

# Sigurd Meldal, Dr.Sc.

Senior Computer Scientist

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## Summary

- Well known as an **influential scholar in the computer science community** for his discoveries and inventions in the areas of software engineering, computer programming, and theoretical computer science.
- Served as **Director of the Cybersecurity + Big Data Initiative**, where he spearheaded new research and graduate programs in cyber security and data sciences.
- Previously served as **Chair of the Department of Computer Engineering at San Jose State University**, where he was a tenured faculty member in both the Computer Engineering and Computer Science Departments.
- Has **testified in federal court and been deposed as an expert witness** about iOS, Android, AMSS, and Blackberry software running on Apple, Qualcomm and other mobile hardware platforms, as well as more generic software systems and networked server architectures.
- Has provided expert testimony and declarations related to **§ 101 (patentable subject matter) defenses** based on the SCOTUS verdict in the case of Alice Corp. v. CLS Bank International.
- Co-authored the **seminal paper on the algebraic foundations of non-deterministic operators**, which has been widely cited by his academic peers in related research publications.
- Was a **senior researcher in the project developing the Rapide language framework** for prototyping of distributed architectures and the abstraction mechanisms necessary for large-scale conformance checking.
- Authored the curriculum for **Cal Poly's new undergraduate degree in software engineering** and **San José State University's new BS and MS Software Engineering degrees**.
- Has **worked with universities in India and China to establish collaborative frameworks for student and faculty exchanges**, and for dual or joint degree programs bringing together students from different countries into one educational context.
- Has **published a book and more than 60 peer-reviewed technical papers** on a broad spectrum of practical and theoretical subjects in software engineering and computer science.

## Education

**Dr. Scient. in Informatics**

University of Oslo | 1986

**NATO Advanced Science Institute on Concepts of Distributed Programming**

Marktoberdorf | 1984

**Cand. Real. in Informatics**

University of Oslo | 1982

**Cand. Mag., with Minor in Mathematics and Statistics**

University of Oslo | 1979

# Employment

## **Commissioner, Engineering Accreditation Commission (EAC)**

ABET, Inc, Baltimore, MD | 2016–Present

## **CEO, Mostly Sunny**

Menlo Park, CA | 2012–Present

## **Member, California Task Force on Cyber Security**

State of California | 2014–2016

## **Director, Silicon Valley Big Data and Cybersecurity Center**

San José State University, San José, CA | 2013–2016

## **Co-Director, NSF Center for Research in Ubiquitous Secure Technologies**

University of California, Berkeley, CA | 2005–2016

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

Computer Engineering and Computer Science Departments, San José State University, San José, CA | 2002–2020

