NIKIL DUTT

Distinguished Professor

Departments of Computer Science, Cognitive Sciences, and EECS
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AREAS OF RESEARCH

Computational self-awareness, computer systems design automation, embedded and cyber-physical systems, computer architecture, compilers, low-power design, resilient distributed systems, healthcare IoT, neuromorphic computing.

EDUCATION

1989: **Ph.D.** in Computer Science, University of Illinois at Urbana-Champaign.

1983: **M.S.** in Computer Science, The Pennsylvania State University, University Park, PA.

1980: **B.E. (Honors) with Distinction** in Mechanical Engineering, Birla Institute of Technology & Science, (BITS) Pilani, India.

ACADEMIC APPOINTMENTS

July 2018 – present: **Distinguished Professor**, Department of Computer Science; **Joint Appointments** in Cognitive Sciences and EECS, U.C. Irvine

November 2016 – December 2021: **Distinguished Visiting Professor**, Department of Computer Science and Engineering, Indian Institute of Technology (IIT) Bombay, India.

July 2013 – June 2018: **Chancellor's Professor**, Department of Computer Science; **Joint Appointments** in Cognitive Sciences and EECS, U.C. Irvine

Nov 2006 – June 2013: **Chancellor's Professor**, Department of CS and Department of EECS, and **Director**, ACES Laboratory, Center for Embedded Computer Systems, U.C. Irvine

January 2003 – October 2006: **Professor**, Department of CS and Department of EECS, and **Director**, ACES Laboratory, Center for Embedded Computer Systems, U.C. Irvine

July 1998 – December 2002: **Professor**, Department of ICS and Department of ECE and **Director**, ACES Laboratory, Center for Embedded Computer Systems, U.C. Irvine.

July 1994 - June 1998: **Associate Professor**, Department of ICS and Department of ECE, U.C. Irvine.

April 1990 - June 1994: **Assistant Professor**, Department of ICS and Department of ECE, U.C. Irvine.

July 1989 - March 1990: **Assistant Professor**, Department of ICS, U.C. Irvine.

Jan. 1989 - June 1989: **Lecturer**, Department of ICS, U.C. Irvine.

1983 - 1988: **Research and Teaching Assistant**, Department of CS, University of Illinois at Urbana-Champaign.

1981 - 1983: **Research and Teaching Assistant**, Department of CS, Pennsylvania State University.

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ADMINISTRATIVE APPOINTMENTS

November 2013 – present: **Associate Director**, Center for Cognitive Neuroscience & Engineering (CENCE), U.C. Irvine.

July 2011 – June 2012: **Vice-Chair**, Department of CS, U.C. Irvine.

April 2009 – June 2009: **Acting Chair**, Department of CS, U.C. Irvine.

July 2003 – June 2004 : **Vice-Chair**, Department of CS, U.C. Irvine.

July 1999 - June 2000: **Associate Chair of Graduate Studies**, Department of ICS, U.C. Irvine.

July 1997 - June 1998: **Associate Chair of Graduate Studies**, Department of ICS, U.C. Irvine.

RESEARCH CENTER AFFILIATIONS AT UCI

- Center for Embedded and CyberPhysical Systems (CECS)
- Center for Cognitive Neuroscience & Engineering (CENCE)
- Institute for Future Health (IFH)
- California Institute for Information Technology and Telecommunications (CAL-IT2)
- Center for Pervasive Communications and Computations (CPCC)
- Connected Learning Lab (CLL)

AWARDS AND HONORS

Distinctions

- **Distinguished Professor,** University of California at Irvine, July 2018 – present
- **Chancellor's Professor,** University of California at Irvine, Nov 2006 – Jun 2018
- **ACM Distinguished Scientist,** 2007
- **IEEE Fellow,** 2008
- **ACM Fellow,** 2014
- **Distinguished Visiting Professor,** IIT Bombay, Nov 2016 – present
- **CS@ILLINOIS 2017 Distinguished Educator Award,** University of Illinois at Urbana-Champaign, IL, October 2017.

Keynotes, Distinguished Lectures, Significant Invited Talks

- **Distinguished Lecture:** College of Computing, Yonsei University, Seoul, Korea, November 2022.
- **Keynote Speaker**: 2022 SNU GoGE Workshop on Future Generation Computing Systems, Seoul National University, Seoul, Korea, November 2022.
- **Inaugural Lecture:** IEEE Signal Processing Society (SPS) Autonomous Systems Initiative (ASI) Webinar Series: November, 2022.
- **Keynote Speaker**: HAES/RISCV Event at ESWEEK 2022, Phoenix, AZ, October 2022.

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- **Distinguished Lecture:** KIOS Center of Excellence, University of Cyprus, September 2022.
- **Invited Talk:** Indian Institute of Technology, Computer Science and Engineering, Delhi, Aug. 2022.
- **Distinguished Panelist:** IFIP 60th Year Panel on Future of Computing, October 2021.
- **Keynote Lecture:** 11th Eleventh International Green And Sustainable Computing Conference (IGSC 2020), October 2020.
- **Invited Talk:** 20th Anniversary Workshop on Adaptive and Reflexive Middleware (ARM 2020), Dec. 2020.
- **Distinguished Lecture:** ICT Series, Academia Sinica, Taipei, Taiwan, Dec 2019.
- **Keynote Speaker**: The 6th International Embedded Systems Symposium (IESS 2019), Friedrichshafen, Germany, September 2019.
- **Scientific Keynote Speaker:** CPS Summer School 2019 on Designing Cyber-Physical Systems – From concepts to implementation, Sardinia, Italy, September 2019.
- **Keynote Speaker:** The 32nd International Conference on VLSI Design and 18th International Conference on Embedded Systems, New Delhi, India, January 2019.
- **Distinguished Lecture:** Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China, December 2018.
- **Distinguished Lecture:** CS Department, Yonsei University, Seoul, Korea, December 2018.
- **Keynote Speaker:** Future Chips Forum 2018, Beijing, China, December 2018.
- **Keynote Speaker:** 31st Symposium on Integrated Circuits and Systems Design, Bento Gonçalves, Brazil, August 2018.
- **Keynote Speaker:** 2018 IEEE Computer Society Annual Symposium on VLSI (ISVLSI 2018), Hong Kong SAR, China, July 2018.
- **Keynote Speaker:** University of York Many Core Adaptive Systems Workshop, York, United Kingdom, June 2018.
- **Keynote Speaker:** 28th ACM Great Lakes Symposium on VLSI (GLSVLSI 2018), Chicago, IL, May 2018.
- **Keynote Speaker:** 10th Workshop on Rapid Simulation and Performance Evaluation: Methods and Tools (RAPIDO'18), Manchester, United Kingdom, January 2018.
- **Plenary Opening Speaker:** Adaptive Many-Core Workshop, Southampton University, Southampton, United Kingdom, January 2018.
- **Keynote Speaker**: 5th International Workshop on Cross-Layer Resiliency (IWCR 2017), Seoul, Korea, July 2017.
- **Keynote Speaker**: 19th South School of Microelectronics (EMICRO 2017), Rio Grande, Brazil, May 2017.
- **Keynote Speaker**: 2016 IEEE Asia-Pacific Conference on Circuits and Systems (APCCAS-2016), Jeju, Korea, October 2016.
- **Keynote Speaker**: 13th IEEE International Conference of Embedded Software and Systems (ICESS 2016), Chengdu, China, August 2016.
- **Keynote Speaker**: LCTES 2016: ACM SIGPLAN/SIGBED Conference on Languages, Compilers, Tools and Theory for Embedded Systems (colocated with PLDI 2016), Santa Barbara, CA, June 2016.

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- **Keynote Speaker**: The 21st Workshop on Compiler Techniques and System Software for High-Performance and Embedded Computing, Tainan, Taiwan, May 2015.
- **Distinguished Lecture:** CS Department, IIT Chicago, February 2015.
- **Keynote Speaker**: The 4th Brazilian Symposium on Computing Systems Engineering (SBESC 2014), Manaus, Brazil, November 2014.
- **Keynote Speaker**: The 12th IEEE International Conference on Embedded and Ubiquitous Computing (EUC 2014), Milan, Italy, August 2014.
- **Keynote Speaker**: The 18th Workshop on Synthesis And System Integration of Mixed Information Technologies (SASIMI 2013), Sapporo, Japan, October 2013.
- **Eminent Scholar Lecture**: Texas A&M ECE, September 2013.
- **Keynote Speaker**: European Test Symposium 2013 (ETS 2013), Avignon, France, May 2013.
- **Keynote Speaker**: International Symposium on Electronic System Design (ISED 2012) 2012, Kolkatta, India, December 2012.
- **Keynote Speaker**: International Conference on Parallel, Distributed and Grid Computing (PDGC-2012), Waknaghat, India, December 2012.
- **Keynote Speaker**: 2012 IEEE Workshop on Signal Processing Systems (SiPS 2012), Québec City, Québec, Canada, October 2012.
- **Keynote Speaker**: 23rd IEEE International Symposium on Rapid System Prototyping (RSP 2012), Tampere, Finland, October 2012.
- **Keynote Speaker**: The 18th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA 2012), Korea, Aug 2012.
- **Plenary Speaker:** The 2012 HKUST International Workshop on Embedded Systems Design, Hong Kong, May 2012.
- **Plenary Keynote Speaker:** International Symposium on Electronic System Design (ISED) 2011, Kochi, India, December 2011.
- **Plenary Talk:** IEEE Workshop on Embedded Systems Security (WESS 2011), Taipei, Taiwan, Oct. 2011.
- **Plenary Talk:** IEEE International Workshop on Energy and Thermal Management of Embedded Computing (ETMEC 2011), Maui, HI, August 2011.
- **Distinguished Lecture:** ECE, Carnegie Mellon University, April 2011.
- **Keynote Speaker**: TechWeek 2011, ST Microelectronics, New Delhi, India, March 2011
- **Keynote Speaker**: VLSI-SoC-2010, Madrid, Spain, October 2010.
- **Keynote Speaker**: Commemorative Workshop inaugurating IEEE Kansai-section Computer Society Chapter, Kyoto, Japan, January 28, 2008.
- **Keynote Speaker:** ESLD Second Workshop, Bangalore, India, Jan 11-12, 2007.
- **Invited Talk:** Workshop on New Horizons in Compilers, HiPC 2006, Bangalore, India, December 18, 2006.
- **Invited Talk:** COE International Symposium on Advanced Photonic and Electronic Devices for Information and Electric Power Networks, Kyoto University, Kyoto, Japan, October 23-24, 2006.
- **Distinguished Lecture:** College of Engineering, University of Illinois at Chicago, IL, August 2006.
- **Distinguished Speaker Seminar:** ECE Department at the University of Arizona, Tuscon, AZ, April 2006.

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- **Distinguished Lecture:** CSE Department at Arizona State University, Tempe, AZ, October 2005.
- **Distinguished Lecture:** 25th Anniversary of the CSE Department at University of South Florida, Tampa, FL, April 2005.
- **Keynote Speaker:** DSD'2004: 30th EUROMICRO Symposium on Digital System Design: Architectures, Methods, Tools, September 2004.
- **IEEE Computer Society Distinguished Visitor Program**, 2003-2005.
- **"ACM SIGDA Distinguished Lecturer,"** 2001 ACM SIGDA Distinguished Lecturer Series in Asia.

Recognition of Influential Papers

- **"The Most Influential Papers of 10 Years of DATE**" System Level Design Track, for the paper: "*EXPRESSION: A Language for Architectural Exploration through Compiler/Simulator Retargetability*," in DATE-99, published by Springer 2008.
- **"Best Papers from CASES and MICRO**" Recognition for the CASES 2003 paper: "*Reducing Code Size for Heterogeneous-Connectivity-Based VLIW DSPs*" published in Special Issue of IEEE Transactions on Computers, 2005, as tribute to B. Ramakrishna (Bob) Rau.

Best Paper Awards

- **"Best Paper Award**," The 23rd International Symposium on Quality Electronic Design (ISQED'22), virtual event, April 2022.
- **"Best Paper Award**," the 10th International Conference on Ambient Systems, Networks and Technologies (ANT 2019), Leuven, Belgium, April 2019.
- **"Best IP Award**," 2012 Conference on Design, Automation and Test in Europe (DATE 2012), Dresden, Germany, March 2012.
- **"Best Paper Award**," 2009 International Joint Conference on Neural Networks (IJCNN2009), Atlanta, GA, June 2009.
- **"Best Paper Award**," Asia and South Pacific Design Automation Conference 2006 (ASP-DAC 2006), Yokohama, Japan, January 2006.
- **"Best Paper Award**," 2006 IEEE Consumer Communications and Networking Conference (CCNC 2006), Las Vegas, NV, January 2006.
- **"Best Paper Award**," First IEEE/ACM/IFIP International Conference on Hardware/Software Codesign & System Synthesis (CODES+ISSS 2003), Newport Beach, CA, October 2003.
- **"A. K. Chowdhary Best Paper Award**," IEEE/ACM Conference on VLSI Design, New Delhi, January 2003.
- "**Best Paper Award,"** *IEEE/ACM/IFIP Tenth International Symposium on Computer Hardware Description Languages*, Marseille, France, April 1991.
- "**Best Paper Award,"** *IEEE/ACM/IFIP Ninth International Symposium on Computer Hardware Description Languages*, Washington DC, June 1989.

Best Paper Award Finalists and Nominations

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- **"Best Paper Award Finalist**," 45th International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2020), Virtual, May 2020.
- **"Best Paper Award Finalist**," 57th Design Automation Conference (DAC-2020), Virtual, July 2020.
- **"Best Student Paper Award Nomination,"** 2018 International Joint Conference on Neural Networks (IJCNN2018), Rio de Janerio, Brazil, July 2018.
- **"Best Paper Award Nomination**," 2015 International Symposium on Quality Electronic Design (ISQED 2015), Santa Clara, March 2015.
- **"Best Paper Award Nomination**," IEEE/ACM/IFIP International Conference on Hardware/Software Codesign & System Synthesis (CODES+ISSS 2011), Taipei, Taiwan, October 2011.
- **"Best Paper Award Candidate**," 2006 International Conference on VLSI Design, Hyderabad, India, January, 2006.
- **"Best Paper Award Nomination**," 42nd Design Automation Conference (DAC-2005), Anaheim, CA, June 2005.
- **"Best Paper Award Candidate**," Third Workshop on Application-Specific Processors (WASP'04), Stockholm, Sweden, September 2004.

Teaching and Research Awards

- **"2019 ICS Dean's Award for Research,"** Donald Bren School of Information and Computer Sciences, University of California at Irvine, May 2019.
- **"2013 ICS Dean's Award for Research,"** Donald Bren School of Information and Computer Sciences, University of California at Irvine, February 2013.
- **"2008 ICS Dean's Award for Graduate Student Mentoring,"** Donald Bren School of Information and Computer Sciences, University of California at Irvine, April 2008.
- **"2001 ICS Teaching Excellence Award,"** Senate Faculty members, Honorable Mention, University of California at Irvine, May 2001.
- "**Faculty Recognition Award for Excellence in Teaching,"** Associated Students of the University of California at Irvine (ASUCI), June 1997.
- **"Excellence in Undergraduate Teaching Award,"** The Division of Undergraduate Studies, The Instructional Resources Center and The Committee on Teaching Quality, University of California at Irvine, 1996-1997.
- "**Outstanding Teaching Assistant Award** ," University of Illinois at Urbana-Champaign, Spring 1986.

Academic Awards for PhD Advisees

- **"2nd Best Poster Award for DAC PhD Forum 2018,"** for Ph.D. advisee Kasra Moazzemi, awarded at DAC 2018 PhD Forum, San Francisco, CA, June 2018.
- **"Best Student Paper Award Nomination,"** for Ph.D advisee Hirak Kashyap (jointly supervised with Jeff Krichmar), recognized at the 2018 International Joint Conference on Neural Networks (IJCNN2018), Rio de Janerio, Brazil, July 2018.
- **"Yahoo! Best Dissertation Student Award,"** for Ph.D. advisee Abbas BaniyanMofrad, awarded in the Donald Bren School of Information and Computer Sciences (DBSICS), University of California, Irvine, July 2014.

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- **"Best System Architecture Award,"** for Ph.D. advisee Minyoung Kim, awarded at RTSS 2007 PhD Forum, Tucson, AZ, Dec. 2007.
- **"Best Overall Idea Award,"** for Ph.D. advisee Minyoung Kim, awarded at RTSS 2007 PhD Forum, Tucson, AZ, Dec. 2007.
- **"2008 ACM SIGBED/SIGSOFT Frank Anger Memorial Award,"** for Ph.D. advisee Gabor Madl, awarded at EMSOFT 2007, Salzburg, October 2007.
- **"Grand Prize: Cell/B.E. Challenge '07: Beyond Gaming!,"** for Ph.D. advisee Jayram Moorkanikara, representing UCI/Dartmouth research team in the IBM Cell Programming Competition (September 2007).
- **"2004 EDAA Outstanding Dissertation Award,"** for Ph.D. advisee Dr. Prabhat Mishra, "Specification-driven Validation of Programmable Embedded Systems," (June 2004), currently Assistant Professor at the University of Florida.

