiliation: Monash University, Clayton, Australia, 1994-95.

Artificial intelligence, natural language processing, dialogue systems, especially empirically based computational dialogue models.

Rita Kovordányi, Ph. D., Linköping 1999. Assistant professor (*forskarassistent*), computer science. Previous affiliation: Lund University.

Cognitive technology, cognitive modelling, cognitively based agents in adaptive support systems, visual reasoning.

Bertil Lyberg, Ph. D., Stockholm 1981. Consulting professor (*adjungerad professor*), speech technology. Manager of spoken language processing, Telia Research AB. Research Affiliate, Research Laboratory of Electronics, M.I.T. 1982-83.

Text-to-speech conversion, speech recognition, speech-to-speech translation, prosody in speech synthesis and recognition.

Hans Marmolin, Ph. D., Uppsala 1973. Consulting professor *(adjungerad professor)*, human-computer interaction, especially information psychology. Previous affiliation KTH and others.

Human-computer interaction, usability engineering, cognitive ergonomics, user interface design.

Magnus Merkel, Ph. D., Linköping 1999. Assistant professor (*universitetslektor*), computational linguistics.

Natural language processing, computational support for writing and translation; machine-aided translation, parallel corpora, information extraction.
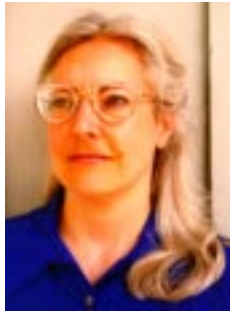
Kjell Ohlsson, Ph. D., Umeå 1982. Professor at the Department of Mechanical Engineering. Part time at the Department of Computer and Information Science, human-computer interaction. Previous affiliations Umeå, Luleå and others.

Human-computer interaction, usability engineering, cognitive ergonomics, decision making, psycho acoustics.

Eva Ragnemalm, Ph. D., Linköping 1999. Assistant professor (*universitetslektor*), computer science.

Intelligent tutoring systems, simulation based tutoring systems, student modelling and user modelling, human-computer interaction.

Nancy Reed, Ph. D., University of Minnesota 1995. Assistant professor (*universitetslektor*), computer science. Previously at University of California, Davis.

Autonomous agents, knowledge-based systems, modelling human expert reasoning, real-time systems and specification languages for agents. Current application areas are agents in dynamic simulation environments and knowledge-based systems in diagnosis.

Åke Sivertun, Ph. D. Umeå 1993. Assistant professor (*universitetslektor*), geoinformatics. Group leader, GIS-Lab.

Geographical Information Systems - GIS. Communication of complex data and linking multi disciplinary models in GIS. Research in environmental programs, programs for medical geography, physical planning and decision support.

Toomas Timpka, MD., Stockholm 1983, Ph. D., Linköping 1989. Professor of Social Medicine and Public Health Sciences. Part time at the Department of Computer and Information Science, informatics. Group leader, MDA.

Hypermedia, computers and society, human-computer interaction, systems development.

Shumin Zhai, Ph. D., University of Toronto, 1995. Guest Professor, Human-Computer Interaction. Research Staff Member, IBM Almaden Research Center, San Jose, California.

Advanced user interfaces; interaction devices and methods; multi-dimensional, multi-stream, multi-hand, and multi-modal input; human performance modeling and experimentation.

ISM: Information Systems and Management

Leif Appelgren, Lic.Eng. Consulting professor (*adjungerad professor*), economic information systems. Previous academic appointments with Linköping and Handelshöyskolen Bl, Norway. Several previous affiliations. Current affiliation: Leif Appelgren Consulting AB.

Measurement and audit methods related to economic crime prevention. Trust issues in electronic commerce B2C.
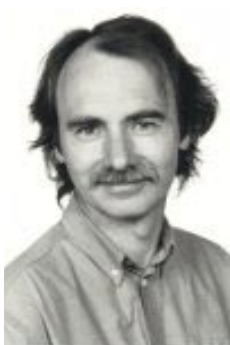
Karin Axelsson, Ph. D., Linköping 1998. Assistant professor (*forskarassistent*), information systems development.

Information systems architecture, theories on information systems development, inter-organisational business development, qualitative research methods.

