

# SIGURD MELDAL

**Professor of Computer Engineering,  
Software Engineering and  
Computer Science**

San José State University  
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## EDUCATION

- **Dr. Scient. in Informatics** **1986**  
*University of Oslo*
- **NATO Advanced Science Institute on Concepts of Distributed Programming,** **1984**  
*Marktoberdorf*
- **Cand. Real. in Informatics** **1982**  
*University of Oslo*
- **Cand. Mag.,** with Minor in Mathematics and Statistics **1979**  
*University of Oslo*

## EXPERIENCE

- **Commissioner, Engineering Accreditation Commission (EAC)** **2016 – present**  
*Accreditation Board for Engineering and Technology, Baltimore, MD*
- **Member, California Task Force on Cyber Security** **2014 – 2016**  
*State of California*
- **Director, Silicon Valley Big Data and Cybersecurity Center** **2013 – 2016**  
*San José State University, San José, CA*
- **CEO, Mostly Sunny** **2012 – Present**  
*Menlo Park, CA*
- **Co-Director, NSF Center for Research in Ubiquitous Secure Technologies** **2005 – 2016**  
*University of California, Berkeley, CA*
- **Professor of Computer Engineering, Software Engineering and Computer Science** **2002 – Present**  
*Computer Engineering and Computer Science Departments, San José State University, San José, CA*
- **Chair, Computer Engineering Department** **2002 –**  
**2013**  
*San José State University, San José, CA*

- **Chair, Academic Senate** **2008 – 2009**  
*San José State University, San José, CA*
- **Chair, Computer Science Department** **2000 – 2002**  
*California Polytechnic State University, San Luis Obispo, CA*
- **Professor of Computer Engineering and Computer Science** **2000 – 2002**  
*California Polytechnic State University, San Luis Obispo, CA*
- **Associate Chair, Computer Science Department** **1999 – 2000**  
*California Polytechnic State University, San Luis Obispo, CA*
- **Associate Professor, Computer Science Department** **1997 – 2000**  
*California Polytechnic State University, San Luis Obispo, CA*
- **Professor (Consulting/Visiting), Electrical Engineering Department** **1989 – 1998**  
*Stanford University, Palo Alto, CA*
- **Professor, Department of Informatics** **1990 – 1998**  
*University of Bergen, Bergen, Norway*
- **Director, Computer Science Program** **1997**  
*College of Notre Dame, Belmont, CA*
- **Department Chair, Department of Informatics** **1993 – 1995**  
*University of Bergen, Bergen, Norway*
- **Associate Professor (Visiting)** **1989**  
*Stanford University, Palo Alto, CA*
- **Førsteamanuensis, Department of Informatics** **1987 – 1989**  
*University of Bergen, Bergen, Norway*
- **Fulbright Scholar** **1986 – 1987**  
*Stanford University, Palo Alto, CA*
- **Universitetsstipendiat, Institute of Informatics** **1983 – 1986**  
*University of Oslo, Oslo, Norway*
- **Researcher** **1982**  
*The Norwegian Computing Center, Oslo, Norway*

## LITIGATION CONSULTING

*International Trade Commission; US District Court for the Central District of California; US District Court for the Northern District of California; US District Court for the District of Columbia; US District Court for the District of Delaware; US District Court for the Northern District of Illinois; US District Court for the District of*

*Nevada; US District Court for the Southern District of New York; US District Court for the Eastern District of Texas; US District Court for the Northern District of Texas; US District Court for the Eastern District of Virginia; Superior Court of the State of California, County of Santa Clara; US Bankruptcy Court for the Southern District of Florida, West Palm Beach Division*

## HONORS AND AWARDS

- **Certificate of Special Recognition from the U.S. House of Representatives** **2000**  
Award given in bipartisan recognition of innovative work in software engineering degree design, in particular the integration of industry partners with academic studies.
- **Certificate of Recognition from the California State Assembly** **2000**  
Award given in partisan recognition of innovative work in software engineering degree design, in particular the integration of industry partners with academic studies.
- **The Carl-Erik Fröberg Prize** **1987**  
The Prize is given in odd numbered years to a young Nordic author of a distinguished paper published in the journal BIT.
- **Fulbright-Hays Fellowship** **1986**  
The Fulbright Program is one of the most prestigious awards programs worldwide, with a highly competitive, merit-based grant for international educational exchange for scholars and scientists. Fifty-three Fulbright alumni have won Nobel Prizes; seventy-eight have won Pulitzer Prizes. More Nobel laureates are former Fulbright recipients than any other award program.