Professional Service Awards

- **"50th DAC Service Award,"** In Recognition of Four Years of Service on the Design Automation Conference Executive Committee, June 2013.
- **"2009 SIGDA Distinguished Service Award,"** in recognition of contributions as ACM TODAES Editor in Chief and to SIGDA and the EDA profession in general.
- **"ACM Recognition of Service Award,"** In Appreciation of Contributions to the Association for Computing Machinery (ACM) for service as Editor-in-Chief, ACM TODAES, August 1, 2004 - July 31, 2008.
- "**IFIP Silver Core Award,**" For Exceptional Service to IFIP, August 2007.
- **"Special Service Award,"** For Outstanding Service on the ICCAD Executive Committee, 2004-2005.
- **"ACM SIGDA Service Award,"** In Appreciation of Contributions to ACM/SIGDA, June 2005.
- **"ACM Recognition of Service Award,"** In Appreciation of Contributions to the Association for Computing Machinery (ACM) for service as SIGDA Vice Chair, July 1 1999 - June 30, 2001.
- **"ACM Recognition of Service Award,"** In Appreciation of Contributions to the Association for Computing Machinery (ACM) for the SIGDA University Booth, July 1, 1993 - June 30, 1997.

Other Academic Awards

- "**DAC Prolific Author Award,"** DAC 20 Club: Published 20 or more papers at the Design Automation Conference; recognized at the 50th DAC Awards Banquet, June 2013.
- "**NSF Research Initiation Award,"** 1990 -1992.
- "**Assistant Professor Recognition,"** Rockwell International Corporation, August 1989.
- "**IEEE/Air Force Engineering Foundation Research Initiation Grant Offer,"** September 1990 (*declined since I was also awarded an NSF Research Initiation Award*)
- "**ACM SIGDA Honorable Mention Scholarship Award,"***27th IEEE/ACM Design Automation Conference*, Orlando, FL, June 1990.

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PATENTS

PT1 ***US Patent Number 7,383,529*****:** Method and apparatus for designing circuits using high-level synthesis , R. Gupta, S. Gupta, N. Dutt and A. Nicolau, issued June 3, 2008.

PT2 ***US Patent Number 8,621,444*****:** Systems and Methods for Simulating Instruction Set Architectures, with M. Reshadi, issued December 2013**.**

PT3 Provisional Patent Disclosure: Pipeline Hazard Detection Mechanism in Retargetable Compilers with Partial Bypassing, with A. Shrivastava, A. Nicolau, and E. Earlie, filed September 2004.

PT4 ***US Patent Number 7,533,294*****:** Functional Coverage Driven Test Generation for Validation of Pipelined Processors, with P.Mishra, issued May 2009.

PT5 ***US Patent Number 7,778,815*****:** Efficient Transaction-based Modeling w/ Cycle Count Accurate at Transaction Boundary (CCATB) Models, with S. Pasricha and M. BenRomdhane, issued August 17, 2010.

PT6 ***US Patent Number 8,166,467*****:** Automatic Identification of Application-Specific Functional Units with Architecturally Visible Storage, with P. Biswas, P. Ienne and L. Pozzi, filed December 2006. issued April 24, 2012.

PT7 Provisional Patent Disclosure: Content-Aware Power Optimizations Through Annotations for Multimedia Applications on Mobile Devices, with R. Cornea and A. Nicolau, filed January 2007.

PT8 Provisional Patent Disclosure: Quality-of-Service Composition and Power-Quality Tradeoffs for Streaming Applications on Portable Devices, with R. Cornea and A. Nicolau, filed January 2007.

PT9 Provisional Patent Disclosure: On-Chip Optical Ring Bus (ORB) Communication Architecture for Embedded Systems On Chip, with S. Pasricha, filed December 2007.

PT10 Provisional Patent Disclosure: Arbiter Driven SRAM Leakage Power Reduction in Bus-Based SoCsp, with A. Gupta and F. Kurdahi, filed October 2008.

PT11 ***US Patent Number 8,395,408*****:** Homogenous Dual-Rail Logic for DPA Attack Resistive Secure Circuit Design, with K. Tanimura, issued March 2013.

PT12 Provisional Patent Disclosure: "ERoC: Embedded RAID-on-Chip," (UCI OTA; #2010-688), with L. Bathen, filed 2010.

PT13 Provisional Patent Disclosure: NÆRoC: Networked Appliance/Environment Embedded RAIDs-on-Chip, (UCI OTA; #2011-484-1), with L. Bathen, filed 2011.

PT14 Provisional Patent Disclosure: An efficient neuromorphic system for high-dimensional data compression and factor analysis using neural networks and population coding, (UCI OTA), with M. Beyeler and J. Krichmar, filed Jan 2016. US Application No.: 62/287,510. Title “Sparse and efficient neuromorphic population coding”.

PT15 Provisional Patent Disclosure: Pain assessment method and apparatus for patients unable to self-report pain, (UCI OTA), with A. Rahmani, K. Zheng, A. Nelson, P. Liljeberg, S. Salantera, M. Jiang, A. Anzanpour, E. Syrjala, R. Meironkoski, and G. Yang, US Application No.: 62/668,712, filed May 2018.

PUBLIC SOFTWARE RELEASES

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- **EXPRESSION ADL Environment**
    - ADL-driven exploration of pipelined embedded processors
    - GUI-driven exploration environment with an integrated simulator
- **eCACTI: enhanced cache power and performance estimation software**
    - CACTI extensions for custom memory cells and leakage power
    - CACTI 4.0 (June 2006) from HP Labs directly incorporates eCACTI extensions
- **SPARK: A Parallelizing Approach to the High-Level Synthesis of Digital Circuits**
    - Presynthesis transformations for C-to-RTL synthesis
    - Technology licensed by company
- **DREAM: Distributed Real-time Embedded Analysis Method**
    - Real-time verification and performance estimation of Distributed Real-Time ES
    - Incorporated into Fujitsu Laboratories of America for RT analysis of MPSoCs.
- **ALDERIS: Domain-Specific Meta-modeling of Distributed Real-Time Embedded Systems**
    - Model-driven GUI for component-based design of Distributed RT Embedded Systems
- **CARLsim: a GPU-accelerated SNN Simulator (2009, 2013, 2014, 2015, 2016, 2018)**
- **PHiloSOFTWARE: Virtualization of On-Chip Software-Controlled Memories (2012)**
- **MARS: Middleware for Adaptive and Reflective System Software (2018)**

SIGNIFiCANT PROFESSIONAL SERVICE

Board Membership

Oct 2014 – Jun 2018: **Chair,** ACM New Publications Committee.

Jun 2008 – Jun 2018: **Member,** ACM Publications Board.

Jan 2014 – present: **Advisory Board**, ACM Transactions on Embedded Computer Systems (ACM TECS).

Jan 2009 – present: **Advisory Board**, IEEE Embedded Systems Letters (IEEE ESL).

July 2003 – present: **Founding Board of Governors**, ACM SIGBED.

July 2003 – October 2005: **Advisory Board**, ACM SIGBED.

Oct 2003 - present: **Advisory Board**, Center for Embedded Systems for Critical Applications, Virginia Tech.

July 2009 – present: **Advisory Committee**, NSF Trust-HUB Center: www.trust-hub.org

Dec. 1999 – Dec. 2002: **Technical Advisory Board**, Axys Design Automation, Irvine, CA.

July 1993 – June 2009: **Advisory Board**, ACM SIGDA.

Other Professional Offices Held

- US Executive Advisory Council of IIIT-Delhi, India, 2010 -
- Information Director, ACM Special Interest Group on Design Automation (SIGDA), 1998 -2001.

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- Vice-Chair, ACM Special Interest Group on Design Automation (SIGDA), 1997 - 2001.
- Vice-Chair, IFIP WG 10.5 on Integrated Electronic Systems Design, 1994 -2007.
- Elected Senior Member of the IEEE, December 1996.
- Elected Member: IFIP WG 10.2 on System Description and Design Tools, 1991 - .
- Kernel Group Member: IFIP Special Interest Group on VHDL (SIG-VHDL), 1994 - .

Editorial Activity

Editor-in-Chief

- **Editor-in-Chief**, *ACM Transactions on Design Automation of Electronic Systems* (*TODAES*), July 2004 – June 2008.

Associate/Series Editor

- **Associate Editor**, *ACM Transactions on Embedded Computer Systems (TECS*), September 2003 – June 2013.
- **Associate Editor**, *IEEE Transactions on VLSI Systems* (*T-VLSI*), January 1999 – 2001, January 2007-2015
- **Associate Editor**, *ACM Transactions on Design Automation of Electronic Systems* (*TODAES*), November 1998 – July 2004.
- **Series Editor,** Embedded Systems, Springer, 2009-.

Guest Editor

- **Guest Editor,** *Proceedings of the IEEE Special Issue on Self-Awareness for Autonomous Systems, 2020*
- **Guest Editor,** *ACM Transactions on Cyber-Physical Systems (ACM-TCPS) Special Issue on Self-Aware Cyber-Physical Systems, 2020*
- **Guest Editor,** *IEEE Design & Test of Computers (D&T) Special Issue on Self-Aware Systems-on-Chip, 201*
- **Guest Editor,** *ACM Transactions on Embedded Computing Systems (ACM-TECS) Special Issue on Cross-Layer Dependable Embedded Systems, 2014.*
- **Guest Editor***, Springer Design Automation of Electronic Systems (DAES)*), *Special Issue on Novel Memory Architecture and Organization*, 2014.
- **Guest Editor***, IEEE Embedded Systems Letters* (*IEEE-ESL*) *Special Issue on Novel Memory Architecture and Organization*, 2012.
- **Guest Editor,** *ACM Transactions on Embedded Computing Systems (ACM-TECS) Special Issue on Cyber-Physical Systems*, 2012.
- **Guest Editor***, IEEE Transactions on VLSI Systems* (*T-VLSI*) *Special Issue on System-Level Synthesis*, 1999.

International Research Panels

- Spanish Excellence Review Committee, Madrid, Spain, October 2015, October 2020
- INRIA Evaluation Committee, Paris, France, March 2016.

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Strategic Workshops

- Participant: National Science Foundation Workshop on Future Research Directions in CAD for Electronic Systems: "Putting the 'D' Back in CAD", Seattle, WA, May 1996.
- Participant: National Science Foundation Workshop on *New Directions in Compiler Technology*, Anapolis, MD, August 2001.
- Participant: *NSF/SIGDA Embedded Systems Workshop*, Atlanta, GA, Nov. 2001.
- Participant: *NSF CPS Planning Workshop*, Washington DC, July 2006.
- Participant: *NSF CPS Summit*, St. Louis, April 2008.
- Organizer: *Workshop on CPS: Closing the Loop,* held together with ESWEEK 2009, Grenoble, France.
- Participant: National Science Foundation Workshop on *Future Directions in Computer Systems Research*, Arlington, April 2010.
- Participant: CCC Visioning Workshop on Extreme Scale Design Automation (ESDA): Challenges and Opportunities for 2025 and Beyond, Feb. 2014.
- Round Table Organizer: National Science Foundation Workshop on Micro/Nano Circuits and Systems Design, Notre Dame, IN, December 2020.
- Participant: National Science Foundation Workshop on *Sustainability in Computing*, Online, December 2022.

Panels

- Panel Statement: "How 'High' is High-Level Synthesis?", *IEEE Computer Society 1992 Workshop on VLSI*, Clearwater Beach, FL, February 2-5, 1992.
- Panel Moderator: "Physical Design Models at the Behavioral Level*," Focused Workshop on Linking Behavioral and Physical Models of Hardware*, Irvine, CA, May 30, 1992.
- Panel Statement: "Hardware/Software Co-Design: Are there any new problems?", *IEEE First Asia Pacific Conference on Hardware Description Languages, Standards and Applications*, Australia, December 1993.
- Panel Organizer & Moderator: "Design Reuse: Fact or Fiction?", *31st ACM/IEEE Design Automation Conference*, San Diego, CA, June 1994.
- Panel Organizer & Moderator: "Impact of Memory Technology and Architectures on System Synthesis," *International Symposium on System Synthesis (ISSS-97*), Antwerp, Belgium, September 1997.
- Panel Organizer & Moderator: "If Software is King for Systems-on-Silicon, What's New in Compilers?" *ICCD-97: International Conference on Computer Design*, Austin, TX, October 1997.
- Panel Organizer: "IP-Based Design: VIP (Very Important Process) or RIP (Rest in Peace)?" *International Symposium on System Synthesis (ISSS-98)*, Hsinchu, Taiwan, December 1998.
- Panel Organizer: "Driving Agenda for Systems Research," First IEEE/ACM/IFIP Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS 2003), Newport Beach, October 2003.
- Panel Statement: "Quo Vadis, BTSoCs (Billion Transistor Systems-on-Chip)?", ASPDAC-2008, Seoul, Korea, January 2008.
- Panel Statement: "ESL Hand-off: Fact or EDA Fiction?", *45th ACM/IEEE Design Automation Conference*, Anaheim, CA, June 2008.

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Summer School Lectures

- ACACES 2008: Fourth International Summer School on Advanced Computer Architecture and Compilation for Embedded Systems, July 13 to July 19, 2008 L'Aquila, Italy. Topic: Bus-based On-Chip Communication Architectures
- Georgia Tech Summer School on Cyber-Physical Systems, Atlanta, GA, June 22-26, 2009. Topic: Integrating End-to-End and Cross-Layer Optimizations for Cyber-Physical Systems.
- ARTIST Summer School Europe, Autrans (near Grenoble), France, September 5-10, 2010. Topic: Integrating End-to-End and Cross-Layer Optimizations for Cyber-Physical Systems.
- ACACES 2016: Twelfth International Summer School on Advanced Computer Architecture and Compilation for Embedded Systems, July 10 to July 16, 2008 Fiuggi, Italy. Topic: Self-Aware, Variation-Aware, Cross-Layer Embedded System Design.
- CPS Summer School 2019: International Summer School on Designing Cyber-Physical Systems – From concepts to implementation, September 17-21, 2019 Sardinia, Italy. Topic: Computational Self-Awareness for Resilient Cyber-Physical Systems.

CONFERENCE ORGANIZATION (Steering, Executive, Advisory, Organizing Committee)

Steering Committees

- **HLSW**: ACM/IEEE International Workshop on High Level Synthesis: **1992, 1994.**
- **VIUF**: VHDL International Users' Forum: **1994**.
- **ASP-DAC**: Asia and South Pacific Design Automation Conference: **1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006.**
- **ISSS**: International Symposium on System Synthesis: **1999.**
- **CODES+ISSS:** International Symposium on Hardware/Software Codesign and System Synthesis: **2012-.**
- **ESWEEK:** Embedded Systems Week: **2013-.**
- **IWCR:** International Workshop on Cross-Layer Resiliency: 2013-.
- **NVMSA:** International Conference on Nonvolatile Memory Systems and Applications: 2014-.
- **MeAOW:** Memory Architectures and Organization Workshop: 2011-2015.
- **SelfPhyS:** Self-Awareness in Cyber-Physical Systems Workshop: 2016-.

Executive Committees

- **DATE**: Design, Automation, and Test in Europe: **2001**.
- **ICCAD:** International Conference on Computer-Aided Design: **2004, 2005.**
- **DAC:** Design Automation Conference: **2010, 2011, 2012, 2013.**

Advisory Committees

- **ISOCC:** International SoC Design Conference: **2004, 2006, 2008, 2010, 2012, 2013, 2014, 2015, 2016**

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Organizing Committees

- **APCCAS:** IEEE Asia-Pacific Conference on Circuits and Systems: **1992** (Tutorial Organizer)
- **ISSS:** International Symposium on System Synthesis: **1998.**
- **VLSIDesign:** VLSI Design Conference: **2001.**
- **CODES+ISSS**: International Conference on Hardware/Software Codesign and System Synthesis: **2003, 2004, 2005** .
- **ESWeek**: Embedded Systems Week : **2006, 2007, 2008, 2011**
- **MeAOW:** Memory Architecture and Organization Workshop: **2012-2014**
- **ICCAD:** International Workshop on Hardware/Software Techniques for Cross-Layer Resiliency: **2012**
- **NeuComp**: International Workshop on Neuromorphic and Brain-Based Computing Systems, at DATE: **2013, 2015**.
- **IWCR**: International Workshop on Cross-Layer Resilience,: **2013, 2014, 2015, 2016**
- **SBMicro**: 33rd Symposium on Microelectronics Technology and Devices: **2018**

CONFERENCE CHAIR (General, Technical Program, Topic, Panel, etc.)