Stefan Cronholm, Ph. D., Linköping 1998, Assistant professor (*universitetslektor*), computer science. Co-leader, VITS. Director of undergraduate studies for the Information Systems Analysis Program.

Theories/methods on business process and information systems development, method modelling, qualitative research methods, method tools, usability.

Göran Goldkuhl, Ph. D., Stockholm 1980. Professor of information systems development. Group leader, VITS. Part time professor of informatics, Jönköping International Business School. Research director VITS network. Research director at Centre for studies on Man, Technology and Organization. Previous affiliations: Stockholm, Göteborg.

Communicative action theories and methods for evaluation and design concerning inter-organisational networking, business processes, information systems, human-computer interaction, electronic commerce and knowledge management. Method modelling and renewal. Qualitative research approaches.

Anna Moberg, Ph. D., Linköping 1997. Assistant professor, (*forskarassistent*), economic information systems.

IT and organisational design, e-work, telework, callcentre, non-territorial office, organisational communication, location.

Fredrik Nilsson, Ph. D., Linköping 1997. Consulting professor (*adjungerad professor*), strategy and management control systems. Senior Manager at Deloitte Consulting.

Strategy and management control, environmentally-driven business development, valuation and accounting of intangible assets, production control.

Nils-Göran Olve, Econ. Dr., Stockholm 1977. Consulting professor (*adjungerad professor*), management control. Positions with the Stockholm School of Economics and EIASM in Brussels. Partner in Cepro Management Consultants (now Concours Cepro AB) since 1986.

Management issues arising from IT-enabled business change, especially how accounting, control, and pricing could be modified to provide information and incentives appropriate for the new business situation.

Birger Rapp, Econ. Dr., Stockholm 1974, Professor of economic information systems. Group leader, EIS. Head of the Division for Information Systems and Management. Director of the Swedish Research School of Management and Information Technology, M.I.T.. Among many other appointments president of the board of the Swedish Teleworking Association, Distansforum and program director in Management and Economic Information Systems at IMIT.

Accounting, business control, agency theory, IT and organization, production, economics.

Rolf Rundfelt, Ph. D., Stockholm 1974. Consulting professor (*adjungerad professor*), economic information systems, especially in Swedish and international Financial Accounting. Docent in Business Administration, University of Stockholm. Since 1966, lecturer at the University of Stockholm.

Bengt Savén, Econ. Dr., Linköping 1995. Consulting professor (*adjungerad professor*), change management. Director within Saab Commercial Programs since 1997.

Main interests in Computer Simulation in Change Processes, Process Management and Manufacturing Planning and Control.

Vivian Vimarlund, Ph. D. Linköping 1999. Assistant professor (*forskarassistent*), informatics.

Health informatics and the organizational and societal economic effects of the development, use and implementation of Information and Communication Technology (ICT). Economic. Human-computer interaction, and development of methods and models for Economic Evaluation of user centered approaches to develop Information Systems.

Alf Westelius, Econ. Dr., SSE Stockholm, 1996. Assistant professor (*universitetslektor*), economic information systems, especially electronic commerce and knowledge management. Previous affiliations: The Stockholm School of Economics, the Ministry of Culture.

Knowledge management, project management, electronic commerce, change management and implementation processes.

SaS: Software and Systems

Uwe Assmann, Dr. rer. nat., Karlsruhe, 1995. Associate professor *(docent, universitetslektor)*. Group leader, RISE (Research Center for Integrational Software Engineering) and the Swedish Semantic Web initiative (SWEB). Previous affiliations: Karlsruhe University, INRIA Rocquencourt, GMD. Member of IFIP WG 2.4 System Implementation Techniques.

Software engineering, software composition, aspect oriented development, Semantic Web, graph rewriting, software architecture, program analysis and optimization. Tools: Pike, COMPOST, Optimix, CoSy.

Wlodzimierz Drabent, Ph. D., Warsaw 1985. Associate professor (*docent, universitetslektor*), computer science. Associate professor at the Institute of computer science, Polish Academy of Sciences.

Logic programming: proving properties of programs, types, error diagnosis, constraint logic programming, negation; programming languages semantics.

Petru Eles, Ph. D., Bucuresti 1993. Professor of embedded computer systems. Previous affiliation: Technical University Timisoara, Romania.