## **Chair, Computer Engineering Department**

San José State University, San José, CA | 2002–2013

## **Chair, Academic Senate**

San José State University, San José, CA | 2008–2009

## **Chair, Computer Science Department**

California Polytechnic State University, San Luis Obispo, CA | 2000–2002

## **Professor of Computer Engineering and Computer Science**

California Polytechnic State University, San Luis Obispo, CA | 2000–2002

## **Associate Chair, Computer Science Department**

California Polytechnic State University, San Luis Obispo, CA | 1999–2000

## **Associate Professor, Computer Science Department**

California Polytechnic State University, San Luis Obispo, CA | 1997–2000

## **Professor (Consulting/Visiting), Electrical Engineering Department**

Stanford University, Palo Alto, CA | 1989–1998

## **Professor, Department of Informatics**

University of Bergen, Bergen, Norway | 1990–1998

## **Director, Computer Science Program**

College of Notre Dame, Belmont, CA | 1997

## **Department Chair, Department of Informatics**

University of Bergen, Bergen, Norway | 1993–1995

## **Associate Professor (Visiting), Electrical Engineering Department**

Stanford University, Palo Alto, CA | 1989

**Førsteamanuensis, Department of Informatics**

University of Bergen, Bergen, Norway | 1987–1989

**Fulbright Scholar**

Stanford University, Palo Alto, CA | 1986–1987

**Universitetsstipendiat, Institute of Informatics**

University of Oslo, Oslo, Norway | 1983–1986

**Researcher**

The Norwegian Computing Center, Oslo, Norway | 1982

## Litigation Consulting

- **Bytemark, Inc v. Masabi, Ltd.** | Mar 2024–Present  
Jurisdiction: US Patent and Trademark Office  
Case Number: 6:22-cv-00304  
Counsel: FisherBroyles  
Nature of Suit: Patent
- **Lenovo (United States) Inc v. Intellectual Ventures II LLC Inter Partes Reviews** | Oct 2023–Present  
Jurisdiction: US Patent and Trademark Office  
Counsel: DLA Piper LLP (US)  
Nature of Suit: Patent
- **Kahoot! Inter Partes Review of U.S. Patent No. 9,064,376** | Feb 2023–Sept 2024  
Jurisdiction: US Patent and Trademark Office  
Case Number: IPR2023-00693  
Counsel: Slayden Grubert Beard  
Nature of Suit: Patent
- **Citrix Systems, Inc v. Workspot, Inc** | 2020  
Jurisdiction: US District Court for the District of Delaware  
Counsel: DLA Piper LLP (US)  
Nature of Suit: Intellectual Property, Patent
- **Management Analytics, Inc et al. v. Quine Intellectual Property Law Group, P.C. et al.** | 2019  
Jurisdiction: Superior Court of California, County of Alameda  
Counsel: Murphy, Pearson, Bradley, & Feeney  
Nature of Suit: Professional Negligence
- **CommScope, Inc v. Rosenberger Technology (Kunshan) Co. Ltd** | 2019  
Jurisdiction: US District Court for the District of New Jersey  
Counsel: Milbank LLP  
Nature of Suit: Intellectual Property, Trade Secrets
- **X One, Inc v. Uber Technologies, Inc** | 2019  
Jurisdiction: US District Court for the Northern District of California  
Counsel: Finnegan, Henderson, Farabow, Garrett & Dunner, LLP  
Nature of Suit: Intellectual Property, Patent

- **Samsung Electronics Co., Ltd. et al. v. Immersion Corporation** | 2018–2019  
 Jurisdiction: PTAB  
 Counsel: Morrison Foerster, LLP  
 Nature of Suit: Intellectual Property, Patent
- **CUPP Cybersecurity, LLC v. Trend Micro, Inc** | 2018  
 Jurisdiction: US District Court for the Northern District of Texas  
 Counsel: DLA Piper LLP  
 Nature of Suit: Intellectual Property, Patent
- **MModal Services Ltd v. Nuance Communications, Inc** | 2018  
 Jurisdiction: Patent Trial and Appeal Board  
 Counsel: Weil, Gotshal & Manges LLP  
 Nature of Suit: Intellectual Property, Patent
- **Immersion Corporation v. Fitbit, Inc** | 2018  
 Jurisdiction: US District Court for the Northern District of California  
 Counsel: McKool Smith P.C.  
 Nature of Suit: Intellectual Property, Patent
- **Wireless Telematics, LLC v. Outdoorlink, Inc** | 2017–2018  
 Jurisdiction: US District Court for the Northern District of Alabama  
 Counsel: Buche & Associates, P.C.  
 Nature of Suit: Intellectual Property, Patent
- **International Business Machines Corp. v. Groupon, Inc** | 2017–2018  
 Jurisdiction: Patent Trial and Appeal Board  
 Counsel: Alston and Bird LLP  
 Nature of Suit: Intellectual Property, Patent
- **Bytemark, Inc v. Xerox Corp., ACS Transport Solutions, Inc, Xerox Transport Solutions, Inc, Conduent Inc, and New Jersey Transit Corp.** | 2017  
 Jurisdiction: US District Court for the Southern District of New York  
 Counsel: Fishman Steward PLLC  
 Nature of Suit: Intellectual Property, Patent
- **Sound View Innovations, LLC v. Hulu, LLC** | 2017–2019  
 Jurisdiction: US District Court for the Central District of California  
 Counsel: Desmarais LLP  
 Nature of Suit: Intellectual Property, Patent
- **Sound View Innovations, LLC v. Facebook, Inc** | 2017–2018  
 Jurisdiction: US District Court for the District of Delaware  
 Counsel: Desmarais LLP  
 Nature of Suit: Intellectual Property, Patent
- **E.D.C. Technologies, Inc v. Jim Seidel, et al.** | 2017–2018  
 Jurisdiction: US District Court for the Northern District of California  
 Counsel: Silicon Valley Law Group  
 Nature of Suit: Breach of Contract
- **Bytemark, Inc v. Masabi Ltd.** | 2017  
 Jurisdiction: US District Court for the Eastern District of Texas  
 Counsel: Fishman Steward PLLC  
 Nature of Suit: Intellectual Property, Patent

