Curriculum Vitae

Darrin Young

Electrical and Computer Engineering Department
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Education:

University of California at Berkeley
Ph.D. Electrical Engineering and Computer Sciences, May 1999.

University of California at Berkeley
M.S. Electrical Engineering and Computer Sciences, May 1993.

University of California at Berkeley
B.S. Electrical Engineering and Computer Sciences, May 1991.

Research Interests:

MEMS and nano-electro-mechanical device design, fabrication, and integrated circuit design for biomedical implants, wireless sensing, power and energy scavenging, RF communication, and general industrial sensing applications.

Professional Experiences:

2009-Present
USTART Associate Professor
Associate Chair
Electrical and Computer Engineering Department
University of Utah, Salt Lake City, Utah.

2005-2009
Associate Professor
Electrical Engineering and Computer Science Department
Case Western Reserve University, Cleveland, Ohio.

1999-2005
Assistant Professor
Electrical Engineering and Computer Science Department
Case Western Reserve University, Cleveland, Ohio.

1991-1999
Research Assistant
Electrical Engineering and Computer Sciences Department
University of California, Berkeley, California.

1997-1999
Participating Researcher
Lawrence Livermore National Laboratory, Livermore, California.

1997 -1998
Analog RF IC Designer
Rockwell Semiconductor Systems, Newport Beach, California.

1991-1993
Intern
Hewlett-Packard Laboratories, Palo Alto, California.

Research Grants:

- **"**SitS NSF-UKRI: Wireless In-Situ Soil Sensing Network for Future Sustainable Agriculture" (PI)
NSF, January 1, 2020 to December 31, 2012, $799, 956

- **"**Acoustic Power and Communication Platform for a Deeply Implanted Intraluminal Glucose Sensor" (Co-PI)
NSF, September 2014 to August 2017, $375,000

- **"**Implantable Particle-Based Wireless Neurorecording Probes for Minimally-Intrusive 3D Mapping of Brain Signals" (Co-PI)
NSF, September 2015 to August 2017, $300,000

- "Soldier Navigation via High-Resolution-Gait-Corrected IMUs" (Co-PI)
DARPA, September 2010 to January 2014, $5,800,000

- "Robust Design of High Performance MEMS Resonators" (Co-PI)
NSF, September 2008 to August 2011, $345,000

- "Wireless Implantable Pressure Monitor for Clinical Applications" (Co-PI)
U.S. Department of Veteran Affairs, September 2007 to August 2010, $750,000

- "Intelligent Sensor Network for In-Vivo Real Time Biological Dynamic Systems" (PI)

NSF, September 2003 to August 2007, $ 685,000

- "RF Data Transmitter and Receiver Modules for MEMS Strain Sensors" (PI)

Army Research Office, June 2002 to May 2007, $ 852,350

- "Wireless EMG Sensing Microsystem" (PI)

Veteran Affair Medical Center, Cleveland, Ohio, September 2005 to August 2006, $ 45,000

- "Harsh Environment MEMS Sensing and Communications" (PI)

NASA, October 1999 to October 2002, $ 330,000

- "MEMS Tunable Antennas for Power-Efficient Wireless Communications" (PI)

NASA, October 2001 to March 2003, $ 71,738

- "Nerve Reshaping" (Co-PI)

NIH, July 2005 to June 2010, $ 450,000

- "Micro Sensor for Cochlear and Middle Ear Implant Systems" (Co-PI)

NIH, December 2003 to November 2005, $ 229,500 (Direct cost)

- "Microfabricated Strain Sensor Module with Interface Circuits" (Co-PI)

Army Research Office, June 2002 to May 2007, $ 1,177,128

- "Fast Bonding Techniques for Attaching Strain Sensors to Steel Substrates" (Co-PI)

Army Research Office, June 2002 to May 2007, $ 669,556

- "Multi-Range Pressure Sensor Arrays For Harsh Environment" (Co-PI)

NASA, October 1999 to October 2002, $ 380,000

Recently Taught Courses:

- ECE 2280 Fundamentals of Engineering Electronics (Undergraduate Course)
- ECE 4900/4910 Senior Clinic Project (Undergraduate Course)
- ECE 6720 Analog Integrated Circuit Design (Graduate Course)
- ECE 6722 Analog Integrated Circuit Testing (Graduate Course)
- ECE 6960 Electrical Interface for MEMS (Graduate Course)
- ECE 6730 Radio Frequency Integrated Circuits Design (Graduate Course)
- EECS 426: MEMS for Sensing and Communication (Graduate Course)