Design of embedded systems, design automation for digital systems, real-time systems, hardware/software co-design, computer architectures, concurrent programming, hardware description languages and languages for system specification.

Vadim Engelson, Ph. D., Linköping 2000. Assistant professor (*forskarassistent)*, computer science.

Computer graphics, virtual reality, physics-based simulation, visualization and animation; modelling and simulation environments.

Johan Fagerström, Ph. D., Linköping 1988. Associate professor (*universitetslektor*), computer science.

Distributed systems, object-oriented programming, object-oriented analysis and design, operating systems.

Dag Fritzson, Ph. D., Göteborg 1988. Consulting professor (*adjungerad professor*), engineering information systems especially scientific computing. Previous affiliation Chalmers University of Technology, Göteborg. Current affiliation SKF AB.

Modelling techniques, parallel simulation, visualization, machine element modelling, e.g. rolling bearings.

Peter Fritzson, Ph. D., Linköping 1984. Professor of programming systems and software engineering. Group leader, PELAB. Previous affiliations: Sun Micro Systems, USA, 1985-86, Linköping University Hospital 1976-79. LiU Physics dept., 1975-76.

Programming environments and languages, design languages and simulation environments, scientific computing, debugging tools, incremental compilation technology, compiler generation, compilers and development tools for parallel hardware.

Jörgen Hansson, Ph. D., Linköping University 1999. Assistant professor (*universitetslektor*), Director of CUGS - national graduate school of computer science. Chair of the board of studies for the bachelor's engineeering curriculum at the Linköping Institute of Technology. Previous affiliations: University of Skövde and University of Virginia, Charlottesville.

Real-time systems, database support for embedded and real-time systems, real-time operating systems, distributed systems.

Peter Jonsson, Ph. D., Linköping 1996. Associate professor (*docent, universitetslektor*), computer science.

Construction and analysis of algorithms. Complexity theory.

Christoph Kessler, Ph. D., Saarbrucken, Germany 1994 Associate professor *(docent, universitetslektor)*, for data structures, algorithms, and programming, at PELAB. Director of undergraduate studies for the Software and Systems division (SaS).

Code generation, code optimization, programming parallel computers, design and implementation of parallel programming languages, algorithms and data structures, computational geometry.

Erik Larsson, Ph. D., Linköping 2000. Assistant professor (*vik. universitetslektor*), computer systems.

Design and optimization of hardware test of computer systems, computer architecture, operating systems, computer-aided design of electronic systems.

Mariam Kamkar, Ph. D., Linköping 1993. Professor of software engineering. Head of the department of computer science.

Software engineering, software testing, program debugging, program analysis, optimization in compilers, programming environments and languages.

Jan Maluszynski, Ph. D., Warsaw 1973. Professor of programming theory. Several previous affiliations.

Constraint logic programming, formal methods in computer science.

Simin Nadjm-Tehrani, Ph. D., Linköping 1994. Associate professor *(docent, universitetslektor)*, Real-time Systems, Group leader, RTSLAB.

Modelling and formal verification, Dependable systems, Resource allocation and Fault-tolerance in Distributed systems.

Ulf Nilsson, Ph. D., Linköping 1992. Associate professor (*docent, universitetslektor*), computer science. Associate head of the department of computer science. Director of graduate studies. Group leader, TCSLAB. Previous affiliations: State University of New York at Stony Brook and École Normale Supérieure de Cachan.

Logic programming and constraint programming; Formal verification; Automated fault diagnosis; Program transformation and abstract interpretation.

Zebo Peng, Ph. D., Linköping 1987. Professor of computer systems. Group leader, ESLAB. Head of the Division for Software and Systems.

Design and test of embedded systems, electronic design automation, design for testability, hardware/software co-design, real-time systems, computer architecture, VLSI.

Kristian Sandahl, Ph. D., Linköping 1992. Professor of software engineering. Director of undergraduate studies for the Software and Systems division (SaS).

Industrial software engineering, knowledge management, requirements engineering, software quality, software processes, knowledge engineering, empirical research methods, inspection methods.

Anders Törne, Ph. D., Uppsala 1980. Consulting professor (*adjungerad professor*), computer support in automation. Main affiliation is Xelin Research & Development AB, Linköping.