General Chair

- **APCHDL:** Asia Pacific Conference on Hardware Description Languages, Standards and Applications, **1996**.
- **ESWEEK:** Embedded Systems Week: **2008**:
- **RTCSA:** Embedded and Real-Time Computing Systems and Applications Conference: **2016**

Technical Program Chair

- **VIUF**: VHDL International Users' Forum: **1994**
- **EURO-PAR**: Workshop on Design Automation of Parallel VLSI Circuits, *Vice Program Chair*: **1997**
- **ASPDAC**: Asia-Pacific Design Automation Conference: **2004**
- **RTSS**: IEEE Real Time Systems Symposium, Hardware/Software Codesign Track: **2004**
- **VLSI Design**: International Conference on VLSI Design, *Co-Chair for Embedded Systems*: **2005**
- **CODES+ISSS**: International Conference on Hardware/Software Codesign and System Synthesis: **2007**
- **DAC**: Design Automation Conference: *TPC Co-Chair*: **2010-2011**
- **ACM MoVid:** 7th ACM Workshop on Mobile Video: **2015**

Topic Chair, Track Chair

- **DATE:** Design Automation and Test in Europe: **1998, 2002, 2003, 2006, 2009, 2013, 2015, 2016, 2017.**

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- **EURODAC:** European Design Automation Conference: **1995, 1996, 1997.**
- **ED&TC:** European Design and Test Conference: **1996.**
- **ICCAD:** International Conference on Computer-Aided Design: **2001, 2003.**
- **ISLPED:** International Symposium on Low-Power Electronics and Design**: 2006.**
- **VLSI-DAT**: International Symposium on VLSI Design, Automation & Test: **2009, 2010**.
- **VLSID**: VLSI Design & Embedded Systems: **2016**.

Panel Chair, Tutorial Chair, Benchmark Chair

- **HLSW:** International Workshop on High Level Synthesis, *Benchmarks Chair*: **1992, 1994.**
- **ISSS:** International Symposium on System Synthesis, *Panel Chair:* **1998**
- **APCHDL:** IFIP Asia Pacific Conference on Chip Description Languages, *Tutorial Chair*: **1999**
- **DATE:** Design Automation and Test in Europe, March, *Tutorial Co-Chair*: **2001**

CONFERENCE AND WORKSHOP TECHNICAL PROGRAM COMMITTEES

- **CHDL**: IFIP International Conference on Hardware Description Languages: **1993, 1995, 1997.**
- **APCHDL:** IEEE Asia Pacific Conference on Hardware Description Languages, Standards and Applications: **1993, 1994, 1998, 1999**.
- **VFE:** VHDL Forum in Europe: **1994, 1995, 1996**.
- **EURODAC:** European Design Automation Conference: **1994**.
- **EDAF**: IFIP 10.2 Working Conference on Electronic Design Frameworks: **1994**
- **ICCAD:** International Conference on Computer-Aided Design: **1994, 1996, 2001**.
- **WLCM:** IFIP/Esprit Workshop on Libraries, Component Modeling: **1995, 1997**.
- **ISSS:** International Symposium on System Synthesis: **1995, 1997, 1998, 1999, 2000, 2001, 2002**
- **ICVC:** International Conference on VLSI and CAD: **1995**
- **DAC:** Design Automation Conference, *Best Paper Award Selection Committee:* **1996**.
- **EUROVHDL**: European VHDL Conference: **1996, 1998,** .
- **DSD:** EUROMICRO Symposium on Digital System Design: **1997, 1999, 2003, 2004, 2005, 2008, 2009, 2010, 2011, 2012, 2013**
- **WDTA**: Workshop on Design, Test and Applications: **1998, 1999**
- **FDL**: Forum on Design Languages: **1998, 1999**
- **SASIMI**: Workshop on Synthesis and Simulation of Mixed Technologies: **1998, 2004, 2006, 2007, 2009, 2012, 2014.**
- **DATE**: Design Automation and Test in Europe: **1999, 2004, 2005, 2006, 2007, 2009, 2010, 2012, 2013, 2014, 2015, 2016, 2017**

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- **DSVV**: International Workshop on Distributed System Validation and Verification: **2000**
- **ICDA**: International Conference on Chip Design Automation: **2000**
- **IMS**: Workshop on Intelligent Memory Systems at ASPLOS-IX: **2000**.
- **VLSI-SOC**: IFIP International Conference on Very Large Scale Integration: **2001, 2003**
- **WASP/SASP**: Workshop/Symposium on Application Specific Processors: **2002, 2003, 2004, 2007, 2008**
- **ASPDAC**: Asia-Pacific Design Automation Conference: **2003, 2007, 2008, 2009, 2012, 2013.**
- **LCTES**: Conference on Languages, Compilers and Tools for Embedded Systems: **2003, 2007**
- **MoDES**: Workshop on Model Driven Embedded Systems at RTAS: **2003, 2004**.
- **ISLPED**: International Symposium on Low-Power Electronics and Design: **2003, 2004, 2005, 2006, 2009.**
- **CODES+ISSS**: International Conference on Hardware/Software Codesign and System Synthesis: **2003, 2004, 2005, 2006, 2007, 2008, 2009, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020**
- **COLP**: Workshop on Compilers and Operating Systems for Low Power at PACT: **2003.**
- **CTCES**: Workshop on Compilers and Tools for Constrained Embedded Systems at CASES: **2003, 2004**
- **HiPC: 2004**
- **SCOPES**: Software and Compilers for Embedded Systems: **2004, 2006, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019**
- **CASES**: Compilers, Architectures and Software for Embedded Systems, **2004, 2005**
- **EUC**: International Conference on Embedded and Ubiquitous Computing: **2004, 2005**
- **ART-C**: Architectures for Real-Time Computing: **2004.**
- **ICESS**: International Conference on Embedded Software and Systems: **2004.**
- **RTAS**: IEEE Real-Time and Embedded Technology and Applications: **2005, 2006, 2007, 2008, 2009**
- **IESS**: International Embedded System Symposium: 2005.
- **SBCCI**: Symposium on Integrated Circuits and System Design: **2005, 2006, 2007**.
- **RTSS**: IEEE Real Time Systems Symposium: **2005, 2006, 2009**
- **SAMOS**: Embedded Computer Systems: Architectures, Modeling and Synthesis: **2005, 2009**
- **ALPS**: International Workshop on Advanced Low Power Systems: **2006, 2007.**
- **DIPES**: IFIP Conference on Distributed and Parallel Embedded Systems: **2006, 2008, 2010**.
- **ESTIMEDIA**: Workshop /Symposium on Embedded Systems for Real-Time Multimedia: **2006, 2007, 2008, 2009, 2010, 2012, 2013, 2014, 2015**, **2016, 2017**
- **ICS** Low Power Computing Workshop: at ICS-**2006**.
- **HiPEAC**: International Conference on High Performance Embedded Architectures & Compilers: **2007**
- **ICFPT**: IEEE International Conference on Field Programmable Technology: **2006**.
- **NSF** Workshop on CPS: **2006**.
- **MTV**: International Workshop on Microprocessor Testing and Verification: **2007, 2008, 2009, 2010, 2011, 2012**, **2013, 2014, 2015**
- **VLSI Design**: International Conference on VLSI Design: **2008, 2009, 2013, 2015, 2016, 2017**

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- **WoWMoM**: International Symposium on a World of Wireless Mobile and Multimedia Networks: **2008, 2009.**
- **EMSOFT**: ACM Conference on Embedded Software: **2008, 2009**.
- **ASC**: APSIPA Annual Summit and Conference: **2009**.
- **FPL**: Conference on Field Programmable Logic : **2009.**
- **IGCC**: IEEE International Green Computing Conference: **2010**.
- **ICCPS**: International Conference on Cyber-Physical Systems at CPSWeek: **2012**.
- **RTCSA**: IEEE International Conference on Embedded and Real-Time Computing Systems and Applications: **2013, 2014, 2015**
- **ACM SAC**: ACM/SIGAPP Symposium On Applied Computing Conference: Embedded Systems Track **2013, 2014, 2015, 2016**
- **INTESA:** Workshop on INTelligent Embedded Systems Architectures and Applications: **2018, 2019**

Reviewer

Research Proposals :

- NSF (1988 -).
- University of California MICRO (1991 -).
- Board of Regents Research Committee, State of Louisiana (1992).
- California Space Institute, University of California, San Diego (1993).
- NSF SBIR Panel (1995 -).
- NSF CISE Program Review Panels (1999-).
- NSF ITR Program Review Panel (2000-).
- Swedish Research Council (2003)
- Hong Kong Research Council (1997-)
- Australian National Research Council (1998-)
- Canadian National Science and Engineering Research Council (NSERC) (2003-)
- Swiss National Science Foundation (2018-)

Journals :

- Proceedings of the IEEE (1987).
- IEEE Trans. Computer Aided Design of Integrated Circuits and Systems (1989 -).
- IEEE Trans. Circuits and Systems (1991 -).
- IEEE Trans. on VLSI Systems (1992 -).
- IEEE Design and Test of Computers (1991 -).
- Integration, The VLSI Journal (1991 -).
- VLSI Design, (1993).
- Brazilian Journal of Electronics, (1995).

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- ACM Trans. on Design Automation of Electronic Systems (1995 -).
- Design Automation for Embedded Systems (1996 -).
- ACM Trans. On Code Optimizations (TACO) (2004-).

Premier Conferences and Workshops :

- IEEE/ACM Design Automation Conference (1987 -) .
- IEEE/ACM International Symposium on Computer Architecture (1988 -).
- IEEE International Conference on Computer-Aided Design (1987 -).
- IEEE Custom Integrated Circuits Conference (1987).
- IFIP Applied Formal Methods for Correct VLSI Design (1989).
- IFIP Computer Hardware Description Languages and their Applications (1990 -).
- IEEE/ACM High-Level Synthesis Workshop (1990 -).
- International Computer Symposium (1992).
- International Symposium on VLSI Design (1991 -).
- International Conference on Parallel Processing (ICPP) (1993 -).
- European Conference on Design Automation with EuroVHDL (EURO-DAC) (1992 -).
- European Design Automation Conference (EDAC) (now DATE) (1991-1997).
- Design and Test in Europe Conference (DATE) (1998-).
- Real-Time Systems Symposium (RTSS) (2003-).

Professional Association Memberships

- IEEE (Computer Society, CAS Society, DATC, TC VLSI, TC Computer Architecture).
- ACM-SIGDA. (Special Interest Group on Design Automation)
- ACM-SIGBED (Special Interest Group on Embedded Systems)
- IFIP WG 10.5.
- IFIP WG 10.2 (Embedded Systems)

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Ph.D. ADVISEES (Chair)

Pradip Jha	*High-Level Library Mapping for RT Components*, October 1995.
Roger Ang	*Library Insertion and Reuse of Datapath Components in High-Level Synthesis*, June 1996.
Preeti Panda	*Memory Optimizations and Exploration for Embedded Systems*, January 1998.
Peter Grün	*Hardware/Software Memory Customization for Programmable Embedded Systems,* Sept. 2001.
Prabhat Mishra	*Specification-driven Validation of Programmable Embedded Systems,* March 2004. (**Winner of 2004 EDAA Outstanding Dissertation Award**)
Mahesh Naga Mamidipaka	*Power Estimation in High-Performance Memory Structures,* October 2004.
Partha Biswas	*Acceleration beyond Memory Barriers in IS-extensible Processors*, March 2006.
Aviral Shrivastava	*Compiler-in-the-Loop Exploration of Programmable Embedded Systems*, June 2006
Nick Savoiu	*Design Transformations for System Level Models*, (Rajesh Gupta, coadvisor), Sept 2006.
Sudarshan Banerjee	*Application mapping for FPGAs with Partial Dynamic Reconfiguration*, March 2007.
Ilya Issenin	*Multiprocessor System-on-Chip Data Memory Customization for Embedded Array-Intensive Applications*, March 2007.
Sudeep Pasricha	*On-Chip Communication Architecture Synthesis for Multi-Processor System-on-Chips*, June 2008.
Minyoung Kim	*xTune: A Formal Methodology for Cross-layer Tuning of Mobile Real-time Embedded Systems*, September 2008.
Kyoungwoo Lee	*Cooperative Cross-Layer Protection for Resource Constrained Mobile Multimedia Systems,* December 2008.
Gabor Madl	*Model-based Analysis of Event-driven Distributed Real-time Embedded Systems,* June 2009.
Ashok Halambi	*TransMutations: A framework for dynamic customization of retargetable compilers for embedded systems*, June 2009.
Aseem Gupta	*Temperature Aware VLSI Design for Reduced Power and Reliability Enhancement*, June 2009.
Jayram Moorkanikara	*Framework for Spiking Neural Network Modeling on High-Performance Architectures*, (Jeff Krichmar, coadvisor), September 2010.
Luis Angel Bathen	*PHiLOSoftware: A Low Power, High Performance, Reliable, and Secure Virtualization Layer for On-Chip Software-Controlled Memories*, July 2012.
Kazuyuki Tanimura	*PARADE: Power Analysis Resistive Architecture Design,* August 2012.
Abbas Banaiyan Mofrad	*Resilient On-Chip Memory Design in the Nano Era,* June 2015.
Jun Yong Shin	*Temperature-Aware Design for SoCs using Thermal Gradient Analysis,* June 2015.
Santanu Sarma	*Cyber-Physical-System-On-Chip (CPSoC): An Exemplar Self-Aware SoC and Smart Computing Platform*, June 2016
Michael Beyeler	*Cortical Neural Network Models of Visual Motion Perception for Decision-Making and Reactive Navigation*, (Jeff Krichmar, coadvisor), June 2016.
Hossein Tajik	*Runtime Memory Management in Many-core Systems,* December 2016.
Jurngyu Park	*Cooperative CPU-GPU Dynamic Power Management Methodologies for Energy-efficient Mobile Gaming*, September 2017.
Majid Namaki Shoushtari	*Software Assists to On-chip Memory Hierarchy of Manycore Embedded Systems,* April 2018
Tiago Rogerio Muck	*Reflective On-Chip Resource Management Policies for Energy-Efficient Heterogeneous Multiprocessors*, May 2018
Bryan Donyanavard	*Adaptive Resource Management for Mobile Multiprocessors through Computational Self-Awareness,* September 2019
Roger Chen-Ying Hsieh	*Cooperative Power and Resource Management for Heterogeneous Mobile Architectures,* September 2019
Delaram Amiri (co-advised with Marco Levorato)	*Energy and Bandwidth Efficient Edge Computing for the Internet of Healthcare Things*, May 2020
Kasra Moazzemi	*Runtime Resource Management of Emerging Applications in Heterogeneous Architectures,* May 2020

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Hamid Nejatollahi *Programmable Architecture for Lattice-based Cryptography,* December 2020
Milad Asgari *Holistic Health Monitoring and Personalized Intervention for Well-being Promotion,* Aug 2022
Emad Kasaeyan Naeini *An End-to-End Platform for Multi-Modal Machine Learning Affective Computing Services,* Aug 2022
Sina Shahhosseini
Biswadip Maity
Sina Labbaf
Caio Batista
Saehanseul Yi
Kenneth Stewart (co-advised with Emre Neftci and Jeff Krichmar)
Tim Hin Wai Lui (co-advised with Emre Neftci)
Alex Dongjoo Seo
Ping-Xiang Chen
Salar Jafarlou
Mahyar Abbasian
Harrison Espino (co-advised with Jeff Krichmar)
Nitish Nagesh
Hamidreza Alikhani
Zhongqi Yang
Quang Anh Hoang

Ph.D. ADVISEES (Committee Member)

Joseph Lis (1991)
John Roy (1991)
Allen C-H Wu (1992)
Elke Rundensteiner (1992)
James H. Kim (1992)
Hung Huang (1993)
Yulin Chen (1993)
Haigeng Wang (1993)
Champaka Ramachandran (1994)
Sanjiv Narayan (1994)
Frank Vahid (1994)
Loganath Ramachandran (1994)
Tsong-Der Har (1994)
Jie Gong (1995)
Patrick Murphy (1996)
Smita Bakshi (1996)
Steven Wallace (1996)
Bjarne Hald (*External Ph.D. Examiner at TU Denmark, Lyngby*, 1997)
Steven Novack (1997)
Erica Hsiao-Ping Juan (1997)
Min Xu (1997)
Chih-Wen Hseuh (1997)
David Kolson (1998)
Prasert Kanthamanon (*External Ph.D. Examiner for University of New South Wales*, 1998)
Fehmina Merchant (1998)
Jianwen Zhu (1999)
Nong Fan (2000)
Hartej Singh (2000)