- **Masabi Ltd. v. Bytemark, Inc** | 2017  
Jurisdiction: Patent Trial and Appeal Board  
Counsel: Fishman Steward PLLC  
Nature of Suit: Intellectual Property, Patent
- **Intellectual Ventures I LLC v. Capital One Financial Corporation, et al.** | 2017  
Jurisdiction: US District Court for the District of Maryland  
Counsel: Freitas Angell & Weinberg LLP  
Nature of Suit: Antitrust
- **Immersion Corp. v. Apple Inc and AT&T Mobility LLC.** | 2016–2018  
Jurisdiction: US International Trade Commission  
Counsel: Irell & Manella LLP  
Nature of Suit: Intellectual Property, Patent
- **Apple Inc v. Immersion Corp.** | 2016–2018  
Jurisdiction: Patent Trial and Appeal Board  
Counsel: Irell & Manella LLP  
Nature of Case: Intellectual Property, Patent
- **Callwave Communication LLC v. Google Inc** | 2016  
Jurisdiction: US District Court for the District of Delaware  
Counsel: Milbank, Tweed, Hadley & McCloy LLP  
Nature of Suit: Intellectual Property, Patent
- **Ancora Technologies, Inc v. Apple, Inc** | 2015–2016  
Jurisdiction: US District Court for the Northern District of California  
Counsel: Brooks Kushman P.C.  
Nature of Suit: Intellectual Property, Patent
- **Global Cash Access, Inc v. NRT Tech. Corp. And NRT Technologies, Inc** | 2015–2017  
Jurisdiction: US International Trade Commission  
Counsel: Pillsbury Winthrop Shaw Pittman LLP  
Nature of Suit: Intellectual Property, Patent
- **Yodlee, Inc v. Plaid Technologies Inc** | 2015–2017  
Jurisdiction: US District Court for the District of Delaware  
Counsel: Fish & Richardson P.C.  
Nature of Suit: Intellectual Property, Patent
- **Adam Backhaut et al. v. Apple Inc** | 2015–2018  
Jurisdiction: US District Court for the Northern District of California  
Counsel: Audet & Partners LLP  
Nature of Suit: Class Action
- **Fox Television Stations, Inc, Twentieth Century Fox Film Corporation, and Fox Broadcasting Company, Inc v. Filmon X, LLC, Alkiviades “Alki” David, Filmon.tv Networks, Inc, Filmon.tv.inc., Filmon.Com, Inc** | 2015–2017  
Jurisdiction: US District Court, Central District Court of California  
Counsel: Baker Marquart LLP  
Nature of Suit: Copyright, 17 U.S.C. § 111 Licensing

