# SUMMARY OF LEADERSHIP CONTRIBUTIONS

# TERRI FIEZ DIRECTOR AND PROFESSOR, SCHOOL OF EECS, OREGON STATE UNIVERSITY 9/1999-PRESENT

#### PROFESSIONAL LEADERSHIP

- IEEE Fellow since 2005 (1% of ~300,000 members are fellows). Served as reviewer for fellow applications for three societies within IEEE.
- Leader in Society of Solid-State Circuits serving as elected member of the SSC Adminstrative Committee, Distinguished Lecturer, TCASII Associate Editor and JSSC Guest Editor.
- Published 45 journal and 97 conference papers. Graduated 12 Ph.D. and 62 M.S. students and secured over \$13M in research funding.
- Founded the "Women in Solid-State Circuits," event at the major conference in the field.
- o Delivered 5 Keynote addresses and 6 invited talks.
- Currently serve as ABET Program Evaluator.
- Served as member of board of directors for ECE Department Head Association (association includes 350 department heads nation-wide).

# SCHOOL LEADERSHIP: EECS DRIVE TOWARD TOP 25 ENGINEERING PROGRAMS

- **Defined vision, strategy and executed tactics** to elevate ECE and then EECS and College of Engineering nationally through high impact research, innovative education, and increased visibility. Led merger of ECE and CS to form one of the largest units on campus with 1200 undergraduates, 300 graduate students (175 Ph.D.), 40 tenured/tenure-track faculty and 10 instructors.
- Grew Research from \$3M in 2001 to \$10M in 2010; 11 faculty recognized as IEEE Fellows or ACM Fellows, 18 Faculty recognized with NSF CAREER Awards.
  - Promoted a culture of collaboration by recognizing & rewarding collaborative efforts in annual reviews, tenure evaluation and promotion consideration.
  - Focused research in 6 research areas with distributed model where strong faculty lead each area. Five of these research areas are recognized as top 10 in the nation including Al/Machine learning, Mixed-signal IC Design, Energy Systems, Transparent Electronics, and End User Software.
  - Recruitment of top junior faculty through focus on strategic strengths. Growing in focused areas helped retain senior faculty leaders and grow research prominence.
  - Supported research growth by allocating graduate assistant positions to research groups.
  - Enhanced faculty/graduate student national recognition by creating successful nomination templates for fellowships, IEEE/ACM fellows, NSF Career Awards, etc.
  - Grew PhD per faculty from approximately 1.5 PhD students per faculty member in 2000 to over 4.7 PhD students per faculty (50 Ph.D.'s to more than 170). This ratio of Ph.D. students to faculty ratio is on par with Top 10 engineering colleges.

#### Initiated Innovative Education Curriculum

- Co-founded TekBots® Platform for Learning® a novel learning platform that students begin working with in their freshmen year and they continue to build upon in 10 classes up through their senior year. The advances they add embody their fundamental knowledge, creativity and capability.
- Secured more than \$2.5M in grants/gifts from Tektronix, Intel, NSF, Boeing, Agilent Technologies, Atmel, TriQuint Semiconductor, Lattice Semiconductor, ECD, Jameco, Texas Instruments, Analog Devices, PacifiCorp and many other companies.
- Universities that have used TekBots platform include: Texas A&M, Rochester Institute of Technology, Fukuoka Institute of Technology (Japan), Linn-Benton Community College, Umqua Community College. OSU assembles and sells the kits and re-invests the profits in OSU's program.

- Published 11 journal and conference papers including ASEE Journal of Engineering Education, IEEE Trans. Education, ASEE Annual Conference, and Frontiers in Education Conference that summarized the development and assessment of this program to share knowledge and gain national recognition.
- Created freshmen mentor and peer mentor programs to enhance retention. Students who are mentors are given leadership training to prepare them for this role.
- Expanded the platform for learning concept to Computer Science focusing on open source software. Incoming freshmen contribute to the open source learning company started last year and funded by an NSF grant (\$400k) and a initial grant from Intel (\$200k).
- Awarded the 2006 IEEE Educational Activities Board Innovative Education Award "For Undergraduate Engineering Education Innovation Through Creation and Development of Platforms for Learning® and Its Implementation in the Electrical and Computer Engineering Curriculum Through the TekBots® Program".
- Awarded "The 2006 OSU Student Learning and Success Teamwork Award" with Don Heer, Gale Sumida, Tom Thompson, and Roger Traylor

#### Supported Impact of Research Through Creation of Commercialization Program

- Served as Oregon State University representative on executive committee to define research commercialization process for Corvallis focusing on OSU, HP and other potential sources in 2004-5. From this group a process was defined to vet new company ideas through a SWOT process and now coordinated by Corvallis Chamber/Economic Development.
- Worked with faculty in EECS and College of Engineering to help facilitate commercialization and ensure that conflict of interest issues were well understood, articulated and followed. Facilitated spinouts by recruiting business team and supporting location in Kelley Engineering Center.
- Hired Director of Commercialization in 2006 (Joe Tanous) to further build commercialization effort including teaching a commercialization class and connecting investors with entrepreneurs. The College of Engineering had more than 8 spinouts during this time.
- Impact of this program has grown from just EECS to the College of Engineering to the overall university. Numerous companies have spun out as a result of this program in the last several years. Developed marketing materials to share success with alumni. Generated significant support/funding and interest from alumni.