## RESEARCH GRANTS, CONTRACTS, AND AWARDS

- **Hightail, Inc.**, Hightail QA Internship Program, \$452,805. **2013 – 2014**
- **Citrix Systems Silicon Valley**, QA Internships, \$218,342. **2012 – 2014**
- **RingCube**, QA Internships, \$940,000. **2007 – 2011**
- **National Science Foundation (NSF)**, Science and Technology Center, Team for Research in Ubiquitous Secure Technology (TRUST), \$963,746. **2005 – 2016**
- **National Science Foundation (NSF)**, Information Assurance Capacity Building Program (IACBP), \$356,000. **2006 – 2009**
- **Intel**, Software Security Laboratory (co-PI), \$40,000. **2005**
- **Samsung Electronics**, Software Engineering Internationalization with Asia, \$60,000. **2005**
- **GREEN Foundation**, Fund for Excellence in Computer Software Engineering, \$500,000. **2000-2004**
- **CalPoly Plan**, Retaining Females in Computer Science Education, \$15,000. **2000 – 2002**

- **CalPoly Plan**, High Demand Courses - Computer Science, \$30,000. **2000 – 2002**
- **Private Donation**, The Bonderson Advanced Software Design Studio, \$1,000,000. **2001**
- **Compaq**, Computer Software Engineering Laboratory, \$35,000. **2001**
- **Compaq**, Static Analysis Tools (requirements phase), \$20,000. **2000 – 2001**
- **Raytheon Systems**, User Interface Frameworks for Command & Control, \$45,000. **1999 – 2000**
- **Raytheon Systems**, JavaBeans, \$75,000. **2000**
- **Norges Forskningsråd (The Research Council of Norway)**, Architecture Independence in Software Design and Development, \$175,000. **1997 – 2000**
- **US Department of Education**, Supporting Effective Educator Development (SEED) Grant Program, \$2,500,000. **1999**
- **Metrowerks**, Integrated Development Environment, \$157,398. **1998**
- **Norges Forskningsråd**, Biocomputing, \$150,000. **1996 – 1998**
- **Norges Forskningsråd**, Internationalization, \$75,000. **1994 – 1997**
- **US Department of Defense/Office of Naval Research**, Rapid Construction of Software Prototypes (with Stanford University Program Analysis and Verification Group), \$545,367. **1989 – 1996**
- **US Advanced Research Projects Agency (ARPA)**, Computer Aided Educational Technology (with Stanford University Program Analysis and Verification Group), senior personnel. Approx. \$600,000. **1989 – 1996**
- **European Strategic Program on Research in Information Technology (ESPRIT)**, COMPASS-II (with Universität Bremen and other European partners), \$408,000. **1993 – 1996**
- **Norges Forskningsråd**, Genetic Structures, \$150,000. **1994 – 1996**
- **Norges Forskningsråd**, Architecture Abstraction, \$75,000. **1993 – 1995**
- **Norges Allmenvitenskapelige Forskningsråd**, Parallellitet – algoritmer, pålitelighet og numeriske metoder, \$370,000. **1991 – 1993**

## DISSERTATIONS

- Sigurd Meldal. "**On Hierarchical Abstraction and Partial Correctness of Concurrent Structures.**" Ph.D. dissertation, Institute of Informatics, University of Oslo, June 1986.
- Sigurd Meldal. "**CHAP — Et Forslag til Syntaks og Semantikk for Parallele Prosesser.**" Master's thesis, Institute of Informatics, University of Oslo, June 1982. (In Norwegian.)

## BOOKS

- J. Homb, T.M. Jonassen, Sigurd Meldal, T. Rekdal, A. Schjalm. "**Overlevelsesguide for Realistaksjonens studenter.**" Realistaksjonens forlag, 1982. (In Norwegian.)

## EDITED PROCEEDINGS

- **Proceedings of Norsk Informatikkonferanse (NIK '94).** Edited with Magne Haveraaen, Bjørn Jæger, Siri Bjorvand, Randi Karlsen, Stein Krogdahl, Arne Maus, and Syvert Nørsett. Tapir forlag, November 1994.
- **Proceedings of the 3<sup>rd</sup> Nordic Workshop on Program Correctness (NWPC).** Edited with Magne Haveraaen. University of Bergen, November 1992.