- **NBCUniversal Media, LLC v. FilmOn X, LLC** | 2015–2017  
 Jurisdiction: US District Court, Central District Court of California  
 Counsel: Baker Marquart LLP  
 Nature of Suit: Copyright, 17 U.S.C. § 111 Licensing
- **Fox Television Stations, Inc v. FilmOn X, LLC** | 2015–2017  
 Jurisdiction: US District Court District of Columbia  
 Counsel: Baker Marquart LLP  
 Nature of Suit: Copyright, 17 U.S.C. § 111 Licensing
- **FilmOn X, LLC v. Window To The World Communications, Inc** | 2015–2017  
 Jurisdiction: US District Court for The Northern District of Illinois. Eastern Division  
 Counsel: Baker Marquart LLP  
 Nature of Suit: Copyright, 17 U.S.C. § 111 Licensing
- **Intellectual Ventures II LLC v. JP Morgan Chase & Co., et al.** | 2015  
 Jurisdiction: US District Court for the Southern District of New York  
 Counsel: Feinberg Day Alberti & Thompson LLP  
 Nature of Suit: Intellectual Property, Patent
- **Via Licensing Corporation v. Barnes & Noble, Inc** | 2015  
 Jurisdiction: Superior Court of the State of California for the County of San Francisco  
 Counsel: King & Spalding LLP  
 Nature of Suit: Intellectual Property, Breach of Contract
- **TLFO LLC, Transunion Risk and Alternative Data Solutions, Inc v. The Best One, Inc and Ole Poulsen** | 2014–2018  
 Jurisdiction: US Bankruptcy Court for the Southern District of Florida, West Palm Beach Division  
 Counsel: Richard and Richard, P.A.  
 Nature of Suit: Bankruptcy, Asset Evaluation
- **Nokia Corporation and Nokia Inc v. HTC Corporation and HTC America, Inc** | 2013–2014  
 Jurisdiction: United States International Trade Commission  
 Counsel: Desmarais LLP  
 Nature of Suit: Intellectual Property, Patent
- **Porto Technology, Co., Ltd., Porto Technology, LLC, and Ji-Soo Lee v. Cellco Partnership d/b/a Verizon Wireless** | 2013–2014  
 Jurisdiction: U.S. District Court for the Eastern District of Virginia  
 Counsel: Fox Rothschild LLP  
 Nature of Suit: Intellectual Property, Patent
- **Phoenix Licensing, LLC and LPL Licensing, LLC v. Aegon USA, Inc, et al.** | 2013  
 Jurisdiction: US District Court for the Eastern District of Texas  
 Counsel: Alston and Bird, LLP  
 Nature of Suit: Intellectual Property, Patent
- **Civix-DDI, LLC v. LoopNet, Inc** | 2012–2014  
 Jurisdiction: US District Court for the Northern District of Illinois, Eastern Division  
 Counsel: Kirkland and Ellis, LLP and Orrick, Herrington & Sutcliffe LLP  
 Nature of Suit: Intellectual Property, Patent

- **MobileMedia Ideas, LLC v. Apple Inc** | 2011–2018  
 Jurisdiction: US District Court for the District of Delaware  
 Counsel: Proskauer Rose, LLP  
 Nature of Suit: Intellectual Property, Patent
- **Dan Holton v. Marvell Semiconductor, Inc** | 2010–2011  
 Jurisdiction: Superior Court of the State of California, County of Santa Clara  
 Counsel: Wilson, Sonsini, Goodrich & Rosati
- **Civix-DDI, LLC v. Hotels.com, LP and Hotels.com GP, LLC** | 2010–2013  
 Jurisdiction: US District Court for the Northern District of Illinois  
 Counsel: Kirkland and Ellis, LLP  
 Nature of Suit: Intellectual Property, Patent
- **Apple Inc v. Nokia Corp. and Nokia Inc** | 2010  
 Jurisdiction: International Trade Commission  
 Counsel: Alston & Bird, LLP  
 Nature of Suit: Intellectual Property, Patent
- **Kevin L. Keithley and Tren Technology Holdings, LLC v. The Homestore.com, Inc, National Association of Realtors, and National Association of Home Builders of the United States** | 2008  
 Jurisdiction: US District Court for the Northern District of California  
 Counsel: Alston & Bird, LLP  
 Nature of Suit: Intellectual Property, Patent
- **Rowe International Corp. and Arachnid, Inc v. Ecast, Inc, Rock-Ola Manufacturing Corporation, and View Interactive Entertainment Corp.** | 2008  
 Jurisdiction: US District Court for the Northern District of Illinois  
 Counsel: Beck, Ross, Bismonte & Finley, LLP  
 Nature of Suit: Intellectual Property, Patent
- **Ecast, Inc v. TouchTunes Music Corporation** | 2004–2010  
 Jurisdiction: US District Court for the Northern District of California  
 Counsel: Morrison & Foerster LLP  
 Nature of Suit: Intellectual Property, Patent
- **1st Media LLC, v. TouchTunes Music Corporation, Ecast Inc, Fatburger Corporation, and Rock-Ola Manufacturing Corporation** | 2004–2010  
 Jurisdiction: US District Court for the District of Nevada  
 Counsel: Morrison & Foerster LLP  
 Nature of Suit: Intellectual Property, Patent
- **Rowe International Corp. and Arachnid, Inc v. Ecast, Inc, Rock-Ola Manufacturing Corporation, and View Interactive Entertainment Corp.** | 2004–2010  
 Jurisdiction: US District Court for the Northern District of Illinois  
 Counsel: Morrison & Foerster LLP  
 Nature of Suit: Intellectual Property, Patent