# Created Industrial Relations Program to Grow EECS Industry Support to \$2M/year in 2010

- Hired corporate relations coordinator to facilitate industry collaboration in 2000. Together we worked with Career Services to initiate Engineering Career Fair. This year there were more than 115 companies attending and 1200 engineering students visited.
- Created INSPIRE program for companies to interact with students and faculty in the School throughout the year. Included Fall Senior Dinner with typically 20-25 companies attending, Winter Industry Connect Night with typically 250 attendees (both fall and winter events include MIME), Spring Expo featuring senior projects and TekBots®. Program generates approximately \$100k per year invested in undergraduate projects and education.
- Created and then expanded the Spring Expo showcasing senior projects from ECE department only in Spring of 2000 to College-wide event in 2006. In 2011 more than 500 seniors participated and approximately 2000 people attended including school children, alums, parents, friends, industry representatives, and the university community.
- Significantly expanded Industry Advisory Board to 60 industry attendees each year.
- Fostered industry interaction and engagement by connecting industry with faculty and students. Made interaction easy by facilitating easy parking and supporting aspects important to them including hiring and research collaboration. EECS hosts over 350 visitors each year.

# Campus Research Strategy Development

- Led effort to define and characterize university research strengths in sustainable energy and infrastructure (SENERGI) as Director of SENERGI. Met with faculty from all colleges to understand OSU's strengths and define our opportunities i.e. *senergi.oregonstate.edu* (2010-11)
- Worked with a number of faculty across multiple colleges to help develop a strategy for research clusters and large grant opportunities e.g. materials cluster.

- Worked quarter time with VP of Research (Rick Spinrad) to develop OSU's first research agenda. The research agenda lines up with the university strategic plan and brings focus to OSU's overall research.
- Reached out to a number of Business faculty to connect them with research in EECS once the OSU division of Engineering and Business was formed.
- Developed a new class on Sustainable Energy that EECS students take and will be joined by MBA students in the clean energy track this winter.

#### EECS Marketing and Fund Raising

- Established comprehensive marketing effort for EECS to grow reputation and build alumni participation/loyalty. Enhanced alumni communication and increased donors significantly. Through efforts grew EECS unrestricted account from approximately \$50k in 1999 to just under \$900k in 2011. This has provided discretionary money to invest in growing our national reputation.
- Collaborated with fundraisers and dean to raise approximately \$5M from Donors to support completion of the Kelley Engineering Center. Effort included creating and sharing the vision of excellence in EECS. Conducted hard hat tours, post construction tours, pitches to major alumni donors and industry.
- Engaged in fund raising for EECS Fellowships, Scholarships, Endowments, etc. for last 10 years. Grew scholarships endowments to grow distributions from approximately \$70k/year in 1999 to \$440k/year in 2011. Secured several hundred thousand in faculty funds from alumni to support startup packages, faculty excellence fund, etc.

#### • Supported College of Engineering Legislative, Donor, and Program Development

- Through 12 years@OSU have excellent relationships and network of key donors college-wide through extensive pre-game football presentations, events on campus and visits to donor locations.
- Helped create strategy for Engineering Technology Industry Consortium (ETIC-group that helped facilitate targeted state funding for engineering in the state) funding for last five legislative sessions. Visited legislature along with industry representatives last four bieniums to meet with state legislators. Invited participant in strategy session defining the future role of ETIC in F2011.
- Supported early development of College of Engineering Women and Minorities Program (2000-2002). Received (small) grants from Tektronix and Boeing and others to define initial programs for women and minorities. Supported formal development of College of Engineering Women and Minorities in Engineering serving as chair of the search committee for Director.
- o Led development of recent marketing messaging used by College of Engineering.

# • Streamlined EECS/OSU Operations to Grow Research and Enhance Efficiency

- Initiated pilot of electronic graduate admission to significantly reduce staff requirements. Pilot was successful and electronic graduate admission was adopted college-wide and soon to be university-wide.
- Instituted faculty workload model that rewarded faculty productivity in research, innovative education, etc. By making faculty workload transparent and rewarding productivity, overall research productivity and innovative teaching increased substantially.
- Piloted electronic theses with the university library and now university-wide.
- Numerous other processes put in place to ensure efficient use of time including faculty search database, advising enhancements, among others.

# • Co-founded Company, Raised Capital, and Served as Founding CEO (4/2008-7/2009)

- Defined market opportunity in Solar electronics and formed company Azuray Technologies.
- Raised \$8M Series A Funding from New Enterprise Associates (one of top ten venture capitalists in the world)
- Secured \$1.3M Oregon Business energy tax credit for Azuray Technologies.
- Defined key intellectual property and product roadmap.
- Grew company to 20 employees and demonstrated first product.
- Currently serving on board of directors.

# **TERRI S. FIEZ**

1043 Kelley Engineering Center School of Electrical Engineering and Computer Science Oregon State University Corvallis, OR 97331 Office: (541) 737-3118 terri@eecs.oregonstate.edu

EDUCATION		
	June 1990	Ph.D. Electrical and Computer Engineering Oregon State University Thesis Advisor: Dr. David J. Allstot Thesis: <i>Design of CMOS Switched-Current Filters</i>
	June 1985	M.S. Electrical Engineering University of Idaho Thesis Advisor: Dr. Gary Maki Thesis: <i>A CMOS PLA Generator</i>
	May 1984	B.S. Electrical Engineering University of Idaho
PROFESSIONAL EXPERIENCE		
Academic	2003-Present <i>On leave 4/08-</i> 9/09	Director/Head and Professor School of Electrical Engineering and Computer Science Oregon State University
	9/2010-9/2011	Research Agenda Strategy Consultant to VP Research Research Office, OSU (Quarter time)
	9/2010-9/2011	Director, Sustainable Energy and Infrastructure (SENERGI), Research Thrust in College of Engineering
	1999-2003	Department Head and Professor Department of Electrical and Computer Engineering Oregon State University
	1996-1999	Associate Professor School of Electrical Engineering and Computer Science Washington State University
	1990-1996	Assistant Professor Department of Electrical Engineering and Computer Science Washington State University
	1988-July 1990	Graduate Research Assistant Department of Electrical and Computer Engineering Oregon State University Analysis and design of CMOS circuits