## JOURNAL ARTICLES AND BOOK CHAPTERS

- Michal A. Walicki, Magne Haveraaen, and Sigurd Meldal. "**Computation Algebras.**" In *Mathematical Structures in Computer Science*, vol. 11, no. 5. Cambridge University Press, October 2001.
- David C. Luckham, James Vera, and Sigurd Meldal. "**Key Concepts in Architecture Definition Languages.**" In *Foundations of Component Based Systems*, pp. 23–46. Cambridge University Press, 2000.
- Sigurd Meldal, Gene L. Fisher, Daniel J. Stearns, and Peter C. Ölveczky. "**Software Prototyping.**" In *Wiley Encyclopedia of Electrical and Electronics Engineering*. Wiley Online Library, 1999.
- Sigurd Meldal and David C. Luckham. "**NSA's MISSI Reference Architecture – From Prose to Precise Specification.**" In *Requirements Targeting Software and Systems Engineering*, Lecture Notes in Computer Science (LNCS) 1526, pp. 293–329. Springer-Verlag, 1998.
- Sigurd Meldal and M. A. Walicki. "**Singular and Plural Non-deterministic Parameters.**" In *SIAM Journal of Computing*, vol. 26, no. 4. Society for Industrial and Applied Mathematics, August 1997.
- Michal Walicki and Sigurd Meldal. "**Algebraic Approaches to Non-Determinism – an Overview.**" In *ACM Computing Surveys*, vol. 29, no. 1, pp. 30-81. Association for Computing Machinery, March 1997.
- Sigurd Meldal and A. I. Vermesan. "**Verification Oriented Development of Knowledge Based Systems.**" In *New Review of Applied Expert Systems*, vol. 2, pp. 91–104. 1996.

- Michal Walicki and Sigurd Meldal. "**Multialgebras, Power Algebras and Complete Calculi of Identities and Inclusions.**" In *Recent Trends in Data Type Specification*, Lecture Notes in Computer Science (LNCS) 906, pp. 453-468. Springer-Verlag, March 1995.
- Michal Walicki and Sigurd Meldal. "**A Complete Calculus for the Multialgebraic and Functional Semantics of Non-determinism.**" In *ACM Transactions on Programming Languages and Systems (TOPLAS)*, vol. 17, no. 2, pp. 366-393. Association for Computing Machinery, March 1995.
- John Mitchell, Sigurd Meldal, and Neel Madhav. "**An Extension of Standard ML Modules with Subtyping and Inheritance.**" In *Information and Control*, vol. 71, pp. 95–130. 1991.
- Sigurd Meldal. "**A Complete Axiomatic Semantics of Spawning.**" In *Distributed Computing 5*, pp. 159-174. Springer-Verlag, May 1991.
- Sigurd Meldal. "**Fra Spesifikasjon til Virkelighet.**" In *DATA*, vol. 17, no. 4, pp. 42–45. 1987. (In Norwegian.)
- Sigurd Meldal. "**Partial Correctness of Exits from Concurrent Structures.**" In *BIT Numerical Mathematics*, vol. 26, iss. 3, pp. 295-302. BIT Computer Science and Numerical Mathematics, September 1986.
- Sigurd Meldal. "**An Axiomatic Semantics for Nested Concurrency.**" In *BIT Numerical Mathematics*, vol. 26, iss. 2, pp. 164-174. BIT Computer Science and Numerical Mathematics, April 1986.
- Sigurd Meldal and E. Mellbye-Larsen. "**Styring av Bus- of Lageraksess i en Multiprosessorarkitektur.**" In *Trip Report from the Joint Scandinavian Computer Conference (NordDATA '83)*. Den Norske Dataforening, June 1983. (In Norwegian.)

## CONFERENCE PAPERS

- Sigurd Meldal. "**Some Thoughts on Cyber Risk and the Science(s) of Security.**" Keynote address, IEEE International Symposium on Signals, Circuits and Systems, July 2013.
- Sigurd Meldal. "**Breadth, Depth...and Predictable Weather. Components of the Success of Silicon Valley.**" Invited talk, Third International Exhibition and Forum of Industry and Innovations (INNOPROM), July 2011.
- Sigurd Meldal. "**Security – a Science?**" Invited Valedictorian address, IEEE 2<sup>nd</sup> International Advance Computing Conference (IACC), February 2010.
- Sigurd Meldal. "**It's a Dangerous World Out There – The Interplay of Security, Safety and Policy.**" Keynote address, IEEE International Advance Computing Conference (IACC), March 2009.
- Sigurd Meldal, Kristen Gates, Russell Smith, and Xiao Su. "**Security, Safety and Privacy – Pervasive Themes for Engineering Education.**" In *Proceedings of the International Conference on Engineering Education (ICEE)*, March 2008.