## 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** | 2013–2014  
Hightail QA Internship Program, \$452,805.
- **Citrix Systems Silicon Valley** | 2012–2014  
QA Internships, \$218,342.
- **RingCube** | 2007–2011  
QA Internships, \$940,000.
- **National Science Foundation (NSF)** | 2005–2016  
Science and Technology Center, Team for Research in Ubiquitous Secure Technology (TRUST), \$963,746.
- **National Science Foundation (NSF)** | 2006–2009  
Information Assurance Capacity Building Program (IACBP), \$356,000.
- **Intel** | 2005  
Software Security Laboratory (co-PI), \$40,000.
- **Samsung Electronics** | 2005  
Software Engineering Internationalization, \$60,000.
- **GREEN Foundation** | 2000-2004  
Fund for Excellence in Computer Software Engineering, \$500,000.
- **CalPoly Plan** | 2000–2002  
Retaining Females in Computer Science Education, \$15,000.
- **CalPoly Plan** | 2000–2002  
High Demand Courses - Computer Science, \$30,000.
- **Private Donation** | 2001  
The Bonderson Advanced Software Design Studio, \$1,000,000.
- **Compaq** | 2001  
Computer Software Engineering Laboratory, \$35,000.



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

## Dissertations

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

## Books

- ***Overlevelsesguide for Realfagstudenten*** | 1982  
J. Homb, T.M. Jonassen, Sigurd Meldal, T. Rekdal, A. Schjalm | Realistaksjonens forlag (in Norwegian)

## Edited Proceedings

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

## Journal Articles and Book Chapters

- Michal A. Walicki, Magne Haveraaen, and Sigurd Meldal | October 2001  
**Computation Algebras** | In Mathematical Structures in Computer Science, vol. 11, no. 5. Cambridge University Press.
- 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 | 1999  
**Software Prototyping** | In the Wiley Encyclopedia of Electrical and Electronics Engineering. Wiley Online Library.
- Sigurd Meldal and David C. Luckham | 1998  
**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.
- Sigurd Meldal and M. A. Walicki | August 1997  
**Singular and Plural Non-deterministic Parameters** | In SIAM Journal of Computing, vol. 26, no. 4. Society for Industrial and Applied Mathematics.
- Michal Walicki and Sigurd Meldal | March 1997  
**Algebraic Approaches to Non-Determinism, an Overview** | In ACM Computing Surveys, vol. 29, no. 1, pp. 30-81. Association for Computing Machinery.
- Sigurd Meldal and A. I. Vermesan | 1996  
**Verification Oriented Development of Knowledge Based Systems** | In New Review of Applied Expert Systems, vol. 2, pp. 91–104.
- Michal Walicki and Sigurd Meldal | March 1995  
**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.
- Michal Walicki and Sigurd Meldal | March 1995  
**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.
- John Mitchell, Sigurd Meldal, and Neel Madhav | 1991  
**An Extension of Standard ML Modules with Subtyping and Inheritance** | In Information and Control, vol. 71, pp. 95–130.
- Sigurd Meldal | May 1991  
**A Complete Axiomatic Semantics of Spawning** | In Distributed Computing 5, pp. 159-174. Springer-Verlag.
- Sigurd Meldal | 1987  
**Fra Spesifikasjon til Virkelighet** | In DATA, vol. 17, no. 4, pp. 42–45 (in Norwegian).
- Sigurd Meldal | September 1986  
**Partial Correctness of Exits from Concurrent Structures** | In BIT Numerical Mathematics, vol. 26, iss. 3, pp. 295-302. BIT Computer Science and Numerical Mathematics.

- Sigurd Meldal | April 1986  
**An Axiomatic Semantics for Nested Concurrency** | In BIT Numerical Mathematics, vol. 26, iss. 2, pp. 164-174. BIT Computer Science and Numerical Mathematics.
- Sigurd Meldal and E. Mellbye-Larsen | June 1983  
**Styring av Bus- of Lageraksess i en Multiprosessorarkitektur** | In Trip Report from the Joint Scandinavian Computer Conference (NordDATA '83). Den Norske Dataforening (in Norwegian).