	1987-1988	Graduate Teaching Assistant Department of Electrical and Computer Engineering Oregon State University Analog circuits laboratory and recitation
	Aug-Dec 1984	Graduate Teaching Assistant Department of Electrical Engineering University of Idaho Circuits recitation
Non-academic	4/08-Present	Board of Directors, Azuray Technologies
	4/08-9/09	CEO and Co-founder Azuray Technologies Durham, OR
	1996-1997	RF Circuit Designer (Sabbatical) AKM Design Tek San Diego, CA
	1988	Component Engineer Hewlett-Packard Boise, ID
	1985-87	Circuit Design Engineer Hewlett-Packard Corvallis, OR
	Summer 1983 & 84	Engineering Intern Hewlett-Packard Boise, ID
Consulting Positions	IP Consultant, 20 American Micros Boeing, 1991, 19 Advanced Hardw Eldec Corporation	10-11 ystems Inc., 1999 98-1999 rare Architectures, 1992 n, 1993
RESEARCH GRANTS/GIFTS	Total Research	Grants/Contracts: \$13.25M
	CAMBR and University of Idaho, "Ultra Low Power Mixed Signal Designs," with K. Mayaram, Nov. 08 – Aug. 11, \$475,000.	
	ONAMI and Army Sensor Web," with	y Research Laboratory (ARL), "Ultra Low-Power, 3D Nano- th K. Mayaram, July 08 – Aug. 09, \$200,000.
	ONAMI and Army Sensor Web," with	y Research Laboratory (ARL), "Ultra Low-Power, 3D Nano- th K. Mayaram, Aug. 07 – Sept. 08, \$84,733.
	Semiconductor R Communications	Research Corporation, "Ultra Low Power ADCs for Wireless," Oct. 07 – Dec. 2010, \$300,000.
	Intel Research C	ouncil, "Substrate Noise Tolerant Design for Multiple

Radios on a Chip," with K. Mayaram, May 06 - April 09, \$228,000.

National Science Foundation, "CPATH: Computer Science Curriculum Based on a Platform for Learning," *with C. Jensen, M. Bailey, P. Paulson, and T. Budd*, July 07—June 09, \$399,997.

National Science Foundation, "SIRG: A Wireless Network of Battery-free Sensors for Atmosphere-biosphere in Complex Environments," *with B. Bond, K. Mayaram, T. Nguyen, H. Liu, T. Dietterich, M. Unsworth*, Oct. 05 -Sept. 11, \$1,400,000.

National Science Foundation, "A Miniature Micropower Cell Phone for Tracking Migratory Animals," *with D. Robinson, K. Mayaram, H. Liu, Z. Wang*, Aug. 05 - July 11, \$760,120.

Center for Design of Analog-Digital Integrated Circuits (CDADIC), "High-Performance Delta-Sigma ADCs," T. Fiez, 2004-2008, \$191,000.

Texas Instruments, "High Performance Mixed-Signal Circuits and Systems," T. Fiez and K. Mayaram, 2003-2008, \$425,000.

Semiconductor Research Corporation, "Modeling and Analysis for Substrate Noise Mitigation in High Frequency Integrated Circuits," *with K. Mayaram*, April 05 - March 08, \$360,000.

Intel Research Council, "Modeling and Simulation of High Frequency Substrate Noise Coupling in Mixed-Signal ICs " *with K. Mayaram*, May 05 -April 08, \$150,000.

DARPA (Subcontract from Boeing), "Substrate Noise Comparisons of Clocked versus Clockless Microcontrollers," *with K. Mayaram*, Aug. 04 – Dec. 06, \$287,026.

DARPA (Subcontract from Northrup Grummen), "Sigma Delta ADC Development," April 05 – March 07, \$200,000.

National Science Foundation, "Creating a Synergistic Community Around Innovative Engineering Education," T. Fiez, E. Gummer, L. Flick, 2003-2005, \$99,997.

National Science Foundation, "Reforming Undergraduate Engineering Education Using an Integrated Platform for Learning, "T. Fiez, L. Flick, M. Costello, 2003-5, \$120,000.

U.S. Air Force/DARPA, "Nanocommunicator: A High Performance Communication Microsystem Based on Adaptively Compensated Noise Hardened Mixed-Signal Circuits," T. Fiez, K. Mayaram, and U. Moon 2002-2007, \$1,798,999.

Center for Design of Analog-Digital Integrated Circuits (CDADIC), "High-Frequency VCO-Based Delta-Sigma ADC in SiGe," T. Fiez, 2002-2004, \$90,000.

Tektronix Corporation, "TekBots: An Integrated Platform for Learning," T. Fiez, 2001-2009, \$750,000.

Semiconductor Research Corporation, "Silencer! A Practical and Efficient Substrate-Coupling Methodology and Tool for High Performance Mixed Signal Systems-on-a-Chip," K. Mayaram and T. Fiez, 2001-2005, \$524,795.

DARPA, "The P<sup>3</sup> Micro Power Generator," R. Richards, C. Richards, D.

Bahr, T. Fiez, K. Mayaram, A. von Jouanne, \$797,464 (\$139,497 OSU), 2001-2002.

Motorola University Partner in Research, Graduate Fellowship, Awarded to Kannan Soundarapandian, 2000, \$53,714.

National Science Foundation, "MEMs-Based Power Generation for Portable Systems," R. Richards, D. Bahr, T. Fiez, B. Li, K. Mayaram, C. Richards, 1999-2001, \$546,284, (\$130,000 OSU).

Texas Instruments, "Data Conversion in Broadband Communications Systems," Principal Investigator, 2000-2002, \$200,000.

National Science Foundation Center for the Design of Analog-Digital Integrated Circuits (CDADIC), "High Speed A/D Conversion for Communication Applications: High Speed Sample-and-Holds," Principal Investigator, 1999-2002, \$140,000.

National Science Foundation, "Noise Management for Systems-on-a-Chip," T. Fiez and K. Mayaram, 1999-2002, \$399,105.