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Euguene Gendelman (2001)
Ana Azevedo (2002)
Sumit Gupta (2003)
Jong-eun Lee (*External Ph.D. Examiner for Seoul National University, 2004*)
Radoslaw Szymanek *("Opponent" for Ph.D. Examination at Lund University, Sweden,* 2004*)*
Weiyu Tang (2004)
Paolo D'Alberto (2005)
Jinfeng Liu (2005)
Dan Nicolaescu (2005)
Efe Yardimci (2006)
Manish Verma (*External Ph.D. Examiner for University of Dortmund*, 2006)
Dexin Li (2006)
Andrew Felch (2006)
Iosif Lazaridis (2006)
Andreas Gal (2006)
Radu Cornea (2007)
Qubo Hu (*External Ph.D. Examiner for Norwegian University of Science and Technology,* 2007)
Andre Nacul (2007)
Vasant Venkatachalam (2007)
Chulsung Park (2007)
K. N. Vikram (*External Ph.D. Examiner for Indian Institute of Technology,Madras, India,* 2007)
Arijit Ghosh (2008)
Yun Huang (2008)
T. S. Rajesh Kumar (*External Ph.D. Examiner for Indian Institute of Science, Bangalore, India,* 2008)
Siddharth Choudhuri (2008)
Vidhya Balasubramanian (2008)
Love Singhal (2009)
Younghwan Park (2009)
Sahasrabuddhe Sameer D. (*External Ph.D. Examiner for Indian Institute of Science, Bombay, India,* 2009)
Lei Wang (2009)
Mohammad Ghodrat (2009)
Bo Xing (2009)
Aryabhatta Sahu (*External Ph.D. Examiner for Indian Institute of Technology, Delhi, India,* 2009)
Deshmukh Ulhas R. (*External Ph.D. Examiner for Malaviya National Institute of Technology, Jaipur, India,* 2009)
Stanley Cheng (2009)
Ganghee Lee (*External Ph.D. Examiner for Seoul National University, Seoul, Korea, 2010*)
Carmen Badea (2010)
Avesta Sasan (2010)
Giovanni Ansaloni (*External Ph.D. Examiner for University of Lugano, Switzerland, 2011*)
Arun R. (*External Ph.D. Examiner for Indian Institute of Technology, Delhi, India,* 2011)
Ali Shami (*External Ph.D. Examiner for Royal Institute of Technology (KTH), Stockholm, Sweden, 2012*)
Aparna Mandke (*External Ph.D. Examiner for Indian Institute of Science, Bangalore, India,* 2012)
Rosario Cammarota (2013)
Amr Hussien (2013)
Janmartin Jahn (*External Ph.D. Examiner for Karlsruhe Institute of Technology, Germany,* 2014)
Ivan Beretta (*External Ph.D. Examiner for EPFL, Switzerland,* 2014)
Ting Shou (2015)
Tom Springer (2015)
Fausto Aritco (2015)
Felipe Sampaio (*External Ph.D. Examiner for UFRG, Brazil,* 2018)
Ujjwal Gupta (*External Ph.D. Committee Member for Arizona State University,* 2018)
Zhi Chen (2018)

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Korosh Vatanparvar (2018)
Jenny Kim (2019)
Qiuxi Zhu (2019)
Sabur Baidya (2019)
Sajjad Taheri (2019)
Mohammad Fouda (2020)
Hirak Kashyap (2020)
Tae Min Park (2020)
Lorenzo Feretti (*External Ph.D. Committee Member for UNISI, 2020*)
Nailah Alhassoun (2021)
Xinyun Zou (2021)
Davide Callegaro (2021)
Praveen Venkateswaran (2021)
Gongjin Sun (2022)
Takashi Nagata (2022)
Ali Tazarv (2022)

Ph.D. CANDIDACY COMMITTEES

Arthur Reyes (ICS Ph.D. Candidacy Exam, 1996)
Simin Shoari (ECE Ph.D. Candidacy Exam, 1997)
Susan Mabry (ICS Ph.D. Candidacy Exam, 1997)
Ashok Halambi (ICS Ph.D. Candidacy Exam, June 1998)
Peter Grün (ICS Ph.D. Candidacy Exam, June 1998)
Alberto Nannarelli (ECE Ph.D. Candidacy Exam, 1998)
Hartej Singh (ECE Ph.D. Candidacy Exam, June 1998)
Jianwen Zhu (ICS Ph.D. Candidacy Exam, June 1998)
M. Srinivas (ICS Ph.D. Candidacy Exam, March 1999)
G. Lu (ECE Ph.D. Candidacy Exam, July 1999)
Andreas Gerstlauer (ICS Ph.D. Candidacy Exam, July 1999)
Dinesh Ramanathan (ICS Ph.D. Candidacy Exam, August 1999)
Shuqing Zhao (ICS Ph.D. Candidacy Exam, July 1999)
Ana Azevedo (ICS Ph.D. Candidacy Exam, September 1999)
Nick Savoiu (ICS Ph.D. Candidacy Exam. September 1999)
Weiyu Tang (ICS Ph.D. Candidacy Exam. August 2000)
Sumit Gupta (ICS Ph.D. Candidacy Exam. August 2000)
Prabhat Mishra (ICS Ph.D. Candidacy Exam, March 2001)
Mahesh Mamidipaka (ICS Ph.D. Candidacy Exam, June 2001)
Dongwan Shin (ICS Ph.D. Candidacy Exam, Sept. 2001)
John Xie (ICS Ph.D. Candidacy Exam, Sept. 2001)
Pei Zhang (ICS Ph.D. Candidacy Exam, Sept. 2001)
Lukai Cai (ICS Ph.D. Candidacy Exam, Sept. 2001)
Samar Abdi (ICS Ph.D. Candidacy Exam, 9/02)
Partha Biswas (ICS Ph.D. Candidacy Exam, 9/02)
Aviral Shrivastava (ICS Ph.D. Candidacy Exam, 9/02)
Ilya Issenin (ICS Ph.D. Candidacy Exam, 9/02)
Jinfeng Liu (EECS Ph.D. Candidacy Exam, 3/03)
Dexin Li (EECS Ph.D. Candidacy Exam, 5/03)

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Radu Cornea (ICS Ph.D. Candidacy Exam, 9/03)
Shivajit Mohapatra (ICS Ph.D. Candidacy Exam, Sept. 2003)
John Augustine (ICS Ph.D. Candidacy Exam, Sept. 2003)
Vasant Venkatachalam (ICS Ph.D. Candidacy Exam, Sept. 2003)
Efe Yardimci (ICS Ph.D. Candidacy Exam, 11/03)
Andreas Gal (ICS Ph.D. Candidacy Exam, Dec. 2003)
Yun Huang (ICS Ph.D. Candidacy Exam, March 2004)
Sudeep Pasricha (ICS Ph.D. Candidacy Exam, March 2004)
Iosif Lazaridis (ICS Ph.D. Candidacy Exam, March 2004)
Andre Nacul (ICS Ph.D. Candidacy Exam, May 2004)
Sudarshan Banerjee (ICS Ph.D. Candidacy Exam, August 2004)
Donghua Deng (EECS Ph.D. Candidacy Exam, Sept. 2004)
Lei Wang (ICS Ph.D. Candidacy Exam, Sept. 2004)
Arijit Ghosh (ICS Ph.D. Candidacy Exam, Sept. 2004)
Paolo D'Alberto (ICS Ph.D. Candidacy Exam, Oct.. 2004)
Keun Sik No (EECS Candidacy Exam, Dec. 2004)
Ji Young Park (Civil Engineering Candidacy Exam, Dec. 2004)
Ying Zhang (EECS Candidacy Exam, Jan 2005)
Mohammad Ghodrat (ICS Ph.D. Candidacy Exam, March 2005)
Ann Gordon Ross (UCR/CS Ph.D. Qualifying/Candidacy Exam, March 2005)
Greg Stitt (UCR/CS Ph.D. Qualifying/Candidacy Exam, March 2005)
Minyoung Kim (ICS Ph.D. Candidacy Exam, March 2005)
Kyoungwoo Lee (ICS Ph.D. Candidacy Exam, March 2005)
Dan Nicolaescu (ICS Ph.D. Candidacy Exam, April 2005)
Amir Safarian (EECS Qualifying Exam, Sept. 2005)
Aseem Gupta (EECS Qualifying Exam, Sept. 2005)
Chulsung Park (EECS Qualifying Exam, Dec. 2005)
Jun Ho Ban (EECS Qualifying Exam, Dec. 2005)
Bo Xing (ICS Ph.D. Candidacy Exam, April 2005)
Radha Guha (EECS Qualifying Exam, Jan. 2006)
Amin Shameli (EECS Qualifying Exam, March 2006)
Andrew Felch (ICS Ph.D. Candidacy Exam, June 2006)
Love Singhal (ICS Ph.D. Candidacy Exam, June 2006)
Gabor Madl (ICS Ph.D. Candidacy Exam, September 2006)
Jayram Moorkanikara (CS Ph.D. Candidacy Exam, November 2006)
Carmen Badea (CS Ph.D. Candidacy Exam, December 2006)
Stanley Chih-Yang Chen (EECS Qualifying Exam, October 2007)
Inchul Yang (CEE Qualifying Exam, December 2007)
Arup Chakraborty (CS Ph.D. Candidacy Exam, August 2008)
Luis Angel Bathen (CS Ph.D. Candidacy Exam, September 2008)
Patti Lee (CS Ph.D. Candidacy Exam, October 2008)
Gregor Wagner (CS Ph.D. Candidacy Exam, June 2009)
Avesta Sasan (EECS Qualifying Exam, July 2009)
M. Karthikeyan (CS Ph.D. Candidacy Exam, August 2009)
Amr Hussein (EECS Qualifying Exam, September 2009)
Kazuyuki Tanimura (CS Ph.D. Candidacy Exam, September 2009)
Rosario Cammarota (CS Ph.D. Candidacy Exam, September 2009)
Patricia Lee (CS Ph.D. Candidacy Exam, September 2009)
Tran Le Nguyen (EECS Qualifying Exam, October 2009)
Hessam Kooti (CS Ph.D. Candidacy Exam, December 2009)
Taesu Kim (CS Candidacy Exam, March 2010)
Il-Joon Kim (EECS Qualifying Exam, May 2010)

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Muhammad Abdelghaffar (EECS Qualifying Exam, August 2010)
Dali Zhao (CS Candidacy Exam, September 2010)
Marco Cesarano (CS Candidacy Exam, December 2010)
Jun Yong Shin (EECS Qualifying Exam, March 2011)
Nam Duong (CS Candidacy Exam, March 2011)
Mike Avery (Cognitive Sciences Candidacy Exam, June 2011)
Sen Zhou (EECS Qualifying Exam, July 2011)
Nga Dang (CS Candidacy Exam, August 2011)
Sangwon Chae (EECS Qualifying Exam, September 2011)
Derrik Asher (Cognitive Sciences Candidacy Exam, October 2011)
Liang Pan (EECS Qualifying Exam, December 2011)
Fausto Artico (CS Candidacy Exam, March 2012)
Peyman Nazari (EECS Qualifying Exam, March 2012)
Tom Springer (CS Candidacy Exam, May 2012)
Volkan Gunes (CS Candidacy Exam, June 2012)
Abbas BanaiyanMofrad (CS Ph.D. Candidacy Exam, July 2012)
Ting-Shuo Chou (CS Candidacy Exam, October 2012)
Jenny Kim (EECS Qualifying Exam, March 2013)
Hossein Tajik (CS Candidacy Exam, September 2013)
Santanu Sarma (CS Candidacy Exam, September 2013)
Majid Namaki Shoushtari (CS Candidacy Exam, March 2014)
Gene Zhijing Qin (CS Topic Exam, April 2014)
Michael Beyeler (CS Candidacy Exam, August 2014)
Jurngyu Park (CS Candidacy Exam, September 2014)
Ting Shou (CS Candidacy Exam, April 2015)
Emily Lauren Rounds (Cog Sci Candidacy Exam, April 2015)
Tiago Muck (CS Candidacy Exam, June 2015)
Bryan Donyanavard (CS Candidacy Exam, June 2015)
Zana Ghaderi (CS Candidacy Exam, July 2015)
Zhi Chen (CS Candidacy Exam, July 2015)
Chenying Hsieh (CS Candidacy Exam, April 2015)
Shang Ma (EECS Qualifying Exam, September 2015)
Korosh Vatanparvar (EECS Qualifying Exam, September 2015)
Sabur Baidya (CS Candidacy Exam, May 2016)
Qiuxi Zhu (CS Candidacy Exam, June 2016)
Kasra Moazzemi (EECS Qualifying Exam, August 2016)
Hirak Kashyap (CS Candidacy Exam, March 2017)
Neftali Watkinson (CS Candidacy Exam, June 2017)
Qing Han (CS Candidacy Exam, June 2017)
Sajjad Taheri (CS Candidacy Exam, December 2017)
Ujjwal Gupta (ASU ECE PhD Comprehensive Exam, December 2017)
Delaram Amiri (EECS Qualifying Exam, March 2018)
Hamid Nejatollahi (EECS Qualifying Exam, March 2018)
Taemin Park (CS Candidacy Exam, May 2018)
Mohammad Fouda (EECS Qualifying Exam, May 2018)
Aniket Shivam (CS Candidacy Exam, May 2018)
Huan Wang (EECS Qualifying Exam, June 2018)
Davide Callegaro (CS Candidacy Exam, September 2018)
Xinyun Zhou (CS Candidacy Exam, September 2018)
Gongjin Sun (CS Candidacy Exam, February 2019)
Stanislas Listopad (CS Candidacy Exam, May 2019)
Travis Bartley (EECS Qualifying Exam, June 2019)

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Praveen Venkateswaran (CS Candidacy Exam, June 2019)
Qing Han (CS PhD Topic Exam, July 2019)
Takashi Nagata (CS Candidacy Exam, June 2020)
Milad Asgari (EECS Qualifying Exam, June 2020)
Sina Shahhosseini (EECS Qualifying Exam, July 2020)
Biswadip Maity (CS Candidacy Exam, September 2020)
Sina Labbaf (CS Candidacy Exam, September 2020)
Yongxiao Zhou (EECS Qualifying Exam, December 2020)
Ali Rostami (CS Candidacy Exam, December 2020)
Kenneth Stewart (CS Candidacy Exam, May 2021)
Caio Batista de Melo (CS Candidacy Exam, May 2021)
Emad Kasaeyan Naeini (EECS Qualifying Exam, June 2021)
Saehanseul Yi (CS Candidacy Exam, July 2021)
Rui Cao (EECS Qualifying Exam, September 2021)
Zahra Sharifiheris (Nursing Candidacy Exam, December 2021)
Gongjin Sun (CS Candidacy Exam, January 2022)
Mihnea Chirila (CS Candidacy Exam, February 2022)
Tung-Chun Chang (CS Candidacy Exam, February 2022)
Amir Zargari (EECS Qualifying Exam, March 2022)
Arnav Malawade (EECS Qualifying Exam, March 2022)
Jeffrey Chen (CS Candidacy Exam, April 2022)
Khuong An Vo (CS Candidacy Exam, April 2022)
Leonardo Passig Horstmann (UFSC Brazil Qualifying Exam, August 2022)
Seyed Amir Hossein Aqajari (EECS Qualifying Exam, August 2022)

Faculty Mentorship Program Advisees

Roger P. Ang, 1993-1994

Rafael Lopez 2003-2004.