- Daniel Manson, Sigurd Meldal, Carol Sledge, Stephen M. Maurer, John C. Mitchell, Erich Spengler, Janos Sztipanovits, and Javier Torner. "**Learning Modules for Security, Privacy and Information Assurance in Undergraduate Engineering Education.**" In *Proceedings of the 36<sup>th</sup> Annual Frontiers in Education Conference (FIE)*, October 2006.
- Jerry Gao, Yumei Wu, Lee Chang, and Sigurd Meldal. "**Measuring Component-Based Systems Using a Systematic Approach and Environment.**" In *Proceedings of the Second IEEE International Symposium on Service-Oriented System Engineering (SOSE)*, October 2006.
- Daniel J. Stearns, C. S. Turner, and Sigurd Meldal. "**Ten Pounds in a Five-Pound Sack: Providing Software Engineering Students with Management Experience.**" In *Proceedings of the International Conference on Engineering Education (ICEE)*, August 2001.
- Michal Walicki and Sigurd Meldal. "**Nondeterminism vs. Underspecification.**" In *Proceedings of The Fifth World Multi-Conference on Systemics, Cybernetics and Informatics (SCI/ISAS)*, July 2001.
- Michal Walicki, Adis Hodzic, and Sigurd Meldal. "**Compositional Homomorphisms of Relational Structures.**" In *Proceedings of the 13<sup>th</sup> International Symposium on Fundamentals of Computation Theory*, August 2001.
- David C. Luckham and Sigurd Meldal. "**Causal Event-Relations as a Basis for Analyzing Distributed Architectures.**" In *Proceedings of the 8th International Colloquium on Computer Science with Applications*, August 1999.
- Peter C. Ölveczky and Sigurd Meldal. "**Specification and Prototyping of Network Protocols in Rewriting Logic.**" In *Proceedings of Norsk Informatikkonferanse (NIK '98)*, November 1998.
- Sigurd Meldal. "**Reference Architectures and Conformance.**" In *Proceedings of the International Workshop on Requirements Targeting Software and Systems Engineering (RTSE)*, April 1998.
- Valentinas Kriauciukas, Michal A. Walicki, and Sigurd Meldal. "**Nondeterministic Algebraic Specifications in a Relational Syntax.**" In *Proceedings of the Nordic Workshop on Programming Theory (NWPT)*, November 1995.
- Anca Vermesan and Sigurd Meldal. "**An Algebraic Approach to Refinement of KBS Specifications.**" In *Proceedings of the European Symposium on the Validation and Verification of Knowledge-Based Systems (EUROVAV)*, June 1995.
- Michal A. Walicki and Sigurd Meldal. "**Generated Models and the  $\omega$ -Rule: The Nondeterministic Case.**" In *Proceedings of the Sixth International Joint Conference on Theory and Practice of Software Development (TAPSOFT)*, May 1995.
- Aida Pluskeviciene, Regimantas Pluskevicius, Michal Walicki, and Sigurd Meldal. "**On Specialization of Derivations in Axiomatic Equality Theories.**" In *Proceedings of the Symposium on Logical Foundations of Computer Science (LFCS)*, July 1994.