- EECS 600: Radio-Frequency Integrated Circuits Design (Graduate Course)

- EBME 418: Applied Electronics for Biomedical Engineering (Selected Lectures, Graduate Course in BME)

- EECS 344: Microelectronic Design and Analysis (Undergraduate Course)

- EECS 245 Electronic Circuits (Undergraduate Course)

- ENRG 210 Introduction to Circuits and Instruments (Undergraduate Course)

Graduate Research Students Advising:

- Yuechuan Yu (Current Ph.D. Student)

- Weijie Luo (Current Ph.D. Student)

- Xing Chen (Post-Doc, 2015-2016)

- Qingbo Guo
  Ph.D. Dissertation Title: "Personal Inertial Navigation System Assisted By MEMS Wearable Ground Reaction Sensor Array and Sensing Interface ASIC"
  Completion Date: December 2018

- Michael Suster
  Ph.D. Dissertation Title: "Wireless Strain Sensing Microsystem with External RF Powering and Two-Channel Data Telemetry Capability"
  Completion Date: July 2011

- Nattapon Chaimanonart
  Ph.D. Dissertation Title: "Wireless Implantable Multi-channel Bio-sensing Network with Adaptive RF Power Control for Untethered Laboratory Animal Real-time Monitoring"
  Completion Date: July 2009

- Peng Cong
  Ph.D. Dissertation Title: "Wireless Less-invasive Implantable Blood Pressure Sensing System for Small Animal Real-time Monitoring"
  Completion Date: December 2008

- Kalyan Ladhane
  M.S. Project Title: "SiC MEMS"
  Completion Date: December 2013

- Bradley Farnsworth
  M.S. Thesis Title: "Wireless Implantable EMG Sensor"
  Completion Date: May 2010

- Mark Zimmerman
  M.S. Thesis Title: "*In Vivo* RF Powering for Advanced Biological Research"
  Completion Date: June 2008

- Engin Pehlivanoglu
  M.S. Thesis Title: "Silicon Carbide MEMS Oscillator"
  Completion Date: January 2008

- Mark Zurcher
  M.S. Thesis Title: "Development of a MEMS Middle Ear Acoustic Sensor for a Fully Implantable Cochlear Prosthesis"
  Completion Date: November 2007

- Matthew Cross
  M.S. Thesis Title: "Architectural Comparison Study for RF and Microwave CMOS Voltage-Controlled Oscillators"
  Completion Date: August 2007

- Cheng-Kuan Lu
  M.S. Thesis Title: "Wireless MEMS Accelerometer for Real-time Small Laboratory Animal Activity Monitoring"
  Completion Date: July 2007

- Steven Mallin
  M.S. Thesis Title: "Phase Noise Processes and Suppression Techniques in RF LC Voltage-Controlled Oscillators"
  Completion Date: May 2006

- Nattapon Chaimanonart
  M.S. Thesis Title: "Remote Radio-Frequency Powering System for Wireless MEMS Strain Sensor"
  Completion Date: January 2006

- Jiangang Du
  M.S. Thesis Title: "Single Crystal Silicon Carbide Capacitive Pressure Transducer"
  Completion Date: May 2005

- Run Wang
  M.S. Thesis Title: "Silicon-Carbide-MESFET-Based 400 ^{o}C MEMS Sensing and Data Telemetry"
  Completion Date: August 2004

- Michael Suster
  M.S. Thesis Title: "High-Temperature MEMS Wireless Sensing and Telemetry"
  Completion Date: August 2004

- Brian Quach
  M.S. Thesis Title: "Micromachined Touch Mode Tunable Capacitor Design and Fabrication for RF Communication Applications"
  Completion Date: August 2003

Publications:

Journals

1. D. J. Young, B. E. Boser, V. Malba, A. F. Bernhardt, "A Micromachined RF Low Phase Noise Voltage-Controlled Oscillator for Wireless Communication," *International Journal of RF and Microwave Computer-Aided Engineering*, pp. 285-300, 2001.