Tools, methods and architecture for systems engineering and real-time system design. Applications in automation and embedded systems. Real-time programming and specification languages. Robot programming.

Guest researchers and affiliated faculty engaged in the graduate study programme

Sten F. Andler, Ph. D., Carnegie-Mellon University 1979. Professor of computer science, Högskolan i Skövde, (*docent, LiU*), distributed systems, real-time systems, operating systems. Previous affiliations: IBM Software Solutions (1992-93) and Almaden Research Center (1979-92), San Jose, CA.

Distributed real-time systems, real-time databases, active real-time databases, distributed databases, real-time operating systems.

Anders Avdic, Ph. D., Linköping 1999. Senior lecturer *(universitetslektor)*, Örebro University.

End User Computing, Local Systems, Knowledge Management.

Christer Bäckström, Ph. D., Linköping 1992. Associate professor (*docent, universitetslektor*). On leave.

Planning and temporal reasoning, algorithms and complexity, model-based diagnosis.

David Carr, Ph. D., Maryland 1995. Assistant professor (*universitetslektor*), human-computer interaction. Previous affiliations Maryland and Luleå.

User interface design, visualization, computer-supported cooperative work and groupware for teamwork.

Dimiter Driankov, Ph. D., Linköping 1989. Professor of Computer Engineering at the Department of Technology, Örebro University and Research Coordinator for the Center for Applied Autonomous Sensor Systems. Guest researcher at the Division for Artificial Intelligence and Integrated Computer Systems.

Intelligent Control, Fuzzy Systems and Control, Autonomous Robotics.

Owen Eriksson, Ph. D., Linköping 2000, Senior Lecturer (*universitetslektor*), informatics. Co-leader, VITS. Director of undergraduate studies for Informatics at Dalarna University.

Theories/methods on business process and information systems development and evaluation, data base and conceptual modelling, IT and mobility.

Roland Hjerppe, Director of Libraries, Mid Sweden University. Previous Group leader, LIBLAB.

Library science and systems, hypertext and -media, knowledge organization and information retrieval, citation analysis and bibliometrics, personal and everyday life information/document management.

Olof Johansson, Ph. D., Linköping 1996.

Engineering databases, complex product models.

Bengt Lennartsson, Ph. D., Göteborg 1974. Associate professor (*docent, LiU*), software engineering. Group leader, PELAB 1981-88, and head of the Department of computer science 1983-90. Previous affiliation: Carlstedt Elektronik AB, Göteborg 1992-94. Current affiliation ITN, Campus Norrköping.

System development models, development of complex systems, organizational learning.

Mikael Lind, Ph. D. Linköping 2001. Research fellow, information systems development.

Business processes and information systems. Method engineering qualitative research methods, change analysis, knowledge management.

Witold Litwin, Professor University Paris 9. Guest professor Linköping, Stanford, Berkeley, Santa Clara university.

Distributed scalable data structures (SDDSs), multidatabase systems, storage structures, query languages.

Jonas Löwgren, Ph. D., Linköping 1991. Associated professor (*docent, LiU*) of human-computer interaction, 1995. Professor of interaction design, Malmö university college. Research director, Animationens hus, Eksjö.

Interaction design, human-computer interaction.

Anders G. Nilsson, Econ. Dr., Stockholm 1991. Professor of information systems, Karlstad University. Associate professor (*docent, LiU*) of information systems development in 1995. Acting professor of economic information systems in 1992. Previous affiliations: KTH, University of Stockholm and Stockholm School of Economics.

Application packages, business modelling, business process re-engineering (BPR), information management, ISD methods, IS/IT strategies, maintenance management.

Henrik Nilsson, Ph. D., Linköping 1998. Assistant professor (*forskarassistent*), computer science.

Functional programming languages, programming language implementation, functional programming, declarative debugging.

James M. Nyce, Ph. D., Brown 1987. Guest professor (*docent, LiU*) computer and information science. Associate professor, School for Library and Information Management, Emporia State, Emporia, KS, USA. Previous affiliation Brown.

Work and knowledge (medicine and academia); tradition, innovation and technology; hypertext and visual resource development paths.

Andrzej Szalas, Ph. D., Warsaw University 1984. Guest professor. Also a professor in the College of Economics and computer science, Olsztyn, Poland.

Applied logics, knowledge representation, deductive databases.