- Dinesh Katiyar, David Luckham, John Mitchell, and Sigurd Meldal. "**Polymorphism and Subtyping in Interfaces.**" In *Proceedings of the Workshop on Interface Definition Languages*, January 1994.
- P.O. Tvette and Sigurd Meldal. "**Causality Breakdown at  $\omega$ .**" In *Proceedings of the Nordic Workshop on Programming Theory (NWPT)*, October 1994.
- Michal Walicki and Sigurd Meldal. "**Initiality + Nondeterminism => Junk.**" In *Proceedings of Norsk Informatikkonferanse (NIK '93)*, November 1993.
- Michal Walicki and Sigurd Meldal. "**Sets and Nondeterminism.**" In *Proceedings of the Tenth International Conference on Logic Programming (ICLP) Workshop on Logic Programming with Sets*, June 1993.
- Michal Walicki and Sigurd Meldal. "**Computations: A Deterministic Semantics of Nondeterminism.**" In *Proceedings of the 3<sup>rd</sup> Nordic Workshop on Program Correctness (NWPC)*, November 1992.
- John Mitchell, Dinesh Katiyar, David C. Luckham, Neel Madhav, Sigurd Meldal, and Sriram Sankar. "**Subtyping, Assignment and Cloning in a Concurrent Object-Oriented Language.**" In *Proceedings of the DARPA Software Technology Conference*, April 1992.
- Michal Walicki and Sigurd Meldal. "**Towards an Equational Theory of Nondeterminism.**" In *Proceedings of Norsk Informatikkonferanse (NIK '91)*, November 1991.
- Sigurd Meldal, Sriram Sankar, and James Vera. "**Exploiting Locality in Maintaining Potential Causality.**" In *Proceedings of the 10<sup>th</sup> ACM Symposium on the Principles of Distributed Computing (PODC)*, August 1991.
- Neel Madhav and Sigurd Meldal. "**An Object-Oriented Approach to Formal Specification of Reactive Systems.**" In *Proceedings of the 11<sup>th</sup> International Conference on Distributed Computing Systems (ICDCS)*, May 1991.
- John C. Mitchell, Neel Madhav, and Sigurd Meldal. "**An Extension of Standard ML Modules with Subtyping and Inheritance.**" In *Proceedings of the 18<sup>th</sup> ACM Symposium on the Principles of Programming Languages (POPL)*, January 1991.
- Sigurd Meldal. "**Supporting Architecture Mappings in Concurrent Systems Design.**" In *Proceedings of the 1990 Australian Software Engineering Conference (ASWEC '90)*, May 1990.
- David C. Luckham and Sigurd Meldal. "**Specifying and Observing Concurrent Programs.**" In *Proceedings of the 3<sup>rd</sup> Workshop on Large Grain Parallelism*, October 1989.
- Sigurd Meldal. "**An Abstract Axiomatization of Pointer Types.**" In *Proceedings of the 22<sup>nd</sup> Annual Hawaii International Conference on System Sciences (HICSS)*, January 1989.



- Sigurd Meldal, David C. Luckham, and Michael A. Haberler. "**Specifying Ada Tasking Using Patterns of Behavior.**" In *Proceedings of the 21<sup>st</sup> Annual Hawaii International Conference on System Sciences (HICSS)*, January 1988.
- Sigurd Meldal. "**Redundancy in Software Design.**" In *Proceedings of Norsk Informatikkonferanse (NIK '88)*, November 1988.
- Sigurd Meldal. "**Har Formelle Metoder Noen Plass i Programutvikling?**" In *Trip Report from the Joint Scandinavian Computer Conference (NordDATA '87)*, June 1987. (In Norwegian.)
- David C. Luckham, David P. Helmbold, Sigurd Meldal, D.L. Bryan, and Michael A. Haberler. "**Task Sequencing Language for Specifying Distributed Ada Systems.**" In *System Development and Ada, Proceedings of the CRAI Workshop on Software Factories and Ada*, 1987.

## PRESENTATIONS

- **At the Center of the Storm: Preparing the Future Engineers of Silicon Valley, and the Globe.** *The Olvian Forum*, June 2007.
- **International Partnership – Opportunities to Pursue, Barriers to Overcome.** *International Conference on Engineering Education (ICEE) 2001 International Partnership Workshop*, August 2001.
- **Causal Event-Relations as a Basis for Analyzing Distributed Architectures.** *8<sup>th</sup> International Colloquium on Numerical Analysis and Computer Science with Applications*, August 1999.
- **Conformance and Multiple Reference Architectures,** *International Workshop on Requirements Targeting Software and Systems Engineering (RTSE)*, October 1997.
- **Architecture Design and Conformance Testing in Rapide.** *Information Survivability*, January 1996.
- **Communication Algebras.** *11th Workshop on Specification of Abstract Data Types Joint with the 8<sup>th</sup> COMPASS Workshop*, September 1995. With Michal A. Walicki and Magne Haveræen.
- **Nondeterministic Operators in a Standard Framework – What's the Use?** *10<sup>th</sup> Workshop on Specification of Abstract Data Types Joint with the 5th COMPASS Workshop*, June 1994. With Michal A. Walicki.
- **Multialgebras, Power Algebras and Complete Calculi of Identities and Inclusions.** *10<sup>th</sup> Workshop on Specification of Abstract Data Types Joint with the 5th COMPASS Workshop*, June 1994. With Michal A. Walicki.
- **On Generated Models and Inductive Reasoning: The Nondeterministic Case.** *5<sup>th</sup> COMPASS Workshop*, September 1993. With Michal A. Walicki.
- **Parallel Architectures – Flop or gigaFLOP?** *Vilnius University*, 1993. With Tor Sørøvik and Randi Moe.