Semiconductor Research Corporation, "Next Generation A/D Converters for High Speed Communication Systems," Principal Investigator, 1998-2002, \$375,000.

CDADIC, "CMOS Substrate Modeling & Simulation," K. Mayaram and T. Fiez, 1997-2002, \$285,000.

National Science Foundation, "Micromachined Devices for High Temperature High Voltage & Performance in Conventional Submicron CMOS Process," M. Mojarradi, T. Fiez, and K. Mayaram, 1997-2000, \$300,000.

Washington Technology Center/Advanced Hardware Architectures, "High Speed Low-Power A/D in a Submicron CMOS Technology," T. Fiez, 1997-1999, \$131,000.

Fischer-Rosemount Co., "High Resolution A/D Conversion Using a Multibit DAC," PI, 1996-1998, \$59,185.

Texas Instruments, "Delta-Sigma ADCs for Video-rate Applications," Principal Investigator, 1996-1997, \$55,000.

CDADIC, "High Performance Data Conversion for Communication Applications," Principal Investigator, 1996-1999, \$200,000.

Crystal Semiconductor, Analog Circuits Research, Principal Investigator, 1994-1997, \$75,000.

Silicon Systems Inc., Analog Circuits Research, Principal Investigator, 1995-1996, \$10,000.

CDADIC, "Low Power A/D Conversion," Principal Investigator, 1995-96, \$55,000.

Washington Technology Center, Crain-Eldec Corporation, "Low Risk, High Temperature Electronics Development," Co-Investigator (Terry Sculley),

1995-97, \$146,000.

Fischer-Rosemount Co., "Low Power, High Resolution Delta-Sigma A/D Converters," Principal Investigator, 1994-95, \$55,000.

Washington Technology Center, "A Single Chip Dosimeter," in cooperation with International Sensor Technology, Pullman, Principal Investigator, 1994-95 \$20,000.

CDADIC, "A Low Power 16-bit SAR A/D Converter," Co-Investigator (Terry Sculley), 1994-95, \$50,000.

CDADIC, "Video-Rate A/D Conversion Using Parallel Delta-Sigma Modulators," Principal Investigator, 1993-95, \$50,000.

National Science Foundation, "Video-Rate A/D Conversion Using Parallel Delta-Sigma Modulators," Co-Investigator (Ian Galton, UC Irvine and Walter Ku, UC San Diego), 1993-95, \$50,000.

CDADIC, "Signal Processing Using Delta-Sigma Techniques," Co-Investigator (Terry Sculley and Roberto Bamberger), 1993-4, \$43,500.

IBM, Burlington, VT, "Phase Lock Loop Design and Implementation," Principal Investigator, 1993-94, \$30,000.

Boeing Defense and Space Group, "High Performance BiCMOS/CMOS Analog Circuit Design," Principal Investigator, 1993-95, \$91,063.

National Science Foundation, "NSF Young Investigator," Principal Investigator, 1992-97, \$ 312,500.

Tektronix Inc., "Quickchip Foundry Support," Principal Investigator, 1992-3, \$50,000.

CDADIC, "High-Performance Data Converters," Co-Investigator (Terry Sculley), 1992-3, \$37,000.

CDADIC, "BiCMOS Analog/Digital Circuit Design," Co-Investigator (Terry Sculley), 1990-92, \$70,000.

National Science Foundation Center for the Design of Analog-Digital Integrated Circuits (CDADIC), "CMOS Switched-Current Analog Integrated Circuits," Principal Investigator, 1990-93, \$135,000.

# PROFESSIONAL RECOGNITION

2011-13 IEEE Solid-State Circuits Society Distinguished Lecturer

2006 IEEE Educational Activities Board Innovative Education Award "For Undergraduate Engineering Education Innovation Through Creation and Development of Platforms for Learning® and Its Implementation in the Electrical and Computer Engineering Curriculum Through the TekBots® Program"

2006 Oregon State University Student Learning and Success Teamwork Award, presented to Terri Fiez, Don Heer, Gale Sumida, Tom Thompson, and Roger Traylor in The School of Electrical Engineering & Computer Science

	2005	IEEE Fellow "For Contributions to Analog and Mixed-Signal Integrated Circuits"
	2002-3	IEEE Circuits and Systems Society Distinguished Lecturer
	1995	IEEE Senior Member
	1993	Outstanding Research Project, Awarded by Industrial Sponsors Center for the Design of Analog/Digital Integrated Circuits (CDADIC)
	1992-97	National Science Foundation Young Investigator
	1990-	Member of Sigma Xi
	1988-89	IEEE Solid-State Circuits Council Predoctoral Fellowship
PROFESSIONAL SERVICE & ACTIVITIES	<ul> <li>Keyno Bend, Orego</li> </ul>	ote, "Lessons Learned from an Energy Entrepreneur; How OSU, and the State of Oregon Partner to Create Prosperity," Bend on City Club, Oct. 21, 2010.
Keynote Addresses	<ul> <li>Keync into S 29, 20</li> </ul>	ote Address, " <i>From Passion to Prosperity: Recruiting Millinnials</i> <i>ccience and Engineering</i> ," Portland ARCS Scholar Luncheon, Oct. 108.
	<ul> <li>Keync</li> <li>Destir</li> <li>Confe</li> </ul>	nte Address, " <i>Managing Your Career: Take Control of Your</i> ny," Workshop for Women in Design Automation, 44 <sup>th</sup> DAC rence, San Diego, CA, June 4, 2007.
	<ul> <li>Keyno Scouts</li> </ul>	te Address, "She Flies with Her Own Wings," National Girls s Camporee, Adair Village, July 2005.
	<ul> <li>Keyno Willan</li> </ul>	te Address, "Surviving the Game," Society of Women Engineers nette Valley Section Annual Banquet, Corvallis, OR, Feb. 2003.
Invited Talks	<ul> <li>Invited BEST</li> </ul>	d Speaker, "Azuray Technologies: A University Spinout," <i>Oregon</i> FEST '11, Portland, Oregon, Sept. 12, 2011.
	<ul> <li>Invited Node Confe</li> </ul>	d Speaker, " A 2.4GHz, 0.65V Single Supply Wireless Sensor with 0.95nJ/b Link Energy," 2011 Subthreshold Microelectronics prence, Boston, MA, Sept. 26, 2011.
	<ul> <li>Invited Comp Exper 20, 20</li> </ul>	d Speaker, " <i>The Opportunities and Challenges of Spinning Out a any from OSU.</i> " Austin Entrepreneurship Program is hosting the iences in Entrepreneurship OSU Faculty Luncheon Series, April 10.
	<ul> <li>Invited Club,</li> </ul>	d Speaker/Panelist, " <i>Prosperity Thru Innovation</i> ," Corvallis City Sept. 14, 2009.
	<ul> <li>Invited Portla</li> </ul>	d Speaker, "Solar Industry Growth and Drivers," Oregon TiE, nd, OR, March 18, 2009.
	<ul> <li>Select</li> </ul>	ted Presenter, "Azuray Technologies," OEN Venture Northwest,