## Conference Papers

- Sigurd Meldal | July 2013  
**Some Thoughts on Cyber Risk and the Science(s) of Security** | Keynote address, IEEE International Symposium on Signals, Circuits and Systems.
- Sigurd Meldal | July 2011  
**Breadth, Depth...and Predictable Weather. Components of the Success of Silicon Valley** | Invited talk, Third International Exhibition and Forum of Industry and Innovations (INNOPROM).
- Sigurd Meldal | February 2010  
**Security, a Science** | Invited Valedictorian address, IEEE 2nd International Advance Computing Conference (IACC).
- Sigurd Meldal | March 2009  
**It's a Dangerous World Out There, The Interplay of Security, Safety and Policy** | Keynote address, IEEE International Advance Computing Conference (IACC).
- Sigurd Meldal, Kristen Gates, Russell Smith, and Xiao Su | March 2008  
**Security, Safety and Privacy, Pervasive Themes for Engineering Education** | In Proceedings of the International Conference on Engineering Education (ICEE).
- Daniel Manson, Sigurd Meldal, Carol Sledge, Stephen M. Maurer, John C. Mitchell, Erich Spengler, Janos Sztipanovits, and Javier Torner | October 2006  
**Learning Modules for Security, Privacy and Information Assurance in Undergraduate Engineering Education** | In Proceedings of the 36th Annual Frontiers in Education Conference (FIE).
- Jerry Gao, Yumei Wu, Lee Chang, and Sigurd Meldal | October 2006  
**Measuring Component-Based Systems Using a Systematic Approach and Environment** | In Proceedings of the Second IEEE International Symposium on Service-Oriented System Engineering (SOSE).
- Daniel J. Stearns, C. S. Turner, and Sigurd Meldal | August 2001  
**Ten Pounds in a Five-Pound Sack: Providing Software Engineering Students with Management Experience** | In Proceedings of the International Conference on Engineering Education (ICEE).
- Michal Walicki and Sigurd Meldal | July 2001  
**Nondeterminism vs. Underspecification** | In Proceedings of The Fifth World Multi-Conference on Systemics, Cybernetics and Informatics (SCI/ISAS).
- Michal Walicki, Adis Hodzic, and Sigurd Meldal | August 2001  
**Compositional Homomorphisms of Relational Structures** | In Proceedings of the 13th International Symposium on Fundamentals of Computation Theory.
- David C. Luckham and Sigurd Meldal | August 1999  
**Causal Event-Relations as a Basis for Analyzing Distributed Architectures** | In Proceedings of the 8th International Colloquium on Computer Science with Applications.
- Peter C. Ölveczky and Sigurd Meldal | November 1998  
**Specification and Prototyping of Network Protocols in Rewriting Logic** | In Proceedings of Norsk Informatikkonferanse (NIK '98).