- **Multialgebras and Computations: Two Algebraic Semantics of Nondeterminism.** *9<sup>th</sup> Workshop on Specification of Abstract Data Types Joint with the 4th COMPASS Workshop*, October, 1992. With Michal A. Walicki.
- **A Function Oriented View of Nondeterminism.** *2<sup>nd</sup> Nordic Workshop on Program Correctness (NWPC)*, October 1991. With Michal A. Walicki.

## TECHNICAL REPORTS

- David C. Luckham and Sigurd Meldal. **Defining a Security Reference Architecture.** Technical Report CSL-97-728, Stanford University, June 1997.
- David C. Luckham, James Vera. **Three Concepts of System Architecture.** Technical Report CSL-TR-95-674, Stanford University, July 1995.
- Michal A. Waliki and Sigurd Meldal. **Algebraic Approaches to Nondeterminism – an Overview.** Technical Report 104, Department of Informatics, University of Bergen, February 1995.
- Michal A. Waliki and Sigurd Meldal. **Nondeterministic Operators in Algebraic Frameworks.** Technical Report CSL-TR-95-664, Stanford University, March 1995.
- Sigurd Meldal. **Extending CSP with Termination Independent Process Activation.** Technical Report 37, Department of Informatics, University of Bergen, 1989.
- Sigurd Meldal. **A Proof System Using Context Invariants in Verification of Concurrent Programs.** Technical Report 39, Department of Informatics, University of Bergen, 1989.
- Sigurd Meldal. **Allocations of Objects Considered as Nondeterministic Expressions — Towards a More Abstract Axiomatics of Access Types.** Technical Report CSL-TR-87-335, Stanford University, 1987.
- David C. Luckham, David P. Helmbold, Sigurd Meldal, D.L. Bryan, and Michael A. Haberler. **Task Sequencing Language for Specifying Distributed Ada Systems: TSL-1.** Technical Report CSL-TR-87-334, Stanford University, 1987.
- Sigurd Meldal. **Dokumenter i Devnagari og transkripsjon ved hjelp av TeX.** NUSE, 61, 1986. (In Norwegian.)
- Sigurd Meldal. **Predicting the Future: Proof Rules for Exceptions in Concurrent Structures.** Technical Report 101, Institute of Informatics, University of Oslo, 1986.
- Sigurd Meldal. **Language Elements for Hierarchical Abstraction in Concurrent Structures.** Technical Report 102, Institute of Informatics, University of Oslo, 1986.
- Sigurd Meldal. **Axiomatic Semantics of Access Type Tasks in Ada.** Technical Report 100, Institute of Informatics, University of Oslo, 1986. Invited paper at the Ada Europe Working Group on Formal

Methods, February 1986.

- Sigurd Meldal. **Exits from Systems of Nested Processes — An Axiomatic Semantics**. Technical Report 93, Institute of Informatics, University of Oslo, 1985.
- D. Belsnes, O. Hanseth, and Sigurd Meldal. **The HOLM Language**. Technical Report 728, Norwegian Computing Centre, 1982.

#### INVITED TALKS

- Keynote, **International Software Summit (ISS-13)**, April 2013.
- **Third International Exhibition and Forum of Industry and Innovations (INNOPROM)**, July 2011.
- Keynote, **IEEE 2<sup>nd</sup> International Advance Computing Conference (IACC)**, February 2010.
- **Beijing University of Technology**, 2010.
- **IEEE International Advance Computing Conference (IACC)**, March 2009.
- **M. S. Ramaiah Institute of Technology**, 2008.
- **The International Scientific and Practical Conference Olvian Forum**, 2007.
- **Beijing University of Technology**, 2006.
- **Beijing University of Technology**, 2003.
- **8<sup>th</sup> International Colloquium on Numerical Analysis and Computer Science with Applications**, August 1999.
- **The International Workshop on Requirements Targeting Software and Systems Engineering (RTSE)**, October 1997.
- **Rensselaer Polytechnic Institute, Clemson University, Polytechnic University (New York), New Mexico State University, Western Oklahoma State College, College of Notre Dame**, 1996.
- **University of San Francisco**, 1994.
- **Stanford University, Vilnius University**, 1993.
- **University of Oslo**, 1992.
- **Universität Bremen**, 1991.
- **3rd Workshop on Large Grain Parallelism**, October 1989.