		Portland, OR, Oct. 30, 2008.
	-	Invited Speaker, "Mentoring-for-Leadership event for Women Faculty," and " <i>Making Difficult Decisions</i> ," Leadership Excellence for Academic Diversity National Workshop, University of Washington, July 2007.
	•	Invited Speaker, "Modeling and Simulation of Substrate Noise Coupling in Mixed-Signal ICs," Intel Technology CAD Conference, August 2005.
	•	Invited Speaker, "Modeling and Simulation of Substrate Noise Coupling in Mixed-Signal ICs," Intel Low Power Conference, Sept. 2005.
	•	Invited Presentation, "Wideband Delta-Sigma ADCs in Deep Submicron CMOS Processes & TekBots <sup>TM</sup> : Using a Hands-on <i>Platform for Learning</i> <sup>TM</sup> to Reinvent Engineering Education," University of Texas at Austin, April 2004.
	•	Invited Presentation, "TekBotsTM: Using a Hands-on <i>Platform for Learning</i> TM to Reinvent Engineering Education," University of Washington, Nov. 2002.
<b>Invited Panelist</b>		
	•	NSF/CCC Invited Workshop, <i>Role of Information Sciences and Engineering in Sustainability</i> , Wash. DC, Feb. 2011.
	•	SRC/NSF Invited Workshop on Reliable and Robust Circuits, Wash. DC, July 8-9, 2010.
	•	Panelist, "Sustainability," Phoenix NAE Grand Challenges Summit, Phoenix, AZ, April 8-9, 2010.
	•	NSF Review Panel, Green buildings, Wash. DC, January 2010. Panelist, "Solar Materials of Tomorrow Nano/Micro Technologies," Micro Nano Breakthrough Conference, Portland, OR, Sept. 21, 2009.
	•	Panelist, "Impacts of Solar Industry on Oregon's Economy," OSEIA and NAIOP Breakfast Meeting, Portland, OR, Jan. 29, 2009.
	•	Invited Panelists, "Importance & Advantages of Pursuing Advanced Education," Women at Intel Network Conference, April 2004.
Professional		
Leadership	•	IEEE Fellow Reviewer for Solid-State Circuits Society 2007,08,09,10,11; Circuits and Systems Society 2010,11; Education Society 2009,10,11.
	-	ABET Evaluator, visits in 2007, 2010, 2011.
	•	NSF Engineering Directorate Committee of Visitors, Review committee for Engineering Education and Centers, Wash. DC, 2007, 2010.
	-	Founder, "Women in Solid-State Circuits," networking gathering at the IEEE Solid-State Circuits Conference (Four years running) – There are approximately 4000 attendees with about 200 women, Feb. 2007,08,09,10,11.

- External Advisory Board, Sandia's Hyper-Temporal Focal Plane Array Grand Challenge, 2005-8.
- Board of Directors, Electrical and Computer Engineering Department Heads Association (ECEDHA), Member-at-large, 2006-8.
- Solid-State Circuits Society Elected Representative to AdCom, 2005-11.
- Executive Committee, Oregon State/Corvallis Research Commercialization -- transitioned into an Enterprise SWOT Team, 2004-5.
- International Solid-State Circuits Conference Executive Committee and Short Course Chair, 2000-2006.
- Semiconductor Industry Association Roadmap Committee, Design and Test Technology Working Group, Aug. 1998-2000.
- Guest Editor, IEEE Trans. Circuits and Systems II: Analog and Digital Signal Processing, Special Issue on High-Performance Analog-to-Digital and Digital-to-Analog Converters, July 2000.
- Session Chair, New Delta-Sigma Modulator Architectures, IEEE Intl. Symp. Circuits and Systems, May 1999.
- Chair CAS Technical Committee for Analog Signal Processing, 1997-1998. Session Chair, Oversampled and Sigma-Delta Techniques I, IEEE Intl. Symp. Circuits and Systems, May 1998.
- IEEE Custom Integrated Circuits Conference Educational Session Chair, May 1997.
- Guest Editor, IEEE Journal of Solid-State Circuits, Special Issue on CICC Conference, March 1997, 1998.
- Associate Editor, IEEE Transactions on Circuits and Systems II, 1995-1997.
- IEEE Custom Integrated Circuits Conference Educational Session Co-Chair and Co-chair for "Communication Circuits" session, May 1996.
- IEEE Custom Integrated Circuits Conference Session Chair, Analog Signal Processing, May 1995.
- Session Chair, Analog Circuit Techniques for Communications, IEEE CICC, May 1994.
- Technical Program Committee, IEEE Custom Integrated Circuits Conference (CICC), 1993-1997.
- Technical Committee, IEEE Circuits and Systems Analog Signal Processing, 1990-1999.
- Reviewer for IEEE Trans. Circuits and Systems and IEEE J. Solid-State Circuits, 1990-present.