M.S. Advisees

Indraneel Ghosh, *High-Level Modeling of Standard Parts in VHDL*, ECE M.S. Thesis, June 1992.
Asheesh Khare, *SIMPRESS: A Simulator Generator Environment for Systems-on-Chip Exploration*, ICS M.S. Thesis, September 1999.
Shannon Tauro, April 2003.
Daniel Massaguer, EECS M.S. Thesis, Winter 2005.
Codrut Stancu, CS M.S., July 2012
Sonny Lin, CS M.S., June 2014
Hee Jeong Han, CS M.S., June 2019
Emad Kasaeyan, EECS M.S., June 2020
Neil Thanawala, *Hardware Acceleration of Polynomial Multiplication using Pipelined FFT*, June 2021
Jay (Leming) Chen, Summer 2022
Tianyi Hu, Summer 2022

M.S. Advisees (as a Committee Member)

Rajesh Gupta (1990)

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Champaka Ramachandran (1990)
Erik Jessen (1991)
Sharon Yu (1992)
David Lee (1992)
Jian Li (1993)
Reynold Leong (1993)
Nirav Dagli (1994)
Lata Ganesan (1995)
Alberto Nannarelli (1995)
Mat Loikkanen (1995)
Joao Lacerda (1996)
Poonam Agrawal (1996)
Zhuzhen Kang (1997)
Hartej Singh (1997)
Wenwei Pan (1997)
Ming-Hau Lee (1997)
Hung-Kang Liu (1997)
Farzad Etemadi (1997)
Yang Zhang (1997)
Joseph J. Balardeta (1998)
Mark Pontius (1998)
Ruiwei Wang (1998)
Tsen-Yi Lin (2001)
Devyani Sharma (2006)
Jae Young Lee (2008)
Satyajit Das (2011)
Yiping Wan (2012)
Phu Nguyen (2015)
Zhijie Zhang (2020)
Jose' Luis Conradi Hoffman (UFSC Brazil, 2020)
Marzieh Ashrafiamiri (Summer 2021)
Seyed Amir Hossein Aqajari (December 2021)
Floranne Ellington (June 2022)

Faculty Visitors Hosted

Sri Parameswaran, University of Queensland, Australia, December 1993 - May 1994.
Hiroshi Nakamura, Tsukuba University, Japan, March 1996 - January 1997.
Hee Seok Kim, Chong Ju University, Korea, August 1996 - August 1997.
Anupam Basu, Indian Institute of Technology, Kharagpur, India, March 1998 - August 1999.
Jong Kwon Chang, Ulsan University, Korea, January 2000 - January 2001.
Frederic Rousseau, University of Grenoble, France, May 2000 - September 2000.
Kitae Hwang, Hansung University, Korea, September 2000 - August 2001.
Kiyoung Choi, Seoul National University, December 2001 – December 2002.
Wonyong Sung, Seoul National University, January 2004-December 2004.
Per Gunnar Kjeldsberg, Norwegian University of Science and Technology, October 2005-June 2006.
Yun-Seok Nam, Korea Polytechnic University, January 2006-December 2006.
Yoshinori Takeuchi, Osaka University, September 2006-April 2007
Oh-Young Kwon, Korea University of Technology and Education, Jan-Dec 2007
Hoon Chang, Korea Sep 07-Sep 08
Namyun Kim, Hansung University, Jan 08-Feb 08

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Ing-Jer Huang, National Sun-Yat Sen University, August 2008 – June 2009.
Kiyoung Choi, Seoul National University, February 2009 – June 2009.
Sung-Soo Lim, Kookmin University, December 2009 – June 2011
Yunheung Paek, Seoul National University, December 2009 – January 2011
Gu-Min Jeong, Kookmin University, July 2011 – June 2012
Hoyoung Hwang, Hansung University, January 2013-January 2014
Yukio Mitsuyama, Kochi University of Technology, Japan, August 2013-Feb 2014
Alfonso Avila, Monterrey Tec, Mexico, August 2013-July 2014
Sung-Soo Lim, Kookmin University, September 2014-September 2015
MyungKeun Yoon, Kookmin University, August 2015-December 2017
Antonio Frohlich, Federal University Santa Catarina, July 2016- June 2017
Hiroyuki Tomiyama, Ristumeikan Unviersity, Sep 2016-Jan 2017
Bruno Zatt, Federal University of Pelotas, Brazil, May 2017- May 2018
Kenshu Seto, Tokyo City University, Japan, March 2018-September 2018
Jong-Chan Kim, Kookmin University, March 2020 - February 2021
Yongsoo Joo, Kookmin University, December 2020 - December 2021
Junho Kim, Kookmin University, Jan 2022 - December 2022

Post-Doctoral Scholars Supervised

Dan Brahme, December 1991 - 1993.
Robert Carden, June 1991 - 1993.
Seong Yong Ohm (jointly with F. Kurdahi), September 1993 - September 1995.
Marie-Lise Flottes (jointly with D. Gajski), July 1994 - July 1995.
Hiroyuki Tomiyama, March 1999 - March 2001.
Sumit Gupta, July 2003 – March 2004.
Hyun-Ok Oh, September 2003 – March 2005.
Prabhat Mishra, April 2004-July 2004.
Yongjin Ahn, October 2008-Sep 2011
Yuko Hara-Azumi, July 2010 – December 2010 & Sep 2011 – Mar 2012.
Amir Rahmani (*Marie Curie Fellow*), July 2016-June 2019
Sanaz Rahimi-Moosavi, March 2020-June 2022

Doctoral Student Visitors Supervised

Jongeun Lee, Seoul National University, January 2002 – May 2003.
Sunghyun Lee, Seoul National University, September 2003 – September 2004.
Jaewon Seo, Korean Advanced Institute of Science and Technology (KAIST), April 2004-April 2005.
Kisun You, Seoul National University, December 2004 – December 2005.
Sanghyun Park, Seoul National University, June-September 2005.
Ameet Patil, University of York, January-April 2006.
Doosan Cho, Seoul National University, December – February 2007 and July – September 2007.
Chun Hung Lai, NSYSU Taiwan, August 2008 – August 2009.
Fu-Ching Yang, NSYSU Taiwan, August 2008 – August 2009.
Liang-Bi Chen, NSYSU Taiwan, August 2008 – August 2009.
Manhwee Jo, Seoul National University, Feb 2009 – July 2009.
Ganghee Lee, Seoul National University, Feb 2009 – July 2009.
Giovanni Ansaloni, University of Lugano, Sep 2009 – March 2010.
Jongwon Lee, Seoul National University, Jan 2010 – Dec 2010.
Yongin Kwon, Seoul National University, Aug 2010 – Dec 2010.
Dongyun Shin, Kookmin University, Apr 2010 – Jul 2010.

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Daeyoung Hong, Kookmin University, Apr 2010 – Jul 2010.
Juan Gonzalez, Monterrey Tec, January 2011 – December 2011.
Yi Wang, HK Polytechnic University of Science and Technology, March 2011 – Aug 2011.
Gustavo Girao, Federal University of Rio Grande do Sul, Brazil, Jan 2012 – Dec 2012.
Trent Chen-Kang Lo, National Tsing Hua University, Taiwan, March 2012 – December 2012.
Chang-Woo Park, Kookmin University, Korea, March 2012 – June 2012.
Dong Byeong Kang, Kookmin University, Korea, March 2012 – May 2012
Janmartin Jahn, Karlsruhe Institute of Technology, Germany, July 2012 – Oct 2012
Amir Monazzah, Sharif University, Iran, Sep 2016-Sep 2017
Andre' del Mestre, PURCS, Brazil, Jan 2017 – Sep 2017
Lei Yang, Chongqing University, China, Nov 2017 – Nov 2018
Iman Azimi, University of Turku, Finland, Sep 2017 – Dec 2017
Arman Anzanpour, University of Turku, Finland, Oct 2018 – Jan 2019
Lucretia Williams, UCI Summer Bridge Program for new PhD students, July - September 2019

Masters Student Visitors Supervised

Florian Maurer, Technical University of Munich, Germany, May 2018 – October 2018.
Luis Freire, Monterrey Technological Institute, Monterrey, Mexico, September 2018 - December 2018
Alex Dongju Seo, Kookmin University, Korea, June 2019- Feb 2020
Seongsil Heo, Kookmin University, Korea, Jan 2020 - June 2020
Namhyun Kim, Kookmin University, Korea, 2020-2021
Yeohwan Yoon, Kookmin University, Korea, Dec 2021-May 2022
YongHwan Kim, Kookmin University, Korea, Mar 2022-Aug 2022
Myunghak Lee, Kookmin University, Korea, Mar 2022-Aug 2022
Hyejin Lee, Kookmin University, Korea, Mar 2022-Aug 2022

Industrial Visitors Hosted

Taisei Yoshino, Hitachi Corporation, September 1999 - September 2000.
Yohei Akita, Hitachi Corporation, July 2003 – July 2004.
Qiang Zhu, Fujitsu Laboratories Inc., August 2005-August 2006.
Isao Watanabe, Hitachi Corporation, September 2006 - September 2007.
Shinichi Shibahara, Renesas Technology Corporation Sep 07-Aug08
Takashi Takenaka, NEC Corporation, Apr 09-Mar 10
Taehun Kim, Samsung, March 2015 – Dec 2015
Janne Takalo-Mattila, VTT, Finland, May 2018 - June 2018
Byeong-Jin Kwak, Ministry of Science & ICT, Korea, August 2019 -July 2020
Dukyoung Yun, Samsung, Sep 2021 –Aug 2022

Undergraduate Honor and Research Advisees

David Bainbridge, 1989 - 1990 (ICS Honors Program)
Pat Stephens, 1991 - 1992 (Campus Honors Program)
David DiGrigorio, 1995 - 1998 (ICS & Campus Honors Program)
Steve Ganem, 1997 - 1998 (Campus Honors Program)
Torrey Searle, 1999 - (ICS Honors Program)
Rex Chin-Ju Chen, 2002-2003 (ICS Honors Program)
Robert On, 2002-2003 (ICS Honors Program)
Luis Angel Bathen 2005 (NSF REU Program)
Michael Shimasaki (HSSOE Undergraduate Research Fellow, 2005-2006)

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Nicholas Pham (Undergraduate Research Advisee)
Michael Wei (Undergraduate Research Advisee, 2008-2009)
Timothy Chan (Undergraduate Research Advisee, 2012-2013)
Phil Yuhao Ma (Undergraduate Research Advisee, LearnUCI Project, 2013-2014)
Kevin Jonaitis (Undergraduate Research Advisee, LearnUCI Project, 2013-2014)
Kyle Boos (Undergraduate Research Advisee, LearnUCI Project, 2013-2014)
Richard Dong Ju Lee (Undergraduate Research Advisee, LearnUCI Project, 2013-2014)
Adam Keppler (Undergraduate Research Advisee, 2016)
Ruoyi Nie (UCI SURF-IoT program, Summer 2017)
Ajan Subramanian (UCI SURF-IoT program, Summer 2017)
Chris Reina (VaTech IoTSity REU program, Summer 2017)
Nicolas Casilli (Northeastern Univ IoTSity REU program, Summer 2018)
Bin Ru (Sophie) He (Cornell University) IoTSity REU program, Summer 2019)
Anthony Park (UCI SURF-IoT program, Summer 2019)
Tingjue Yin (UCI SURF-IoT program, Summer 2019)
Nour Hamade (UCI SURF-IoT program, Summer 2019)
Jay Leming Chen (Undergraduate Research Advisee, 2020)
Darin Kuo (Undergraduate Research Advisee, 2020)
Caleb Siu-Yat Chan (Undergraduate Research Advisee, 2020)
Neal Khodaskar (Undergraduate Research Advisee, 2020)
Sahil Katrekar (Undergraduate Research Advisee, 2020)
Ajan Subramanian (Undergraduate Research Advisee, 2017-2020)
Aviv Benchorin (UCI SURF-IoT program, Summer 2020)
John Le (UCI SURF-IoT program, Summer 2020, CS 199 Fall 2020-)
Jonathan Sugijoto (UCI SURF-IoT program, Summer 2020, CS 199 Fall 2020-)
Iva Do Khauv (ICS Honors Program, Fall 2020-)

International Undergraduate Research Advisees

Hoyeonjiki Kim (UCI-Kookmin I_SURF program, Summer 2015)
Kisang Cho (UCI-Kookmin I_SURF program, Summer 2015)
Jihyun Park (UCI-Kookmin I_SURF program, Summer 2015, Summer 2016)
Ary Guedes Lins (Brazil Science-without-Borders Scholar, Summer 2016)
Hyungjun Lee (UCI-Kookmin I_SURF program, Summer 2016)
Jae-Yeol Lee (UCI-Kookmin I_SURF program, Summer 2016)
Dong Joo Seo (UCI-Kookmin I_SURF program, Summer 2016)
Chang-Hyun Lee (UCI-Kookmin I_SURF program, Summer 2016)
Kyungjun Cha (UCI-Kookmin I_SURF program, Summer 2017)
Daehyun Park (UCI-Kookmin I_SURF program, Summer 2017
Kihoon Han (UCI-Kookmin I_SURF program, Summer 2017)
Sehee Jeong (UCI-Kookmin I_SURF program, Summer 2017)
Kyu Han Lee (UCI-Kookmin I_SURF program, Summer 2017)
Daewhan Kim (UCI-Kookmin I_SURF program, Summer 2017)
Inyeop Song (UCI-Kookmin I_SURF program, Summer 2017)
Keunpil Kim (UCI-Kookmin I_SURF program, Summer 2017)
Kihyeon Park (UCI-Kookmin I_SURF program, Summer 2017)
Ji Young An (UCI-Kookmin I_SURF program, Summer 2018)
Sujin Kang (UCI-Kookmin I_SURF program, Summer 2018)
Sunwoo Kwon (UCI-Kookmin I_SURF program, Summer 2018)
Gwangjin Wi (UCI-Kookmin I_SURF program, Summer 2018)
Jinbae Park(UCI-Kookmin I_SURF program, Summer 2018)
Hyeoggeun Eom (UCI-Kookmin I_SURF program, Summer 2018)
Yejin Jin (UCI-Kookmin I_SURF program, Summer 2018)

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Hyeongwoo Kim (UCI-Kookmin I_SURF program, Summer 2018)
Chan Cheong (UCI-Kookmin I_SURF program, Summer 2018)
Jinwoo Hwang (UCI-Kookmin I_SURF program, Summer 2018)
Seong Young Kang (UCI-Kookmin I_SURF program, Summer 2018)
Junghyun Park (UCI-Kookmin I_SURF program, Summer 2018)
Yongtae Kim (UCI-Kookmin I_SURF program, Summer 2019)
Kihoon Park (UCI-Kookmin I_SURF program, Summer 2019)
Byunghoon Park (UCI-Kookmin I_SURF program, Summer 2019)
Joonkyo Seo (UCI-Kookmin I_SURF program, Summer 2019)
Hyengjoon Goo (UCI-Kookmin I_SURF program, Summer 2019)
Seoyeong Hong (UCI-Chosun I_SURF program, Summer 2019)
Wongi Baek (UCI-Chung-Ang I_SURF program, Summer 2019)
Joonhee Jeong (UCI-Chungnam I_SURF program, Summer 2019)
Youngwoo Cho (UCI-Chungnam I_SURF program, Summer 2019)
Jeonghwa Jeong (UCI-Dankook I_SURF program, Summer 2019)
Jiwon Park (UCI-Hallym I_SURF program, Summer 2019)
Ye Sel Lee (UCI-Seoul Women's I_SURF program, Summer 2019)
Hyunji Oh (UCI-Sungkyunkwan I_SURF program, Summer 2019)
Byeongkeon Lee (UCI-Sungkyunkwan I_SURF program, Summer 2019)
Omkar Joglekar (UCI-TelAviv ISURF program, Summer 2019)
Inkyung Kim (UCI-Kookmin I_SURF program, Winter 2020)
Doyeon Kim (UCI-Kookmin I_SURF program, Winter 2020)
Yunju Nam (UCI-Kookmin I_SURF program, Winter 2020)
Hyunju Kim (UCI-Kookmin I_SURF program, Winter 2020)
Yonggeon Kim (UCI-Kookmin I_SURF program, Winter 2020)
Hunjune Choo (UCI-Kookmin I_SURF program, Summer 2021)
Shinyoung Kim (UCI-Kookmin I_SURF program, Summer 2021)
Donghwan Lee (UCI-Kookmin I_SURF program, Summer 2021)
Eunseong Nam (UCI-Kookmin I_SURF program, Summer 2021)
JiHong Park (UCI-Kookmin I_SURF program, Summer 2021)
Taejung Heo (UCI-Kookmin I_SURF program, Summer 2021)
Seokhyeon Lee (UCI-Kookmin I_SURF program, Summer 2021)
Wonjin Woo (UCI-Kookmin I_SURF program, Summer 2021)
Youngsuk Lee (UCI-Kookmin I_SURF program, Summer 2021)
Jinwoo Heo (UCI-Kookmin I_SURF program, Summer 2021)
Seungmi Shin (UCI-Kookmin I_SURF program, Summer 2021)
Yeonsun Baek (UCI-Kookmin I_SURF program, Winter 2022)
Yunjeong Kim (UCI-Kookmin I_SURF program, Winter 2022)
Hyunae Cho (UCI-Kookmin I_SURF program, Winter 2022)
Hyunsung Shin (UCI-Kookmin I_SURF program, Winter 2022)
YunJae Park (UCI-Kookmin I_SURF program, Winter 2022)
Hyungbin Seo (UCI-Kookmin I_SURF program, Winter 2022)
Sungsik Kim (UCI-Kookmin I_SURF program, Winter 2022)
Joowan Lim (UCI-Kookmin I_SURF program, Winter 2022)
Byeonggyu Park (UCI-Kookmin I_SURF program, Winter 2022)
Yeieun Hwang (UCI-Kookmin I_SURF program, Winter 2022)
Hyosuk Lee (UCI-Kookmin I_SURF program, Winter 2022)
Beomseok Lee (UCI-Kookmin I_SURF program, Winter 2022)
Jungmin Ha (UCI-Kookmin I_SURF program, Winter 2022)
Sanggeon Yun (UCI-Kookmin I_SURF program, Winter 2022)
Woohyuk Jang (UCI-Kookmin I_SURF program, Winter 2022)
Minsong Kim (UCI-Kookmin I_SURF program, Winter 2022)

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Jeongyeop Kim (UCI-Kookmin I_SURF program, Summer 2022)
Seungha Kim (UCI-Kookmin I_SURF program, Summer 2022)
Younggyun Lee (UCI-Kookmin I_SURF program, Summer 2022)
Jaeo Cho (UCI-Kookmin I_SURF program, Summer 2022)
Soobin Heo (UCI-Kookmin I_SURF program, Summer 2022)
Geesung Oh (UCI-Kookmin I_SURF program, Summer 2022)

Pregraduate Mentorship Program Advisees

Melinda Hardy, 1990 - 1991.