- **Joint Scandinavian Computer Conference (NordDATA '88)**, June 1988.
- **Ada Europe – Working Group on Formal Methods, University of California**, San Diego, 1986.

## TEACHING

Academic programs created:

- **Co-terminal Bachelor of Science (BS) and Master of Science (MS) in Computer Engineering Degree Program**, San Jose State University.
- **Master of Science (MS) in Software Engineering International Dual Degree Program**, San Jose State University and Beijing University of Technology.
- **Bachelor of Science (BS) in Software Engineering**, San Jose State University.
- **Master of Science (MS) in Software Engineering**, San Jose State University.
- **Certificate Programs in Advanced Computer Engineering**, San Jose State University.
- **Bachelor of Science (BS) in Software Engineering**, California Polytechnic State University.

University courses created:

- **CPE 205/206 – Software Engineering I/II** (sophomore level), California Polytechnic State University.
- **CPE 402 – Software Requirements Engineering** (senior level), California Polytechnic State University.
- **CPE 405 – Software Construction** (senior level), California Polytechnic State University.
- **CPE 406 – Software Deployment** (senior level), California Polytechnic State University.
- **I110 – Introduction to Programming** (freshman level), University of Bergen.
- **I220 – Program Specification and Verification** (senior level), University of Bergen.
- **I229 – Selected Topics in Software Development** (senior level), University of Bergen.

Other topics taught at the undergraduate through doctoral levels:

- Compiler technology, object-oriented programming methods, algorithms (basic and advanced), data structures, file structures, concepts in concurrency, discrete mathematics.

## UNIVERSITY SERVICE

Key administrative responsibilities at San Jose State University, California Polytechnic State University, and the University of Bergen:

- Member, **Dean of CIES Search Committee**, San Jose State University, 2014.
- Member, **Strategic Planning Board**, San Jose State University, 2010 – 2012.
- Member, **Policy Committee on Organization and Government**, Academic Senate, San Jose State University, 2010 – 2012.
- Member, **Resource Advisory Board**, College of Engineering, San Jose State University, 2010 – 2012.
- Member, **Vice President for Student Affairs Search Committee**, San Jose State University, 2010.
- Member, **Provost Search Committee**, San Jose State University, 2009.
- Chair, **Academic Senate**, San Jose State University, 2008 – 2009.
- Vice Chair, **Academic Senate**, San Jose State University, 2007 – 2008.
- Member, **University Planning Committee**, San Jose State University, 2007 – 2009.
- Chair, **Senate Instruction and Student Affairs Committee**, San Jose State University, 2006 – 2007.
- Member, **Senate Executive Committee**, San Jose State University, 2006 – 2010.
- Member, **Resource Review Board**, San Jose State University, 2005 – 2009.
- Member, **Committee on the Joint Master of Science Degree Program**, Beijing Univ. of Technology, China, 2005 – 2008.
- Senator, **Academic Senate**, San Jose State University, 2005 – 2010.
- Member, **Senate Curriculum and Research Committee**, San Jose State University, 2005 – 2006.
- Member, **ACE Internationalization Leadership Team**, San Jose State University, 2003 – 2005.
- Member, **Academic Senate Task Force on Chairs' Roles and Responsibilities**, San Jose State University, 2003 – 2004.
- Vice Chair, **Discipline Council in Software Engineering**, Computer Science and Information Systems, California State University, 2001 – 2006.
- Chair, **Computer Science Department Resource Acquisition Committee**, California Polytechnic State University, 2000 – 2002.
- Member, **Computer Engineering Administrative Council**, California Polytechnic State University, 2000 – 2002.