2. J. Du, W. H. Ko, D. J. Young, "Single Crystal Silicon MEMS Fabrication Based On Smart-Cut Technique," *Sensors and Actuators A*, vol. 112, issue 1, pp. 116-121, 2004.

3. M. Suster, W. H. Ko, D. J. Young, "An Optically-Powered Wireless Telemetry Module for High-Temperature MEMS Sensing and Communication," *IEEE Journal of Microelectromechanical Systems,* June, pp. 536-541, 2004.

4. D. J. Young, J. Du, C. A. Zorman, W. H. Ko, "High-Temperature Single Crystal 3C-SiC Capacitive Pressure Sensor," *IEEE Sensors Journal*, *Special Issue on Microsensors and Microactuators*, August, pp. 464-470, 2004.

5. R. Wang, W. H. Ko, and D. J. Young, "SiC-Carbide-MESFET-Based High-Temperature MEMS Sensing and Data Telemetry Module," *IEEE Sensors Journal*, December, pp. 1389-1394, 2005.

6. Peng Cong and Darrin J. Young, "Single Crystal 6H-SiC MEMS Fabrication Based On Smart-Cut Technique," *Journal of Micromechanics and Microengineering*, 15, pp. 2243-2248, 2005.

7. M. Suster, J. Guo, N. Chaimanonart, W. H. Ko, and D. J. Young, "A High-Performance MEMS Capacitive Strain Sensing Microsystem," *IEEE Journal of Microelectromechanical Systems*, Vol. 15, issue 5, pp. 1069-1077, 2006.

8. N. Chaimanonart and D. J. Young, "Remote RF Powering for Industrial Strain Sensing Microsystem," *IEEE Sensors Journal*, Volume 6, Issue 2, April, pp. 484 – 489, 2006.

9. W. H. Ko, D. J. Young, J. Guo, M. Suster, H-I Kuo, and N. Chaimanonart, "A High-Performance MEMS Capacitive Strain Sensing System," *Sensors and Actuators A,* vol. 133, pp. 272-277, 2007.

10. D. J. Young, M. A. Zurcher, T. Trang, C. A. Megerian, W. H. Ko, "Characterization of Ossicular Chain Vibration at the Umbo: Implications for a Middle Ear Microelectromechanical System Design," Ear Nose Throat Journal; 89(1), pp. 21-26, January 2010.

11. P. Cong, W. H. Ko, and D. J. Young, "Wireless Implantable Blood Pressure Sensing Microsystem Design for Small Laboratory Animals Monitoring," *Sensors and Materials*, Vol. 20, Issue 7, pp. 327-340, 2008.

12. P. Cong, N. Chaimanonart, W. H. Ko, and D. J. Young, "A Wireless and Batteryless 10-bit Implantable Blood Pressure Sensing Microsystem with Adaptive RF Powering for Real-time Genetically Engineered Mice Monitoring," *IEEE Journal of Solid-State Circuits,* Vol. 44, No. 12, pp. 3631-3644 (Special Issue), December 2009.

13. W. H. Ko, R. Zhang, P. Huang, J. Guo, X. Ye, D. J. Young, C. A. Megerian, "Studies of MEMS Acoustic Sensors as Implantable Microphones for Totally Implantable Hearing Aid Systems," *IEEE Transactions on Biomedical Circuits and Systems*, vol. 3, no. 5, pp. 277-285, October 2009.

14. D. J. Young, I. E. Pehlivanoğlu, and Christian A. Zorman "Silicon Carbide MEMS Resonator Based Oscillator," *Journal of Micromechanics and Microengineering*, 19, 2009, 115027.

15. P. Cong, W. H. Ko, and D. J. Young, "Wireless Batteryless Implantable Blood Pressure Monitoring Microsystem for Small Laboratory Animals," *IEEE Sensors Journal*, Vol. 10, No. 2, pp. 243-254, 2010.

16. M. Z. Zurcher, M. Semann, C. A. Megerian, W. H. Ko, D. J. Young, "A MEMS Capacitive Accelerometer Design as Middle Ear Microphone Based on Ossicular Chain Micromechanics Characterization at Umbo for Fully Implantable Cochlear Prosthesis," *Sensors and Materials*, Volume 22, Number 6, pp. 297-312, 2010.