Oregon State University	2010-12	OSU Distinguished Professor Review Committee	
	2010	Member COE Director of Marketing & Communications	
	2000-11	College Engineering Promotion & Tenure Committee	
	2004-6	Search Committee Chair, Head Department of Civil, Construction and Environmental Engineering	
	2003	Search Committee Chair, Director of Women and Minorities for College of Engineering	
	2003-4	Search Committee, Vice President of Research	
	2001-6	Executive Committee, Kelley Engineering Center Design & Construction	
	2002, 4	Graduate Program Review, Rangeland Sciences	
	2000	Search Committee, Head Industrial & Manufacturing	
	1999-Pres	Member College of Engineering Leadership Team	
Washington	1997-98	College of Engineering Dean Search Committee	
State University	1994-95	Faculty Search Committee, College of Engineering and Architecture News and Information Position Search Committee	
	1993-4	WSU Honors Task Force	
	1993-Present	Chair, Senior Capstone Design Overhaul	
	1993-98	EECS Department Curriculum Committee	
	1993-94	Treasurer Sigma Xi, WSU branch	
	1992-93, 97-98	EECS Graduate Studies Committee	
	1992	National Youth Sports Program Instructor, June 1992	
	1991-97	Faculty Advisor, Society of Women Engineers	
	1991	Instructor on digital electronics, NSF Young Scholars, July 10-11	
	1990-2,4-6, 8-9	EECS Faculty Search Committee	
	1990-2	Committee for Women in Math, Science and Engineering	
PATENTS &	• T. Fiez, B.	Buchanan and G. Cooley, "DC-to-DC Switching Power	
LICENSING	Suppy Utilizing a Delta-Sigma Converter in a Closed Loop Controller," Patent No. US Patent # 5677,618, Oct. 14, 1997.		
	<ul> <li>D. Ozis, K. I using scalab</li> </ul>	Mayaram, and T. Fiez, "Modeling substrate noise coupling le parameters," US Patent # 7203629, April 10, 2007.	
	<ul> <li>C. Xu, T. Fie</li> </ul>	ez, K. Mayaram, and R. Gharpurey, "Green Function-Based	

Parasitic Extraction Method for Inhomogenous Substrate Layers," Disclosure Sept. 2005, OSU Licensed to Clear Shape Technologies May 2006, Clear Shape purchased by Cadence in 2007.

- R. Naiknaware, V. DiTommaso, T. Le, R. Batten, T. Fiez, "Energy Conversion Systems with Power Control," Patent Application filed by Azuray Technologies, Inc. June 2010, Patent App. # 20100157638.
- R. Naiknaware, T. Le, T. Fiez, and K. Mayaram, "Distributed Energy Conversion Systems," Patent Application filed by Azuray Technologies, Inc. June 2009, Patent App. # 20090160259.

#### 45 Archival Journal Papers & 97 Refereed Conference Papers

- T.W. Brown, F. Farhabakhshian, A. Guha Roy, T.S. Fiez, and K. Mayaram, "A 475 mV, 4.9 GHz Enhanced Swing Differential Colpitts VCO With Phase Noise of -136 dBc/Hz at a 3 MHz Offset Frequency," *IEEE J. of Solid-State Circuits*, vol.46, no.8, pp.1782-1795, Aug. 2011.
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- M. Ismail and T.S. Fiez, Co-Organizers of "Workshop 7: Analog VLSI Design Technology," *IEEE International Symposium Circuits and Systems*, May 1995.
- "Sampled-Data Current-Mode Analog Signal Processing Circuits," presented at Washington Technology Center workshop on Design and Verification of Advanced Microelectronic Circuits and Systems, June 25-26, 1992.
- "CMOS Analog Integrated Circuit Design," Boeing One-Week Short Course, Oct. 1, 1991.
- "Switched-current Circuits," presented at workshop on Analog VLSI: Signal and Information Processing," *IEEE International Symposium Circuits and Systems*, May 10, 1992.
- T.S. Fiez and M. Ismail, Co-Organizers of "Workshop 1: Analog VLSI: Signal and Information Processing," *IEEE International Symposium Circuits and Systems*, May 10, 1992.
- T.S. Fiez and D.J. Allstot, Co-Organizers of "Tutorial 13: Design of Mixed-Mode Integrated Circuits," *IEEE International ASIC Conference and Exhibit,* Sept. 27, 1991.
- "Simulation Tools for Switched-Current Circuits," 1990 Workshop on Analog Circuit Engineering, Raleigh, North Carolina, Oct. 1990. (invited talk)

CURRENT GRADUATE STUDENTS

- Chao Shi\*, Ph.D., 2012
- Rongha Ni\*, Ph.D, 2012
- Samira Zali Asl\*, Ph.D. 2012
- Justin Goins\*, M.S., 2012
- Brian Miller\*, M.S., 2012