- Member, **Computer Engineering Council**, California Polytechnic State University, 2000 – 2002.
- Chair, **Computer Science Department Software Engineering Program Task Force**, California Polytechnic State University, 1999 – 2002.
- Member, **GE&B Area B/F committee**, California Polytechnic State University, 1999 – 2000.
- Member, **College of Engineering Committee on the Life Sciences**, California Polytechnic State University, 1998.
- Member, **Biotechnology Program Task Force**, California Polytechnic State University, 1997 – 2000.
- Member, **Computer Science Curriculum Committee**, California Polytechnic State University, 1997 – 2000.
- Member, **College of Engineering Committee on Research and Development**, California Polytechnic State University, 1997 – 1999.
- Member, **Doctoral Program Development Task Force**, 1993 – 1995.
- Chair, **Informatics Curriculum Development Committee**, University of Bergen, 1987 – 1989.
- Member, **Undergraduate Curriculum Development Committee**, University of Bergen, 1987 – 1989.
- Member, **Task force on distributed systems research**, Norwegian Research Council, 1995.
- Chairman, **Task force on increasing research productivity**, University of Bergen, 1994 – 1995.
- Member, **Board of Directors**, National Center for Parallel Computing, 1993 – 1996.
- Member, **Board of the Norwegian Universities' Council on Computer Science**, 1993 – 1995.
- Member, **Board of Directors of the Faculty of Mathematics and Science**, University of Bergen, 1993–1995.

#### PROGRAM COMMITTEES

- Co-chair, **8<sup>th</sup> Symposium on Curriculum Development in Security and Information Assurance (CDSIA)**, April 2015.
- Co-chair, **7<sup>th</sup> Symposium on Curriculum Development in Security and Information Assurance (CDSIA)**, April 2014.
- Co-chair, **6<sup>th</sup> Symposium on Curriculum Development in Security and Information Assurance (CDSIA)**, May 2013.

- Co-chair, **5<sup>th</sup> Symposium on Curriculum Development in Security and Information Assurance (CDSIA)**, April 2012.
- Chair, **4<sup>th</sup> Symposium on Curriculum Development in Security and Information Assurance (CDSIA)**, April 2011.
- Co-chair, **20<sup>th</sup> ACM Conference on Computers, Freedom, and Privacy (CFP)**, June 2010.
- Chair, **3<sup>rd</sup> Symposium on Curriculum Development in Security and Information Assurance (CDSIA)**, April 2010.
- Technical Committee Member, **2<sup>nd</sup> IEEE International Advance Computing Conference (IACC)**, February 2010.
- Chair, **2<sup>nd</sup> Symposium on Curriculum Development in Security and Information Assurance (CDSIA)**, April 2009.
- Chair, **Symposium on Curriculum Development in Security and Information Assurance (CDSIA)**, April 2008.
- Program Committee Member, **International Conference on Engineering Education (ICEE)**, August 2001.
- Program Committee Member, **5<sup>th</sup> International Conference on Mathematics of Program Construction (MPC)**, July 2000.
- Program Committee Member, **4<sup>th</sup> International Conference on Mathematics of Program Construction (MPC)**, July 1998.
- Program Committee Member, **7<sup>th</sup> Nordic Workshop on Programming Theory (NWPT)**, October 1996.
- Program Committee Member, **First Workshop on Formal Methods in Software Practice (FMSP)**, January 1996.
- Program Committee Member, **Norsk Informatikkonferanse (NIK '95)**, November 1995.
- Program Committee member, **6<sup>th</sup> Nordic Workshop on Program Correctness (NWPC)**, November 1995.
- Program Committee member, **5<sup>th</sup> Nordic Workshop on Program Correctness (NWPC)**, October 1994.
- Chair, **4<sup>th</sup> Nordic Workshop on Program Correctness (NWPC)**, October 1993.
- Program Committee Member, **Norsk Informatikkonferanse (NIK '94)**, November 1994.

- Program Committee Member, **Norsk Informatikkonferanse (NIK '93)**, November 1993.

#### OTHER PROFESSIONAL SERVICE

- Member, **Bay Area Council Committee on Cyber Security**.
- Program Evaluator, **ABET Engineering Accreditation Commission (EAC)** and **Computing Accreditation Commission (CAC)**.
- Senior Member, **Association for Computing Machinery (ACM)**.
- Senior Member, **Institute of Electrical and Electronic Engineers (IEEE)**.
- Member, **California Engineering Faculty Discipline Review Group**.
- Editor and Member of the Board of Directors, **National Journal of Computing**.
- Referee, **Frontiers in Education Conference (FIE)**.
- Referee, **ACM Special Interest Group on Computer Science Education (SIGCSE)**.
- Referee, **Addison-Wesley**.
- Referee, **Research Council of Norway**.
- Panelist, **National Science Foundation (NSF)**.
- Referee, **Army Research Office (ARO)**.
- Referee, **Lecture Notes in Computer Science (LNCS)**.
- Member, **Fulbright Association**.