UC LEADS Mentorship Program Advisees

Rafael Lopez, Summer 2001.
Korey Sewell, Summer 2003.

UC Competitive Edge Summer Bridge Program Advisees

Lucretia Williams, Summer 2019 (7/1/2019-9/4/2019)

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RESEARCH FUNDING

Title	Dates	Agency/Program	Amount
Unrestricted Research Gift	8/22	GREPP USA, Inc.	**$35,000**
Unrestricted Research Gift	2/22	GREPP USA, Inc.	**$40,000**
Robust AI Technology for Mission Critical Systems	9/21-8/22	Kookmin University, Korea	**$92,288**
SCC-CIVIC-FA Track B: CaReDeX: Enabling Disaster Resilience in Aging Communities via a Secure Data Exchange (co-PI w/ Nalini Venkatasubramanian (Lead PI), Sharad Mehrotra, Julie Rousseau, Lisa Gibbs)	9/21-8/22	NSF CISE - CNS	**$999,997**
Heterogeneous Architecture, Memory and Storage Exploration for Self-driving Workloads	10/21-9/22	Samsung	**$140,000**
Unrestricted Research Gift	8/21	Raz Motor Group, Inc.	**$75,000**
Power Management for Scalable Computing Platforms (Gift)	6/21	Facebook, Inc.	**$80,000**
Physics-Informed Neural Networks (Gift) (co-PI with Emre Neftci)	5/21	Accenture, Inc, .	**$100,000**
Harnessing the Power of Positive Connections to Reduce Loneliness in College Students (co-PI w/ Jessica Borelli (PI) and Amir Rahmani)	5/21-4/22	Susan Samueli Integrative Health Institute	**$25,000**
Unrestricted Research Gift	1/21	Raz Motor Group, Inc.	**$65,000**
SCC-CIVIC-PG Track A:CaReDeX: Enabling Disaster Resilience in Aging Communities via a Secure Data Exchange (co-PI w/ Nalini Venkatasubramanian (Lead PI), Sharad Mehrotra, Julie Rousseau, Lisa Gibbs)	11/20-6/21	NSF CISE - CNS	**$49,999**
FW-HTF-P: D-CCC: Digital Health and the Future of Community-Centered Care (co-PI w/ Amir Rahmani & Adey Nyamathi)	10/20-9/21	NSF CISE - CNS	**$149,932**
EAGER: SARE: Detecting Zero-Day Side-channel Attacks in Sensor Rich Cyber-Physical Systems (co-PI with Fadi Kurdahi)	10/20-9/22	NSF ECCS	**$300,000**
Cloud-based High-throughput Acquisition and Analytics of Zebrafish Electrocardiogram for Cardiac Studies and Drug Development (co-I; PI: Hung Cao)	9/20-8/22	NIH SBIR Phase II Subcontract from Sensoriis, Inc.	**$499,394**
International Research Collaboration for AI-based IoT Healthcare Technology	7/19-12/20	MTIE, Korea	**$145,000**

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Institute for Future Health 6/19-6/21 UCI/ICS Endeavor Grants **$150,000**
(co-PI with Ramesh Jain)

UNITE: Smart, Connected, and Coordinated Maternal Care for Underserved Communities
(Lead PI; co-PIs: Yuqing Guo and Marco Levorato)
10/18-9/22 NSF Smart & Connected Communities **$2,099,382**

Conquering MPSoC Complexity with Principles of a Self-Aware Information Processing Factory
(Lead PI; co-PI: Fadi Kurdahi) 10/17-9/23 NSF CISE **$1,008,000**

Unrestricted Research Gift 12/17 Qualcomm Inc. **$100,000**

Internet of Cognitive Things for Personalized Healthcare
(Lead PI; co-PI: Marco Levorato) 4/17-3/20 NSF CISE **$300,000**

Unrestricted Research Gift 8/16 Qualcomm Inc. **$140,000**

"SAGE-CPSoC": Self-Aware CPSoCs with Hierarchical Goal Management 9/16-8/18 EU Marie-Curie Foundation **$34,000**

Unrestricted Research Gift 9/15 Qualcomm Inc. **$60,000**

Scalable Event-driven Neuromorphic Learning Machines for Human-Centric Computing
9/15-8/18 Intel Inc. **$1 Million, UCI portion: $475,000**
(co-PI with Emre Neftci and Jeff Krichmar)

Mobile GPU Characterization, Synergistic Memory Optimizations and Energy-Efficient DVFS Policies for Graphics-Intensive Mobile Applications
1/15-1/16 Samsung **$100,000**

Automated Parameter Tuning of Large-Scale Spiking Neural Networks
9/13-8/16 NSF CISE **$965,300, UCI portion: $513,698**
(co-PI with Jeff Krichmar)

Contract 8/12 KITECH **$21,504**

Machine learning-based approach to optimize execution of GPGPU programs affected by memory access irregularities
7/12-12/15 UC MEXUS-CONACYT **$25,000**

Ultimately Reliable and Safe (Zero-Recall) Software Technology Development
1/12-12/15 MKE, Korea **$270,000**

Temperature sensitive timing analysis (gift) 4/11 Semiconductor Research Corp. **$30,000**
(co-PI with Fadi Kurdahi)

Dependability Techniques for Instrumented Cyber-Physical Spaces 8/10-7/13 NSF CISE **$551,497**
(co-PI with Nalini Venkatasubramanian and Sharad Mehrotra)

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Variability Expedition: Variability-Aware Software for Efficient Computing with Nanoscale Devices
9/10-8/15 NSF CISE **$10 Million, UCI portion: $1,020,798**
(Lead PI; co-PI with Alex Nicolau)

Workshop on Cyber-Physical Systems: Closing the Loop

	9/09-8/11	NSF ECCS	**$30,000**
Unrestricted Research Gift	5/09	NEC Labs Inc.	**$60,000**
Unrestricted Research Gift	1/09	Fujitsu Labs of America	**$10,000**

Design space exploration of memory-intensive embedded systems

	6/08-12/10	UC MEXUS-CONACYT	**$25,000**
Equipment Donation	5/08	NVIDIA Corp.	**$6,460**
Unrestricted Research Gift	11/07	Fujitsu Labs of America	**$16,700**
Unrestricted Research Gift	9/07	Renesas Technology Corp.	**$60,000**

Temperature-aware SoC Optimization Framework

	7/07-6/10	Semiconductor Research Corp.	**$180,000**

(co-PI with Fadi Kurdahi)

Cross-Layer Error Exploitation for Next Generation SoCs

	7/07-6/11	NSF CCF	**$500,000**

(co-PI with Fadi Kurdahi and Ahmed Eltawil)

Collaborative Research: Consortium for Embedded Systems

	1/07-12/07	NSF IIP	**$10,000**
Unrestricted Research Gift	3/07	The Nuekom Institute	**$32,000**

Power estimation of a SoC design at System-Level

	4/06-3/07	Fujitsu Labs Inc.	**$25,000**
Unrestricted Research Gift	12/06	The Nuekom Institute	**$46,000**
Unrestricted Research Gift	9/06	The Nuekom Institute	**$36,000**

Modeling and Exploiting Cross-Layer Timing in Distributed Embedded Systems
7/06-6/07 NSF EHS/CNS **$125,000**
(co-PI with Nalini Venkatasubramanian)

Unrestricted Research Gift	8/05	Fujitsu Ltd.	**$50,000**

SOC Power Optimization Framework

	7/05-6/08	Semiconductor Research Corp.	**$245,384**

SOC Power Optimization Framework

	7/05-6/08	CAL-IT2 matching for SRC award	**$38,400**

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ADL-Driven, Compiler-in-the-Loop Early Microarchitectural Exploration
. 7/05-6/06 California MICRO/Intel **$64,938**
(co-PI with Alex Nicolau)

REU Supplement 6/05-9/05 NSF **$6,000**

ADL-Driven, Compiler-in-the-Loop Early Microarchitectural Exploration
. 7/04-6/05 California MICRO/Intel **$59,450**
(co-PI with Alex Nicolau)

Equipment Donation 4/03-3/04 Xilinx, Inc. **$18,638**

Compiler-in-the-loop ADL-Driven Early Architectural Exploration
9/03-8/06 Semiconductor Research Corp. **$318,746**

*Bus-based SOC Architectural Exploratio*n 7/03-6/04 California MICRO/Conexant **$41,458**

ADL-Driven, Compiler-in-the-Loop Early Microarchitectural Exploration
. 7/03-6/04 California MICRO/Intel **$78,333**
(co-PI with Alex Nicolau)

Unrestricted Research Gift 8/02-10/04 Hitachi Ltd. **$50,000**

An Application Development Environment for Complex Heterogeneous Distributed Real-Time Embedded Computing Platforms 10/02-9/05 NSF NGS Program **$460,000**
(co-PI with Alex Nicolau, Rajesh Gupta, Sandeep Shukla, Doug Schmidt)

ITR: Virtual Power for the Wireless Campus
9/02-8/05 NSF Medium ITR **$2,000,798**
(co-PI with Michael Franz, Chandra Krintz, Rich Wolinsky, Pai Chou and Tony Givargis)

Platform-Oriented CAD for Power and Performance Optimization
7/02-6/05 NSF DA Program **$96,060**

ADL-Based Exploration of Reconfigurable CoProcessors
8/02-10/04 Hitachi Ltd. **$100,000**

Coordinated Coarse-grain and Fine-grain Optimizations for High-Level Synthesis
7/02-6/03 California MICRO/Intel **$82,500**
(co-PI with Gupta, Nicolau)

Background Study and Planning Activity for the National Experimental Platform for Hybrid and Embedded Systems Technology (NEPHEST)
1/02-7/03 DARPA/Lockheed Martin **$90,641**

SRC Master's Fellowship 9/01-8/03 Semiconductor Research Corp. **$42,964**

Feasibility Study for Research in Architecture Description Languages

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	7/01-6/02	Hitachi Ltd.	**$20,000**
Coordinated Coarse-grain and Fine-grain Optimizations for High-Level Synthesis			
	7/01-6/02	California MICRO	**$75,000**
(co-PI with Gupta, Nicolau)			
Unrestricted Research Gift	7/00-6/01	Motorola Corp.	**$500,000**
(co-PI with Nicolau)			
Coordinated Coarse-grain and Fine-grain Optimizations for High-Level Synthesis			
	7/00-6/01	California MICRO	**$78,438**
(co-PI with Gupta, Nicolau)			
A Parallelizing Compiler Framework for Integrated System Design			
	7/00-6/03	Semiconductor Research Corp.	**$450,000**
(co-PI with Gupta, Nicolau)			
Unrestricted Research Gift	9/99-8/00	Hitachi Ltd.	**$40,000**
Compiler-Controlled Continuous Power-Performance Management (COPPER)			
	6/00-5/02	DARPA ITO	**$800,790**
(co-PI with Nicolau, Veidenbaum, Gupta)			
REU Supplement	1/99-6/99	NSF	**$10,000**
NSF Grant	7/97-6/00	NSF	**$389,424**
(co-PI with Alex Nicolau)			
Micro	7/97-6/98	California MICRO	**$179,954**
(co-PI with Fadi Kurdahi)			
Micro	7/96-6/97	California MICRO	**$179,758**
(co-PI with Fadi Kurdahi)			
Research Donation	1/95-12/95	Xilinx Corporation	**$7,925**
SRC Grant	7/95-6/96	Semiconductor Research Corp.	**$56,700**
Micro	7/95-6/96	California MICRO	**$31,430**
(co-PI with Fadi Kurdahi)			
Research Instrumentation	4/95-3/97	NSF	**$71,411**
(lead PI)			
SRC Grant	7/94-6/95	Semiconductor Research Corp.	**$62,527**
Micro	7/94-6/95	California MICRO	**$27,000**
Micro	7/94-6/95	California MICRO	**$40,500**
(co-PI with Fadi Kurdahi)			
Research Donation	9/93-8/94	Xilinx Corporation	**$11,495**
Micro	7/93-6/94	California MICRO	**$133,420**
(co-PI with Fadi Kurdahi)			
SRC Grant	7/93-6/94	Semiconductor Research Corp.	**$62,527**
Faculty Research Grant	6/93-6/94	UCI Committee on Research	**$10,000**
Minority Student Supplement	12/92-6/93	NSF	**$5,000**
SRC Grant	10/92-6/93	Semiconductor Research Corp.	**$48,797**
Equipment Donation	3/92	Zycad Corporation	**$50,000**
SRC Grant	10/91-9/92	Semiconductor Research Corp.	**$65,246**
Micro	10/91-9/92	California MICRO	**$39,344**
(co-PI with Dan Gajski)			

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SRC Equipment Grant	12/91	Semiconductor Research Corp.	**$28,000**
Research Initiation	7/90-6/92	NSF	**$60,000**
REU Supplement	7/90-6/92	NSF	**$10,000**
SRC Grant	7/90-6/91	Semiconductor Research Corp.	**$59,750**
Micro (co-PI with Dan Gajski)	7/90-6/91	California MICRO	**$114,000**
UCI Research Grant	6/90-6/91	UCI Committee on Research	**$5,000**
Faculty Research Grant	4/90-6/90	ICS/UCI	**$3,000**
Asst. Prof. Recognition	8/89	Rockwell International	**$18,500**
Library and Travel Grants	87-92	ACM SIGDA	**$7,100**

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B3 "Memory Architecture Exploration for Programmable Embedded Systems," with P. Grun and A. Nicolau, Kluwer Academic Publishers, Norwell, MA, 2003, ISBN: 1402073240.

B4 "SPARK: A Parallelizing Approach to the High-Level Synthesis of Digital Circuits," with S. Gupta, R. Gupta and A. Nicolau, Kluwer Academic Publishers, Norwell, MA, 2004.

B5 "Functional Validation of Programmable Embedded Architectures: A Top-Down Approach," with P. Mishra, Springer-Verlag, 2005.

B6 "On-chip Communication Architectures: Current Practice, Research and Future Trends," with S. Pasricha, Morgan Kaufman/Elsevier Systems-on-Silicon Series, 2008.

B7 "Processor Description Languages: Applications and Methodologies," with P. Mishra, Morgan Kaufman/Elsevier Systems-on-Silicon Series, 2008.

B8 "Dependable Embedded Systems," with J. Henkel, Springer Nature, 2021.

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BC9 A Halambi, N.D. Dutt and A. Nicolau, " Customizing Software Toolkits for Embedded System-On-Chip," in *Architecture and Design of Distributed Embedded Systems,* Bernd Kleinjohann, Editor, Kluwer Academic Publishers, 2001, pp. 87-97.

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Updated version: A. Chattopadhyay, N. Dutt, R. Leupers and P. Mishra, "Processor Modeling and Design Tools," in *Electronic Design Automation for Integrated Circuits Handbook Second Edition,* Luciano Lavagno, Grant Martin and Lou Scheffer, Editors, CRC Press 2017.

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BC34 B. Donyanavard, T. Muck, K. Moazzemi, B. Maity, C. Batista de Melo, K. Stewart, S. Yi, A. Rahmani, and N. Dutt, "Reflecting on Self-Aware System-on-Chip," In: Chen JJ. (eds) A Journey of Embedded and Cyber-Physical Systems. Springer, Cham. https://doi.org/10.1007/978-3-030-47487-4_6.