- Sigurd Meldal | April 1998  
**Reference Architectures and Conformance** | In Proceedings of the International Workshop on Requirements Targeting Software and Systems Engineering (RTSE).
- Valentinas Kriauciukas, Michal A. Walicki, and Sigurd Meldal | November 1995  
**Nondeterministic Algebraic Specifications in a Relational Syntax** | In Proceedings of the Nordic Workshop on Programming Theory (NWPT).
- Anca Vermesan and Sigurd Meldal | June 1995  
**An Algebraic Approach to Refinement of KBS Specifications** | In Proceedings of the European Symposium on the Validation and Verification of Knowledge-Based Systems (EUROVAV).
- Michal A. Walicki and Sigurd Meldal | May 1995  
**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).
- Aida Pliuskeviciene, Regimantas Pliuskevicius, Michal Walicki, and Sigurd Meldal | July 1994  
**On Specialization of Derivations in Axiomatic Equality Theories** | In Proceedings of the Symposium on Logical Foundations of Computer Science (LFCS).
- Dinesh Katiyar, David Luckham, John Mitchell, and Sigurd Meldal | January 1994  
**Polymorphism and Subtyping in Interfaces** | In Proceedings of the Workshop on Interface Definition Languages.
- P.O. Tveten and Sigurd Meldal | October 1994  
**Causality Breakdown at  $\omega$**  | In Proceedings of the Nordic Workshop on Programming Theory (NWPT).
- Michal Walicki and Sigurd Meldal | November 1993  
**Initiality + Nondeterminism  $\Rightarrow$  Junk** | In Proceedings of Norsk Informatikkonferanse (NIK '93).
- Michal Walicki and Sigurd Meldal | June 1993  
**Sets and Nondeterminism** | In Proceedings of the Tenth International Conference on Logic Programming (ICLP) Workshop on Logic Programming with Sets.
- Michal Walicki and Sigurd Meldal | November 1992  
**Computations: A Deterministic Semantics of Nondeterminism** | In Proceedings of the 3rd Nordic Workshop on Program Correctness (NWPC).
- John Mitchell, Dinesh Katiyar, David C. Luckham, Neel Madhav, Sigurd Meldal, and Sriram Sankar | April 1992  
**Subtyping, Assignment and Cloning in a Concurrent Object-Oriented Language** | In Proceedings of the DARPA Software Technology Conference.
- Michal Walicki and Sigurd Meldal | November 1991  
**Towards an Equational Theory of Nondeterminism** | In Proceedings of Norsk Informatikkonferanse (NIK '91).
- Sigurd Meldal, Sriram Sankar, and James Vera | August 1991  
**Exploiting Locality in Maintaining Potential Causality** | In Proceedings of the 10th ACM Symposium on the Principles of Distributed Computing (PODC).
- Neel Madhav and Sigurd Meldal | May 1991  
**An Object-Oriented Approach to Formal Specification of Reactive Systems** | In Proceedings of the 11th International Conference on Distributed Computing Systems (ICDCS).
- John C. Mitchell, Neel Madhav, and Sigurd Meldal | January 1991  
**An Extension of Standard ML Modules with Subtyping and Inheritance** | In Proceedings of the 18th ACM Symposium on the Principles of Programming Languages (POPL).
- Sigurd Meldal | May 1990  
**Supporting Architecture Mappings in Concurrent Systems Design** | In Proceedings of the 1990 Australian Software Engineering Conference (ASWEC '90).
- David C. Luckham and Sigurd Meldal | October 1989  
**Specifying and Observing Concurrent Programs** | In Proceedings of the 3rd Workshop on Large Grain Parallelism.

- Sigurd Meldal | January 1989  
**An Abstract Axiomatization of Pointer Types** | In Proceedings of the 22nd Annual Hawaii International Conference on System Sciences (HICSS).
- Sigurd Meldal, David C. Luckham, and Michael A. Haberler | January 1988  
**Specifying Ada Tasking Using Patterns of Behavior** | In Proceedings of the 21st Annual Hawaii International Conference on System Sciences (HICSS).
- Sigurd Meldal | November 1988  
**Redundancy in Software Design** | In Proceedings of Norsk Informatikkonferanse (NIK '88).
- Sigurd Meldal | June 1987  
**Har Formelle Metoder Noen Plass i Programutvikling** | In Trip Report from the Joint Scandinavian Computer Conference (NordDATA '87), (in Norwegian).
- David C. Luckham, David P. Helmbold, Sigurd Meldal, D.L. Bryan, and Michael A. Haberler | 1987  
**Task Sequencing Language for Specifying Distributed Ada Systems** | In System Development and Ada, Proceedings of the CRAI Workshop on Software Factories and Ada.

## 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**  
8th 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 8th COMPASS Workshop | September 1995  
With Michal A. Walicki and Magne Haveraaen.
- **Nondeterministic Operators in a Standard Framework, What's the Use?**  
10th Workshop on Specification of Abstract Data Types Joint with the 5th COMPASS Workshop | June 1994. With Michal A. Walicki.
- **Mutialgebras, Power Algebras and Complete Calculi of Identities and Inclusions**  
10th 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**  
5th COMPASS Workshop | September 1993. With Michal A. Walicki.
- **Parallel Architectures, Flop or gigaFLOP?**  
Vilnius University | 1993. With Tor Sørøvik and Randi Moe.
- **Mutialgebras and Computations: Two Algebraic Semantics of Nondeterminism**  
9th 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**  
2nd Nordic Workshop on Program Correctness (NWPC) | October 1991. With Michal A. Walicki.