	<ul> <li>Hossein Mirzaie. Ph.D., 2014</li> <li>* Indicates Co-advised with Karti Mayaram</li> </ul>
STUDENTS GRADUATED	12 Ph.D. and 62 M.S. Students Graduated
Ph.D.	<ul> <li>Ramin Zanbaghi, "Wide-Bandwidth, High-Resolution Delta-Sigma Analog-to-Digital Converters," Ph.D. Oregon State University, Aug. 2011.</li> </ul>
	<ul> <li>Napong Panitantum*, " Ultra-Low-Energy Transmitters for Battery- Free Wireless Sensor Networks," Ph.D. Oregon State University, July 2011.</li> </ul>
	<ul> <li>Thomas Brown, "Design and Analysis Techniques for Nano-Joule ADCs and Sampling Linearity," Ph.D. Oregon State University, May 2011.</li> </ul>
	<ul> <li>James Ayers*, " Ultra-Low Power Receivers for Wireless Sensor Networks," Ph.D., Oregon State University, May 2010.</li> </ul>
	<ul> <li>Robert Batten, "Adaptive, Wideband Analog-to-Digital Conversion for Convergent Communication Systems, Ph.D., Oregon State University, Sept. 2008.</li> </ul>
	• Triet Le*, "Efficient Power Conversion Interface Circuits for Energy Harvesting Application, Ph.D., Oregon State University, March 2008.
	<ul> <li>Zhimin Li, "Design of a 14-bit Continuous-Time Delta-Sigma A/D Moldulator with 2.5MHz Signal Bandwidth," Ph.D., Oregon State University, March 2006.</li> </ul>
	<ul> <li>Ruoxin Jiang, "Design of a 1.8V 14-bit DS A/D Converter with 8X OSR and 4MHz Nyquist Output Rate," Ph.D., Oregon State University, July 2001.</li> </ul>
	<ul> <li>Uma Chilakapati, "High Performance Analog Signal Processing Building Blocks," Ph.D., Washington State University, May 2000.</li> </ul>
	<ul> <li>Ravi Naiknaware, "High Order Delta-Sigma ADCs," Ph.D., Washington State University, Dec. 1999.</li> </ul>
	<ul> <li>Aria Eshraghi, "High-Speed Parallel Delta-Sigma Analog-to-Digital Converters," Ph.D., Washington State University, May 1999.</li> </ul>
	• Rex Baird, "Stability Analysis and Linearity Enhancement of High-Order Multibit $\Delta\Sigma$ Data Converters," Ph.D., Washington State University, Dec. 1994.
MASTERS	<ul> <li>Mohsen Nasroullahi*, Ultra-Low Energy Digital Controller for Battery-</li> </ul>

Free Wireless Sensor, M.S., Oregon State University, July 2011.

- Steve Meliza\*, Ultra-Low Energy Digital Logic Controller Design for Wireless Sensor Networks," M.S., Oregon State University, 2009.
- Hector Oporta\*, An Ultra Low Power Frequency Reference For Timekeeping Applications,"M.S., Oregon State University, 2008.
- Farhad Farahbakshian\*, An Enhanced Swing Differential Colpitts CMOS VCO for Low-Voltage Operation," M.S., Oregon State University, 2008.
- Chris Lindsley\*, A Nano-Power Wake-Up Circuit for RF Energy Harvesting Wireless Sensor, "M.S., Oregon State University, 2008.
- Adam Heiberg\*, "An Ultra Low Voltage Micropower GPS Receiver RF Front-End for Wildlife Tracking," M.S., Oregon State University, 2008.
- Brett Peterson\*, "Automated Model Parameter Extraction for Noise Coupling Analysis in Silicon Substrates," M.S., Oregon State University, 2008.
- Chris Hanken\*, "Simulation and Modeling of Substrate Noise Generation from Synchronous and Asynchronous Digital Logic Circuits "M.S., Oregon State University, 2007.
- Jim Le\*, "Comparison and Impact of Substrate Noise Due to Clocked and Clockless Circuitry," M.S., Oregon State University, 2007.
- Andrew Tabalujan\*, "Test Fixture Characterization for High-Frequency Silicon Substrate Parasitic Extraction," M.S., Oregon State University, 2007
- Kavitha Srinivasan\*, "Computationally Efficient Substrate Noise Coupling Estimation in Lightly Doped Silicon Substrates," M.S., Oregon State University, 2006.
- Arathi Sundaresan\*, "Ground Tap Placement and Sizing to Minimize Substrate Noise Coupling in RF LNAs," M.S., Oregon State University, March 2006.
- Sasi Kumar Arunachalam\*, "An Efficient and Accurate Method of Estimating Substrate Noise Coupling in Heavily Doped Substrates, M.S., Oregon State University, Dec. 2005.
- Kyle Webb\*, "A Test-fixture and Deembedding Procedure for High-Frequency Substrate Characterization," M.S., Oregon State University, Sept. 2005.
- Martin Held\*, "A Methodology for Efficient Substrate Noise Estimation from Large Scale Digital Circuits in Mixed Signal SoC's," M.S., Oregon State University, Sept. 2005.
- Adriaan Smit, "TekBots<sup>™</sup>: A Platform for Learning<sup>™</sup> Revised," M.S., (jointly advised with R. Traylor), Oregon State University, Dec. 2004.
- Hui En Pham\*, "Substrate Noise Coupling Analysis in 0.18μm Silicon Germanium (SiGe) and Silicon on Insulator (SOI) Processes," M.S., Oregon State University, Dec. 2004.
- James Ayers\*, "A Comparison of Substrate Noise Coupling in Heavily Doped and Lightly Doped Substrates for Mixed-Signal Circuits," M.S., Oregon State University, Sept. 2004.
- Husni Habal\*, "Accurate and Efficient Simulation of Synchronous Digital Switching Noise in Systems on a Chip," M.S., Oregon State University, Sept. 2004.