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BC37 A. Hosseini Monazzah, A. Rahmani, A. Miele, and N. Dutt, "Exploiting Memory Resilience for Emerging Technologies: An Energy-aware Resilience Exemplar for STT-RAM Memories," In: Henkel J., Dutt N. (eds) Dependable Embedded Systems. Embedded Systems. Springer, Cham., 2021 https://doi.org/10.1007/978-3-030-52017-5_21

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PREMIER REFEREED WORKSHOPS AND MEETINGS

W1 N.D. Dutt, "A Language for Designer Controlled Behavioral Synthesis," *1989 ACM/IEEE Physical Design Workshop*, Long Beach, CA, May 2, 1989 (*Invitation-only workshop*).

W2 N.D. Dutt, "Annotated Textual State Tables: An Intermediate Representation for Synthesis," *IEEE Design Automation Workshop*, Scottsdale, AZ, Jan 22, 1990 (*Invitation-only workshop*).

W3 N.D. Dutt and J.R. Kipps, "Bridging High Level Synthesis to RTL Technology Libraries," *ACM/IEEE Fifth International Workshop on High Level Synthesis*, Buehlerhoehe, Germany, March 1991.

W4 P.K. Jha and N.D. Dutt, "Rapid Estimation for Parameterized Components in High-Level Synthesis," *ACM/IEEE Sixth International Workshop on High Level Synthesis*, Dana Point, CA, November 1992.

W5 P.K. Jha and N.D. Dutt, "Generic Component Sets and Rapid Technology Projection for High-Level Design Applications," *The 4th ACM/IEEE Physical Design Workshop*, Lake Arrowhead, CA, April 1993.

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W6 C. Ramachandran, P.K. Jha, F. Kurdahi and N.D. Dutt, “The Effects of Variations in Component Styles and Shapes on Functional Synthesis,” *Proceedings of The International IFIP Workshop on Logic and Architecture Synthesis*, Grenoble, France, December 1993.

W7 N.D. Dutt, “High-Level Synthesis for Real Architectures -- An Academic HLS View,” *1994 IEEE Winter VLSI Workshop*, La Jolla, CA, April 1994 (*Invited talk*).

W8 S. Novack, A. Nicolau and N.D. Dutt, “A Unified Code Generation Approach Using Mutation Scheduling,” *First Workshop on Code Generation for Embedded Processors*, Schloss Dagstuhl, Germany, August 1994 (*Invited talk and paper*).

W9 D. Kolson, A. Nicolau and N.D. Dutt, “Register Allocation for Embedded Processors with Non-Uniform Register Files,” *Second Workshop on Code Generation for Embedded Processors*, Belgium, March 1996 (*Invited talk*).

W10 N.D. Dutt, “Software Synthesis for Embedded Systems: What’s new?,” *1996 Dagstuhl workshop on Design Automation for Embedded Systems*, Schloss Dagstuhl, Germany, April 1996.

W11 N.D. Dutt, Position Statement at the *National Science Foundation Workshop on Future Research Directions in CAD for Electronic Systems*: “Putting the `D’ Back in CAD,” Seattle, WA, May 13-14, 1996.

W12 A. Halambi, A. Nicolau and N.D. Dutt, “Retaining Semantic Information for Improved Code Generation,” *Third Workshop on Code Generation for Embedded Processors*, Haus Bommerholz, Witten, Germany, March 1998 (*Invited talk*).

W13 P. Grün, A. Nicolau & N.D. Dutt, "Automatic Generation of a Software Toolkit from EXPRESSION," *Fourth Workshop on Software and Compilers for Embedded Systems,* St. Goar, Germany, August 1999. *(Invited talk).*

W14 A. Halambi, N.D. Dutt and A. Nicolau, "Customizing Software Toolkits for Embedded System-On-Chip," *International IFIP Workshop on Distributed and Parallel Embedded Systems*(DIPES2000), Paderborn University, Germany, October 2000.

W15 P. Grun, N.D. Dutt and A. Nicolau, "Aggressive Memory-Aware Compilation," *The 2nd Workshop on Intelligent Memory Systems,* In conjunction with *ASPLOS-IX*, Boston Massachusetts, November 12, 2000.

W16 A. Halambi, A. Shrivastava, N.D. Dutt and A. Nicolau, "A Customizable Compiler Framework for Embedded Systems," *Fifth Workshop on Software and Compilers for Embedded Systems (SCOPES 2001),* St. Goar, Germany, March 2001.

W17 P. Mishra, F. Rousseau, N.D. Dutt and A. Nicolau, “Architecture Description Language Driven Design Space Exploration in the Presence of Coprocessors,” *Proceedings of the 10th* (SASIMI 2001), October 2001.

W18 P. Mishra, N. Krishnamurthy, N. Dutt and M. Abadir, “A Property Checking Approach to Microprocessor Verification using Symbolic Simulation,” *Microprocessor Test and Verification (MTV),* Austin, Texas, June 2002.

W19 R. Cornea, S. Mohapatra, N.D. Dutt, R.K. Gupta, I. Kreuger, A. Nicolau, D. Schmidt, S.K. Shukla, and N. Venkatasubramanian, “A Model-Based Approach to System Specification for Distributed Real-time and Embedded Systems,” *9th IEEE Real-time/Embedded Technology and Applications Symposium Workshop on Model-Driven Embedded Systems, (RTAS 2003*), Washington, D.C., May 2003.

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W20 S. Mohapatra, R. Cornea, N.D. Dutt, A. Nicolau, and N. Venkatasubramanian, "Power-Aware Multimedia Streaming in Heterogenous Multi-User Environments," *IFIP/IEEE International Workshop on Concurrent Information Processing and Computing (CIPC 2003*) Sinaia, Romania, July 2003.

W21 R. Cornea, N.D. Dutt, R. Gupta, S. Mohapatra, A. Nicolau, C. Pereira, S. Shukla and N. Venkatasubramanian, "ServiceFORGE: A Software Architecture for Power and Quality Aware Services," *International Workshop on Service-Based Software Engineering (co-located with Formal Methods in Europe – FME),* Pisa, Italy, September 2003.

W22 S. Pasricha, S. Mohapatra, M. Luthra, N.D. Dutt and N. Venkatasubramanian, "Reducing Backlight Power Consumption for Streaming Video Applications on Mobile Handheld Devices," First Workshop on Embedded Systems for Real-Time Multimedia, Newport Beach, CA, October 3-4 2003.

W23 H. Tomiyama, H. Takada and N.D. Dutt, "Data Organization Exploration for Low Energy Address Buses," First Workshop on Embedded Systems for Real-Time Multimedia, Newport Beach, CA, October 3-4 2003.

W24 N. Bansal, S. Gupta, N.D. Dutt and A. Nicolau, "Analysis of Coarse-Grain Reconfigurable Architectures with Different Processing Element Configurations," Second Workshop on Application-Specific Processors (WASP'03), San Diego, CA, Dec. 2003.

W25 R. Cornea, S. Mohapatra, N.D. Dutt, A. Nicolau, and N. Venkatasubramanian, "Managing Cross-Layer Constraints for Interactive Mobile Multimedia," *Workshop on Constraint-aware Embedded Software,* Cancun, December 2003.

W26 Partha Biswas, Sudarshan Banerjee, Nikil Dutt, Laura Pozzi, and Paolo Ienne, "Fast Automated Generation of High-Quality Instruction Set Extensions for Processor Customization," Third Workshop on Application-Specific Processors (WASP'04), Stockholm, Sweden, September 2004. ***(BEST PAPER AWARD CANDIDATE)***

W27 G. Madl and N. Dutt, "Domain-specific Modeling of Power Aware Distributed Real-time Embedded Systems", SAMOS VI: Workshop on Embedded Computer Systems: Architectures, MOdeling, and Simulation, 2006. (Proceedings published as Book Chapter BC20.)

W28 M. Kim, D. Massaguer, N. Dutt, S. Mehrotra, S. Ren, M. Oliver, C. Talcott and N. Ventakasubramanian, "A Semantic Framework for Reconfiguration of Instrumented Cyber Physical Spaces", Workshop for Event-based Semantics (WEBS), (Colocated with CPSWeek/RTAS 2008), St. Louis, MO, April 2008.

W29 M. Richert, J. Moorkanikara, N. Dutt and J. Krichmar, "Biologically plausible homeostasis and STDP: Stability and learning patterned inputs in spiking neural networks," Neuroscience 2010, San Diego, CA Nov. 2010. (poster)

W30 L. Bathen and N. Dutt, "Virtualizing on-chip distributed memories for low power, error-resilient, secure Systems-on-Chip," Memory Architecture and Organization Workshop 2011 (MeAOW 2011), Taipei, Taiwan, Oct. 2011.

W31 N. Dutt, "Memory Virtualization and Security for Embedded Systems," Workshop on Embedded Systems Security (WESS 2011), Taipei, Taiwan, Oct. 2011. (invited talk)

W32 Y. Hara-Azumi, H. Tomiyama, S. Yamashita, and N. Dutt, "High-Level Synthesis Using Partially-Programmable Resources for Yield Improvement," Workshop on Synthesis And System Integration of Mixed Information Technologies (SASIMI 2012), Oita, Japan, Mar. 2012.

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W33 N. Dutt, "US National Science Foundation (NSF) program on "Variability Expeditions"," DATE-2012 Workshop on Facing dependability challenges at nanoscale: from devices to systems, Dresden, Germany, March 2012. (invited talk)

W34 M. Avery, N. Dutt and J. Krichmar, "Mechanisms and circuitry underlying basal forebrain enhancement of top-down and bottom-up attention," Computational and Systems Neuroscience (Cosyne) 2013, Salt Lake City, March 2013. (poster)

W35 M. Beyeler, N. Dutt, and J. Krichmar , "Spiking neural network model of visual pattern recognition and decision-making using a stochastic STDP learning rule", 20th Joint Symposium on Neural Computation, California Institute of Technology, Pasadena, CA, June 2013. (poster)

W36 K. Carlson, J. Nageswaran, M. Richert, N. Dutt, and J. Krichmar, "Stabilizing STDP in Spiking Neural Networks with Homeostatic Synaptic Scaling", 20th Joint Symposium on Neural Computation, California Institute of Technology, Pasadena, CA, June 2013. (poster)

W37 M. Beyeler, M. Richert, J. Nageswaran, N. Dutt, and J. Krichmar, "Large-scale spiking neural network model of visual motion processing," 43rd Annual Meeting of the Society for Neuroscience (SfN 2013), San Diego, CA., November 2013. (poster)

W38 K. Carlson, J. Nageswaran, M. Richert, N. Dutt, and J. Krichmar, "The Efficient Coding Hypothesis: A Possible Tuning Function for Developing Spiking Neural Networks," 43rd Annual Meeting of the Society for Neuroscience (SfN 2013), San Diego, CA., November 2013. (poster)

W39 J. Gonzalez-Lugo, R. Cammarota, A. Avila-Ortega, and N. Dutt, "A new characterization approach to model GPGPU applications and derive hints for their optimization," *2013 Compiler, Architecture and Tools Conference,* Haifa, Israel, November 2013.

W40 K. Carlson, M. Richert, J. Nageswaran, N. Dutt, and J. Krichmar, "Using Evolutionary Algorithms and the Efficient Coding Hypothesis to Tune Spiking Neural Networks", 21st Joint Symposium on Neural Computation, Irvine, CA, June 2014. (poster)

W41 M. Shoushtari, A. BanaiyanMofrad, and N. Dutt, "Partially-Forgetful Memories: Relaxing Memory Guard-bands for Approximate Computing," 2nd Workshop on Approximate Computing Across the Stack (WACAS 2015), held in conjunction with ASPLOS 2015, Istanbul, Turkey, March 2015.

W42 M. Levorato, N. Venkatasubramanian and Nikil Dutt, "Heat-Aware Transmission Strategies", Proceedings of Information Theory and Applications Workshop (ITA), San Diego, CA, Feb. 1-6, 2015.

W43 N. Dutt, "Revisiting Self-Awareness for Embedded Computing: A Poor Man's Lessons from Neuroscience," Workshop Computing in Heterogeneous, Autonomous 'N' Goal-oriented Environments (CHANGE 2015), co-located with Design Automation Conference (DAC) 2015, San Francisco, CA, June 2015.

W44 M. Beyeler, M. Richert, N. Oros, N. Dutt and J. Krichmar, "A cortical neural network model of visual motion perception for decision-making and navigation," Computational and Systems Neuroscience (Cosyne) 2016, Salt Lake City, February 2016. (poster)

W45 N. Dutt, "How (Self-)Aware is My System?," Workshop Computing in Heterogeneous, Autonomous 'N' Goal-oriented Environments (CHANGE 2016), co-located with Design Automation Conference (DAC) 2016, Austin, TX, June 2016.

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W46 M. Shoushtari, A. Rahmani, and N. Dutt, "Quality-Configurable Approximate Memory Hierarchy: A Formal Control Theory Approach" The 2018 Workshop on Approximate Computing Across the Stack (WAX 2018), held in conjunction with ASPLOS 2018, Williamsburg, VA, March 2018.

W47 J. Lee, S. Labbaf, A. Rahmani, P. Kehoe, and N. Dutt, "Wearable Internet-of-Things Technology: An Immigrant Dementia Caregivers Pilot Intervention," The Alzheimer's Association International Conference (AAIC'19), 2019, USA.

W48 M. Vishwanath, S. Jafarlou, I. Shin, N. Dutt, A. Rahmani, M. Lim, and H. Cao, "Classification of Traumatic Brain Injury in a Mouse Model Using Quantitative Electroencephalogram Methods and Machine Learning Approaches," The Biomedical Engineering Society Annual Meeting (BMES'20), October 2020, USA. (poster)

W49 Borg, H., Dutt, N., Rahmani, A., Vasquez, H., Heredia, M., Navarrete, M., Guo, Y. A Self-Management Model: Using Wearable Devices for Continuous Monitoring During the Perinatal Period. Poster Presentation Accepted, National Perinatal Association Annual Conference, March 25-27, 2020, Aurora, Colorado. (poster)

W50 Guo, Y., Onwuka, J., Pimentel, P., Rahmani, A., Dutt, N. Association between Exercise and Stress for At-Risk Hispanic Pregnant Women. National Hispanic Medical Association Conference on Hispanic Health, May 1-3, 2020, Washington, DC. (poster)

W51 Guo, Y., Onwuka, J., Pimentel, P., Turner, A., Rahmani, A., Dutt, N. Engagement of Communities to Promote Maternal and Infant Health Equity. Poster Presentation Accepted (Track: Health Equity Leading Practices, Measurement and ROI), Institute for Diversity and Health Equity 2020 National Leadership and Education Conference, June 17-19, 2020, Cleveland, Ohio. (poster)

W52 Rahmani, A., Labbaf, S., Guo, Y., Tazarv, A., Levorato, M., Dutt, N. UNITE Technological Design: Promotion of Maternal Health Equity in Underserved Communities in Orange County, California. Poster Presentation Accepted (Track: The impact of Tech on Health Equity, Inclusion and Diversity), Institute for Diversity and Health Equity 2020 National Leadership and Education Conference (NLEC'20), June 17-19, 2020, Cleveland, Ohio. (poster)

W53 Jimah, T., Borg, H., Kehoe, P., Labbaf, S., Mehrabadi, A. M., Rahmani, A., Dutt, N., & Guo, Y. (2021, August). Two Happy Hearts: A Technology-Based Personalized Health Self-Management Model for Pregnant Women. Poster presented at American Nursing Informatics Association Conference, San Diego, California.

W54 Jimah, T., Borg, H., Mehrabadi, A. M., Labbaf, S., & Guo, Y. (2021, June). A Digital Health Approach to Promote Emotional Well-Being in Pregnant Women: The Two Happy Hearts Case Study. Poster presented at Association of Women's Health, Obstetric and Neonatal Nurses Conference, Orlando, Florida.

W55 Jimah, T., Borg, H., Pimentel, P., Turner, A., & Guo, Y. (2021, May). Adapting the Two Happy Hearts Model to improve maternal and infant care during the COVID-19 pandemic. Poster presented at Association of Maternal & Child Health Programs Virtual Annual Conference.

PANELS AND TUTORIALS

PANELS

P1 Panel Statement: "How `High' is High-Level Synthesis?", *IEEE Computer Society 1992 Workshop on VLSI*, Clearwater Beach, FL, February 2-5, 1992.

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P2 Panel Moderator: "Physical Design Models at the Behavioral Level*," Focused Workshop on Linking Behavioral and Physical Models of Hardware*, Irvine, CA, May 30, 1992.

P3 Panel Statement: "Hardware/Software Co-Design: Are there any new problems*?", IEEE First Asia Pacific Conference on Hardware Description Languages, Standards and Applications*, Australia, December 1993.

P4 Panel Organizer & Moderator: "Design Reuse: Fact or Fiction?" *31st ACM/IEEE Design Automation Conference*, San Diego, CA, June 1994.