## Technical Reports

- David C. Luckham and Sigurd Meldal | June 1997  
**Defining a Security Reference Architecture** | Technical Report CSL-97-728, Stanford University.
- David C. Luckham, James Vera | July 1995  
**Three Concepts of System Architecture** | Technical Report CSL-TR-95-674, Stanford University.
- Michal A. Waliki and Sigurd Meldal | Feb 1995  
**Algebraic Approaches to Nondeterminism, an Overview** | Technical Report 104, Department of Informatics, University of Bergen.
- Michal A. Waliki and Sigurd Meldal | Mar 1995  
**Nondeterministic Operators in Algebraic Frameworks** | Technical Report CSL-TR-95-664, Stanford University.
- Sigurd Meldal | 1989  
**Extending CSP with Termination Independent Process Activation** | Technical Report 37, Department of Informatics, University of Bergen.
- Sigurd Meldal | 1989  
**A Proof System Using Context Invariants in Verification of Concurrent Programs** | Technical Report 39, Department of Informatics, University of Bergen.
- Sigurd Meldal | 1987  
**Allocations of Objects Considered as Nondeterministic Expressions – Towards a More Abstract Axiomatics of Access Types** | Technical Report CSL-TR-87-335, Stanford University
- David C. Luckham, David P. Helmbold, Sigurd Meldal, D.L. Bryan, and Michael A. Haberler | 1987  
**Task Sequencing Language for Specifying Distributed Ada Systems: TSL-1** | Technical Report CSL-TR-87-334, Stanford University.
- Sigurd Meldal | 1986  
**Dokumenter i Devnagari og transkripsjon ved hjelp av TeX** | NUSE, 61 (in Norwegian).
- Sigurd Meldal | 1986  
**Predicting the Future: Proof Rules for Exceptions in Concurrent Structures** | Technical Report 101, Institute of Informatics, University of Oslo.
- Sigurd Meldal | 1986  
**Language Elements for Hierarchical Abstraction in Concurrent Structures** | Technical Report 102, Institute of Informatics, University of Oslo.
- Sigurd Meldal | 1986  
**Axiomatic Semantics of Access Type Tasks in Ada** | Technical Report 100, Institute of Informatics, University of Oslo. Invited paper at the Ada Europe Working Group on Formal Methods, Feb 1986.
- Sigurd Meldal | 1985  
**Exits from Systems of Nested Processes – An Axiomatic Semantics** | Technical Report 93, Institute of Informatics, University of Oslo.
- D. Belsnes, O. Hanseth, and Sigurd Meldal | 1982  
**The HOLM Language** | Technical Report 728, Norwegian Computing Centre.

## Invited Talks

- Keynote, **International Software Summit (ISS-13)** | April 2013
- **Third International Exhibition and Forum of Industry and Innovations (INNOPROM)** | July 2011

- Keynote, **IEEE 2nd 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
- **8th 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, **8th Symposium on Curriculum Development in Security and Information Assurance** (CDSIA) | Apr 2015
- Co-chair, **7th Symposium on Curriculum Development in Security and Information Assurance** (CDSIA) | Apr 2014
- Co-chair, **6th Symposium on Curriculum Development in Security and Information Assurance** (CDSIA) | May 2013
- Co-chair, **5th Symposium on Curriculum Development in Security and Information Assurance** (CDSIA) | Apr 2012
- Chair, **4th Symposium on Curriculum Development in Security and Information Assurance** (CDSIA) | Apr 2011
- Co-chair, **20th ACM Conference on Computers, Freedom, and Privacy** (CFP) | June 2010
- Chair, **3rd Symposium on Curriculum Development in Security and Information Assurance** (CDSIA) | Apr 2010
- Technical Committee Member, **2nd IEEE International Advance Computing Conference** (IACC) | Feb 2010
- Chair, **2nd Symposium on Curriculum Development in Security and Information Assurance** (CDSIA) | Apr 2009
- Chair, **Symposium on Curriculum Development in Security and Information Assurance** (CDSIA) | Apr 2008
- Program Committee Member, **International Conference on Engineering Education** (ICEE) | Aug 2001
- Program Committee Member, **5th International Conference on Mathematics of Program Construction** (MPC) | July 2000
- Program Committee Member, **4th International Conference on Mathematics of Program Construction** (MPC) | July 1998
- Program Committee Member, **7th 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, **6th Nordic Workshop on Program Correctness** (NWPC) | November 1995
- Program Committee member, **5th Nordic Workshop on Program Correctness** (NWPC) | October 1994
- Chair, **4th 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** and **Computing Accreditation Commission**
- 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**