- Scott Hazenboom\*, "A Comparison of Substrate Noise Coupling in Lightly and Heavily Doped," M.S., Oregon State University, Sept. 2004.
- Patrick Birrer\*, "Silencer! A Tool for Substrate Noise Coupling Analysis," MS, March 19, 2004.
- Shu-ching Hsu\*, "Analysis and modeling of substrate noise coupling for NMOS transistors in heavily doped substrates," M.S., Oregon State University, March 2004.
- Sachin Ranganathan, "Design of a Variable Gain, High Linearity, Low Power Baseband Filter for WLAN Transmitters," M.S., Oregon State University, Dec. 12, 2003.
- Brian Owens, "Simulation, Measurement, and Suppression of Digital Noise in Mixed-Signal Integrated Circuits," M.S., (jointly advised with K. Mayaram), Oregon State University, Dec. 12, 2003.
- Sirisha Adluri, "Contributions to Substrate Noise due to Supply Coupling and Pin Parasitics," M.S., (jointly advised with K. Mayaram), Oregon State University, Dec. 12, 2003.
- Ajit Sharma, "Predictive Methodologies for Substrate Parasitic Extraction and Modeling in Heavily Doped CMOS Substrates," M.S., (jointly advised with K. Mayaram), Oregon State University, Sept. 5, 2003.
- Mohanalakshmi Koteeswaran, "Substrate Coupling Macromodel for Lightly Doped CMOS Processes," M.S., (jointly advised with K. Mayaram), Oregon State University, Dec. 2002.
- Donald Heer, "TekBots™: A Platform for Learning to Revitalize Undergraduate Engineering Education," M.S., Oregon State University, Dec. 2002.
- Kalyan Ghatak, "Design and Sample and Holds using CCD's in a Standard CMOS Process," M.S., Oregon State University, Sept. 2002.
- Nathen Barton, "Prediction of Phase Noise and Jitter in Ring Oscillators," M.S., (jointly advised with K. Mayaram), Oregon State University, Feb. 2002.
- Hatice Dicle Ozis, "An Efficient Modeling Approach for Substrate Noise Coupling Analysis with Multiple Contacts in Heavily Doped CMOS Processes," M.S., (jointly advised with K. Mayaram), Oregon State University, Dec. 2001.
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- Aline Sadate, "A Substrate Noise Coupling Model for Lightly Doped CMOS Processes," M.S. Thesis (jointly advised with K. Mayaram), Oregon State University, Dec. 2000.
- Paul Stulik, "Design Issues in High Speed, Moderate Resolution

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- Robert Batten, "Calibration of Parallel Delta-Sigma Analog-to-Digital Converters," M.S., Washington State University, May 1999.
- Anil Samavedam, "Design Oriented Substrate Coupling Macromodel for Heavily Doped Substrates," M.S., Washington State University, May 1999.
- Steve Dunlap, "A Noise Shaped Switching Power Supply Using a Delta-Sigma Modulator," M.S., Washington State University, 1998.
- Mahdu Parmeswaran, "Input Offset and 1/F Noise Cancellation in Sigma-Delta A/D Converters Using Spectral Shaping," M.S., Washington State University, Dec. 1998.
- Russ Radke, "A 14-bit Current Mode Sigma-Delta DAC Based Upon the Rotated Data Weighted Averaging Dynamic Element Matching Algorithm," M.S., Washington State University, 1998.
- Ling Liu, "Analysis of Dynamic Element Matching and Implementation Issues," M.S., Washington State University, 1997.
- Dazhi Che, "Video-rate A/D Conversion in a Digital CMOS Process," M.S., Washington State University, Dec. 1996.
- Detlev Schmitt, "A Low Voltage CMOS Current Source," M.S., Washington State University, 1997.
- Hideya Oshima, "Offset Cancellation in Operational Amplifiers using Delta-Sigma Modulation," M.S., Washington State University, Aug. 1996.
- Daniel Shkap, "A 14-bit Delta-Sigma A/D Converter with Multibit Quantization and Dynamic Element Matching," M.S., Washington State University, Aug. 1996.
- Xiaoxin Feng, "Low Power Supply Operational Amplifier Design and Evaluation," M.S., Washington State University, May 1996.
- Qin Li, "A 14-bit 500kHz Power Optimized A/D Converter," M.S., Washington State University, May 1996.
- Gayathri Bhagavatheeswaran, "CMOS Design Modeling and Circuit Design Guidelines for High Temperature Applications," M.S., Washington State University, May 1996.
- Greg Pauls, "Design and Testing Considerations for the Parallel  $\Delta\Sigma$  A/D Converter," M.S., Washington State University, Aug. 1995.
- Mike Baker, "Design Criteria for the  $\pi\Delta\Sigma$  A/D Converter with Oversampling," M.S., Washington State University, Aug. 1995.
- Stephanie Shih, "Digital Comb Filter Implementation for the  $\pi\Delta\Sigma$  A/D Converter," M.S., Washington State University, May 1995.
- Greg Cooley, "Delta-Sigma and PCM Techniques for the control of DC-to-DC Switching Power Supplies," M.S., Washington State

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- Shivani Gupta, "A 1mW 14-bit  $\Delta\Sigma$  A/D Converter with 10kHz Conversion Rate," M.S., March 1995, Oregon State University.
- Azilah Saparon, "Design of a Phase-locked Loop," M.S. (project), Washington State University, Dec. 1993.
- Farbod Aram, "Compact and Accurate MOST Model for Analog Circuit Hand Calculations," M.S., Washington State University, May 1994.
- Eric King, "Design Considerations for the  $\Delta\Sigma$  A/D Converter without Oversampling," M.S., Washington State University, Dec. 1993.
- Russ Croman, "High-accuracy switched-current filter design," M.S., Washington State University, Aug. 1993.
- Ligang Zhang, "A 2V 12-bit Pipelined A/D Converter using Current-Mode Techniques," M.S., Washington State University, May 1993.
- Marius Goldenberg, "Low-voltage fully-differential switched-current integrators," M.S., Washington State University, Dec., 1992.
- Cheng-Jen Li, "A 3.3 volt 120 MHz BiCMOS current amplifier," M.S., Washington State University, May 1993.
- Ed Schneider, "Simulation of current-mode sampled-data signal processing systems," M.S., Washington State University, Aug. 1992.
- Greg Zweigle, "Accurate switched-current circuits using an improved dynamic mirror," M.S., Washington State University, August 1991.
- Rex Baird, "Speed and accuracy considerations for switched-current circuits," M.S. (project), Washington State University, May 1991.