P5 Panel Organizer & Moderator: "Impact of Memory Technology and Architectures on System Synthesis*," International Symposium on System Synthesis (ISSS-97)*, Antwerp, Belgium, September 1997.

P6 Panel Organizer & Moderator: "If Software is King for Systems-on-Silicon, What's New in Compilers*?" ICCD-97: International Conference on Computer Design*, Austin, TX, October 1997.

P7 Panel Organizer: "IP-Based Design: VIP (Very Important Process) or RIP (Rest in Peace*)?" International Symposium on System Synthesis (ISSS-98)*, Hsinchu, Taiwan, December 1998.

P8 Panel Organizer: "Driving Agenda in Systems Research," *International Symposium on Hardware/Software Codesign and System Synthesis (CODES+ISSS 2003),*Newport Beach, CA, Oct. 2003.

P9 Panel Organizer: "Multi-Processor Platforms for Next Generation Embedded Systems," *ASPDAC-2007*, Yokohama, January 2007.

P10 Panel Participant: "Modeling of Software-Hardware Complexes," *International Embedded Systems Symposium,* Irvine, CA, May 2007.

P11 Panel Participant: "Best Ways to use Billions of Devices on a Chip," *ASPDAC-2008*, *Seoul, Korea,* January 2008.

P12 Panel Participant: ""Methodologies for On-Chip Communication Design: Trends and Challenges"," *MEMOCODE-2008, Anaheim, CA, June 2008.*

P13 Panel Participant: "ESL Hand-off: Fact or EDA Fiction?," *DAC-2008, Anaheim, CA, June 2008.*

P14 Panel Participant: "An inter-continental approach to solve dependability challenges?," *DATE-2012 Workshop on Facing dependability challenges at nanoscale: from devices to systems, Dresden, Germany, March 2012.*

P15 Panel Participant: "What don't we know about CPS architecture?" *ESWEEK-2014 First Workshop on Cyber-Physical System Architectures and Design Methodologies, October 17, 2014, New Delhi, India.*

P16 Panel Participant: "On the future of autonomic/self-aware computing systems: chimera or reality?" *Workshop Computing in Heterogeneous, Autonomous 'N' Goal-oriented Environments (CHANGE 2015), co-located with Design Automation Conference (DAC) 2015, San Francisco, CA, June 2015.*

P17 Panel Chair: "What does Self-Awareness entail in CPS?" *SelfPhyS: Self-Awareness in Cyber-Physical Systems Workshop: 2016,* collocated with CPSWeek 2016, Vienna, Austria, April 2016.

TUTORIALS AT CONFERENCES

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TC1 "Design Representation in Synthesis," presented at the *1989 VHDL Users' Group Meeting*, Redondo Beach, CA, October 1989.

TC2 "High Level Design Synthesis: Specifications, Algorithms and Tools," presented at *the 27th ACM/IEEE Design Automation Conference*, June, 1990.

TC3 "High-Level Chip and System Synthesis," presented at the *IEEE Asia-Pacific Conference on Circuits and Systems 1992 (APCCAS 92)*, December 1992.

TC4 "High-Level Synthesis*," 4th International IFIP 10.5 Working Conference on Electronic Design Automation Frameworks*, Gramado, Brazil, December 1994 *(Invited Tutorial)*.

TC5 "High-Level Synthesis," *4th International Conference on VLSI and CAD (ICVC-95)*, Seoul, Korea, October 1995 *(Invited Tutorial)*.

TC6 "High-Level Synthesis," *IFIP WG 10 State-of-the-Art Seminar Series*, Bangalore, India, January 1996 *(Invited Tutorial)*.

TC7 "ILP Compilation Techniques for Embedded Processors," presented at the *Design, Automation and Test in Europe (DATE'98) Conference*, February 1998.

TC8 "Embedded Memories in System Design - From Technology to Systems Architecture," presented at the *IEEE/ACM International Conference on Computer-Aided Design (ICCAD-98)*, November 1998.

TC9 "Embedded Memories in System Design - From Technology to Systems Architecture," presented at the *36th ACM/IEEE Design Automation Conference*, June 1999.

TC10 "Embedded Memory in Systems - From Architecture to Design Technology," presented at *the Design, Automation, and Test in Europe (DATE'2000) Conference*, March 2000.

TC11 "System and Architecture-level Power Reduction of Microprocessor-based Communication and Multi-media Applications," embedded tutorial presented at the *IEEE/ACM International Conference on Computer-Aided Design (ICCAD-2000),* November 2000.

TC12 "Embedded Memories in System Design: Technology, Application, Design and Tools," presented at the *VLSI Design 2001 Conference*, Bangalore, India, January 2001.

TC13 "New Directions in Compiler Technology for Embedded Systems," presented at the *Asia and South Pacific Design Automation Conference (ASP-DAC 2001)*, Yokohama, Japan, January 2001.

TC14 "What's New in Compilers for Embedded Systems?" presented at the *XIV Symposium on Integrated Circuits and System Design (SBCCI-2001),* Pirenopolis, Brazil, September 2001.

TC15 "Low-Power/Low Energy Embedded Software: What, Why and How?" presented at the *IEEE/ACM International Conference on Computer-Aided Design (ICCAD-2001),* November 2001.

TC16 "On-Chip Communication Architectures: Current Practice, Research and Trends" presented at the *Asia and South Pacific Design Automation Conference (ASP-DAC 2006)*, Yokohama, Japan, January 2006.

TC17 "Hardware and Software Techniques for Multimedia Systems" presented at the International Conference on Multimedia & Expo (ICME 2006), July 2006.

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TC18 " SoC Communication Architectures: Technology, Current Practice, Research and Trends," presented at *the VLSI Design 2007 Conference*, Bangalore, India, January 2007.

TC19 "Bus-based Communication Architectures," presented at *the Design, Automation, and Test in Europe (DATE'2007) Conference*, April 2007.

TC20 "Cross-Layer Approaches to Designing Reliable Systems using Unreliable Chips" presented at the *VLSI Design 2008 Conference*, Hyderabad, India, January 2008.

TC21 "Cross-Layer Approaches to Designing Reliable Systems using Unreliable Chips" presented at the *Asia and South Pacific Design Automation Conference (ASP-DAC 2008)*, Seoul, Korea, January 2008.

TC22 "Cross-Layer Approaches to Designing Reliable Systems using Unreliable Components," presented at *the Design, Automation, and Test in Europe (DATE'2009) Conference*, April 2009.

TC23 "Variability-resistant Software and Hardware for Nano-Scale Computing " presented at the *VLSI Design 2012 Conference*, Hyderabad, India, January 2012.

TC24 "Temperature- and Process Variation-Aware Dependable Embedded Systems" presented at the *Asia and South Pacific Design Automation Conference (ASP-DAC 2013)*, Yokohama, Japan, January 2013.

TC25 "Self-Awareness in Cyber-Physical Systems" presented at the *VLSI Design 2016 Conference*, Kolkata, India, January 2016.

TC26 "IoT for Smarter Healthcare: From Device to Architecture, Applications and Analytics," presented at the *VLSI Design 2019 Conference*, New Delhi, India, January 2019.

COURSES TAUGHT

ICS 280A: SQ90, Graduate course on Algorithms for High Level Synthesis.

ICS 280B: SQ91, Graduate course on Timing Issues in Specification and Synthesis of Hardware.

ICS 280C: FQ92, Graduate course on Digital System Testing and Testable Design.

ICS 290N: FQ90, WQ91, SQ91, FQ91, WQ92, SQ93, Seminar on Design Languages and Representations.

ICS 299: Every Quarter Since FQ 90, Independent Study.

ICS 53: SQ00, SQ01, Embedded Computing Systems.

ICS 151/CS 151: FQ90, FQ91, SQ93, FQ94, FQ95, WQ97, FQ97, FQ00, SQ02, FQ03, FQ04, WQ05, FQ05, WQ06, FQ06, SQ07, SQ08, FQ09, FQ10, FQ11, FQ12, FQ14, FQ15, FQ16, FQ17 Undergraduate Introductory Course on Logic Design.

ICS 155A: SQ89, FQ89, SQ93, WQ95, FQ95, FQ96, WQ97 Undergraduate Laboratory Course on Logic Design.

ICS 180D: SQ92, Introduction to Hardware Description Languages.

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ICS 198: SQ89, FQ89, WQ90, SQ90, WQ91, SQ91, FQ91, WQ92, WQ96, FQ96, WQ97, SQ97, FQ97, WQ98, SQ98, SQ99, FQ02, WQ03, SQ03 Undergraduate Honor Program.

ICS 199: FQ89, WQ90, SQ90, WQ91, SQ91, FQ91, WQ92, SQ93, WQ96, FQ96, SQ97, SQ98, WQ99, SQ99, FQ01, WQ02, SQ02 Undergraduate Project Course.

ICS226/ICS253: WQ90, SQ91, SQ92, FQ93, WQ95, FQ96, SQ00 Graduate course on Modeling and Design Description Languages.

ICS227/ICS 256: SQ93, FQ95, SQ98, SQ02 Graduate course on Design Synthesis.

ICS 251: SQ01, Graduate course on digital system testing and verification.

ICS 212/CS212/INF 212/CS244/INF4MTX 244: SQ05, FQ05, FQ06, SQ15, FQ15, FQ17 Graduate course on Introduction to Embedded and Ubiquitous Systems.

ICS259: WQ94, FQ94, WQ96, FQ96, SQ97, FQ97, every quarter between FQ98-SQ03, FQ03, SQ04, FQ04: Topics in Design Science.

ICS 202: FQ97, Introductory Seminar for ICS Graduate Students.

ICS 291: FQ97, WQ98, SQ98, FQ99, WQ00, SQ00, FQ02 Directed Research

ICS 399: FQ97, WQ98, SQ98, FQ99, WQ00, SQ00, University Teaching

ECE 299: FQ01, WQ02, SQ02, FQ02, WQ03, SQ03, FQ03, WQ04, SQ04, SQ05 Independent Research

ECE 298: FQ05 EECS Thesis Supervision

UNI STU 3: SQ05, Freshman Seminar

CS 190: FQ17, FQ18 IoT Software and Systems

New Courses Developed and Courses Upgraded

CS 190: FQ17, Undergraduate course on "IoT Software and Systems" (Developed new course lecture and lab material)

CS 246: SQ17, Graduate course on “Dependability, Validation and Testing of Embedded Systems” (new course material developed).

CS 244P: FQ 16, Graduate course on “Intro to the Internet of Things (IoT)” (new course material developed).

CS 190: SQ12, Undergraduate course on "Mobile Embedded Software with Android" (Developed new course lecture and lab material)

ICS 212: SQ05, Graduate course on Introduction to Embedded and Ubiquitous Systems (new course material developed).

ICS 155A: WQ89, Undergraduate Laboratory Course on Logic Design (new course material developed).

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ICS 226: FQ89, Graduate course on Modeling and Design Description Languages.

ICS 180D: SQ92, Undergraduate course on Hardware Description Languages.

ICS 280C: FQ92, Graduate course on Digital System Testing and Testable Design.

ICS 155A: WQ94, Undergraduate Laboratory Course on Logic Design (upgraded with Hardware Description Languages and FPGA prototyping tools).

ICS 53: SQ01, Undergraduate course on Embedded Computer Systems (Developed new lab and course lecture material)

INTERNATIONAL EDUCATION AND OUTREACH

UCI-Kookmin I-SURF Research Program: Founding UCI Faculty coordinator, 2016-

UNIVERSITY SERVICE

University-wide Service:

Executive Committee, Industry-University Cooperative Research Program (IUCRP) for Communication and Networking, 2005-2009.

Chair, CORE Proposal Review Committee, Industry-University Cooperative Research Program (IUCRP) for Communication and Networking, November 2007.

Member, UC Discovery Fellow Review Panel, Berkeley, CA, May 2008.

Member, External Review Committee, UCSC/Computer Science & Engineering Academic Program Review, 2015.

Member, External Review Committee, UCSB/Computer Engineering Academic Program Review, Feb. 2021

Campus-Level Service:

UCI Academic Senate Workgroup to Reimagine Graduate Education at UCI, 2021-2022

Chair, ICS Dean Review Committee, 2020.

Future Health ProORU Founding Committee, 2020.

ISB Working Group (IoT/Embedded Systems), 2017.

ICS Dean Search Committee, 2016.

ORU Review Committee: 5-year review of ISR ORU, 2011-2012.

Faculty Tenure Panel: Organized by ICS/Engineering Equity Advisors, November 2011.

UCI Task Force on New Graduate Programs, 2010.

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UCI Task Force on Graduate Education, 2010.

Graduate Council: 1996-1998, 2009-2011.

ICS Dean Review Committee, 2008.

Committee on Committees, 2006-2007.

ORU Internal Review Committee: 5-year review of IGB ORU, October 2005.

Council on Educational Policy (CEP), 2002-2005.

Policy Subcommittee, CEP, 2003-2005.

UC LEADS Mentorship Program, Summer 2001, Summer 2003.

Action Committee on Courses, 2000-2002.

Faculty Advisory Committee, Test of English Proficiency (TOEP) Program for non-native English speakers, Summer 2000.

Chair, Subcommittee on Courses, UCI Graduate Council: 1997-1998.

ICS Representative to the Faculty Senate: 1992-1994, 1994-1996.

Committee on Undergraduate Scholarships, Honors and Financial Aid (CUSHFA): 1993-1995, 1995-1996.

UCI Dissertation Fellowship Award Committee: 1996, 1997, 1998.

UCI Committee on Research: Subcommittee for evaluating Multi-Investigator Research Awards: 1998.

ICS Representative to the UCI Defense Conversion Committee: 1993.

Co-Founder, Irvine Research Unit in Computer Systems Design, UCI with N. Bagherzadeh, L. Bic, D. Blough, D. Gajski, K. Kim, F. Kurdahi, A. Nicolau and T. Suda: 1990.

Graduate Minority Mentorship Program: 1993-1994.

Graduate Minority Summer Mentorship Program, Summer: 1991.

Pregraduate Mentorship Program (for minority students): 1990-1991.

School-Level Service:

Chair, SICS Space Committee, 2003-2004, 2004-2005, 2005-2006
Member, SICS Endowed Chair Search Committee: 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2007-2008
Chair, SICS Endowed Chair Search Committee: 2008-2010\
Organizer: AMASE 2012 @UCI: "A Mobile Application Showcase Event", June 14, 2012:
raised corporate donations, organized student team demos and judging competition
Member, CSE Steering Committee: 2014-2021

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Member, Bren Search Committee, 2022-2023
Member, ICS Distinctions Committee, 2022-2023

Departmental Service:

Member, CS Department Task Force on Faculty Support, 2022-2023

Chair, CS Systems Faculty Recruiting Committee 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022

Member, CS Distinguished Lecture Series Committee, 2019-2020, 2020-2021

Member, CS Bioinformatics Faculty Recruiting Committee 2018-2019, 2019-2020

Member, CS PhD Admissions Committee, 2018-2019, 2019-2020, 2020-2021, 2021-2022

Vice-Chair, Department of Computer Science, 2011-2012

Acting Chair of Computer Science, SQ 2009.

Vice-Chair, Division of Systems, Department of Computer Science, July 2003-2004

Member, CS Undergraduate Committee, 2003-2004

Member, CS PhD Committee, 2003-2004

Chair, Ad-Hoc Committee for Promotion Case, 2003-2004, 2004-2005

Member, Ad-Hoc Committee for 2 Promotion Cases, 2003-2004

Faculty Mentor for Assistant Professor Eli Bozorgzadeh, 2003-2009

Chair, ICS Recruiting Committee for Embedded Systems (2 positions), 2002-2003.

ICS New Degree Programs Committee: 2001-2002

Faculty Mentor for Assistant Professor Tony Givargis, 2001-2007.

Chair, ICS Personnel Committee, 2000-2001.

Graduate Advisor and Associate Chair for Graduate Studies (ICS): 1997-1998, 1999-2000.

ICS Undergraduate Committee: 1989-1990.

ICS Academic Personnel Committee: 1990-1991, 2001-2002.

ICS Computing Resources Committee: 1991-1992.

ICS Graduate Admissions Committee: 1991-1992, 1992-1993, 1993-1994, 1994-1995, 1998-1999, 1999-2000, 2001-2002.

Chair, ICS Graduate Policy & Admissions: 1995-1996, 1996-1997.

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ICS Space Committee: 1992-1993, 1993-1994, 1994-1995.

ICS Undergraduate Honors Selection Committee: 1993.

Faculty Speaker, ICS Career Day for High School Scholars and Their Families: 1996, 1997

UCI American Indian Summer Institute in Computer Science, *Research Careers in Computer Science*, Participant: 1993.

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