17. N. Chaimanonart, M. A. Suster, and D. J. Young, "Two-Channel Passive Data Telemetry with Remote RF Powering for High-Performance Wireless and Batteryless Strain Sensing Microsystem Applications," *IEEE Sensors Journal*, Volume 10, Issue 8, pp. 1375-1382, 2010.

18. O. Bebek, M. A. Suster, S. Rajgopal, M. J. Fu, X. Huang, M. C. Cavusoglu, D. J. Young, M. Mehregany, A. J. van den Bogert, and C. H. Mastrangelo, "Personal Navigation via High-Resolution-Gait-Corrected Inertial Measurement Units," *IEEE Transactions on Instrumentation and Measurement*, Volume 59, Number 11, pp. 3018-3027, 2010.

19. R. Wang, P. Cheng, F.Xie, D. Young, and Z. Hao, "A Multiple-Beam Tuning-Fork Gyroscope with High Quality Factors," *Sensors and Actuators A* 166, pp. 22-33, 2011.

20. D. J. Young, M. Z. Zurcher, M. Semann, C. A. Megerian, W. H. Ko, "MEMS Capacitive Accelerometer-Based Middle Ear Microphone," *IEEE Transactions On Biomedical Engineering,* Vol. 59, No. 12, pp. 3283-3292, December 2012.

21. Xing Liu, Hui Chen, Qing-An Huang, Darrin J. Young, "A MEMS-Based Intraoperative Monitoring System for Improved Safety in Lumbar Surgery", *IEEE Sensors Journal*, Volume 13, Issue 5, pp. 1541-1548, 2013.

22. R. Surapaneni, Q. Guo, Y. Xie, D. J. Young and C. H, Mastrangelo, "A three-axis high-resolution capacitive tactile imager system based on floating comb electrodes," *Journal of Micromechanics and Microengineering*, Vol. 23, No. 7, 075004, 2013.

23. Q. Guo, M. A. Suster, R. Surapaneni, C. H, Mastrangelo, D. J. Young, "High-Performance Interface Electronic System for a 13 x 13 Flexible Biomechanical Ground Reaction Sensor Array Achieving a Gait Ground Velocity Resolution of 100um/sec," *IEEE Sensors Journal*, Vol. 13, No. 11, pp. 4496-4505, 2013.

24. R. Yang, Z. Wang, J. Lee, K. Ladhane, D. J. Young and P. X.-L. Feng, "6H-SiC microdisk torsional resonators in a "smart-cut" technology," *Applied Physics Letters* 104, 091906, 2014.

25. Y.-P. Hsu and D. J. Young, "Skin-Coupled Personal Wearable Ambulatory Pulse Wave Velocity Monitoring System Using Microelectromechanical Sensors," *IEEE Sensors Journal, Special Issue*, Vol. 14, No. 10, pp. 3490-3497, 2014.

26. D. J. Young, P. Cong, M. A. Suster, M. Damaser, "Implantable Wireless Battery Recharging System for Bladder Pressure Chronic Monitoring," *Lab on a Chip*, DOI: 10.1039/C5LC00821B, 2015, 15, 4338-4347.

27. Q. Guo, W. Deng, O. Bebek, C. Cavusoglu, C. Mastrangelo, and D. Young, "Personal Inertial Navigation System Assisted by MEMS Ground Reaction Sensor Array and Interface ASIC for GPS-Denied Environment," *IEEE Journal of Solid-State Circuits,* Vol. 53, No. 11, pp. 3039-3049 (Special Issue), November 2018.

28. H. Basaeri, Y. Yu, D. Young, and S. Roundy, "A MEMS-Scale Ultrasonic Power Receiver for Biomedical Implants," *IEEE Sensors Letters*, 2019.

29. D. Young and P. Cong, "Wireless Implantable Sensors: From Lab to Technology Breakthrough Ambitions," *Sensors and Actuators A*, 2019.

30. H. Bsaeri, Y. Yu, D. Young, and S. Roundy "Acoustic Power Transfer for Biomedical Implants Using Piezoelectric Receivers: Effects of Misalignment and Misorientation," *Journal of Micromechanics and Microengineering* (Special Issue), 2019.

31. Y. Yu, T. Nguyen, P. Tathireddy, S. Roundy, and D. J. Young, "An *in-vitro* Study of Wireless Inductive Sensing and Robust Packaging for Future Implantable Hydrogel-based Glucose Monitoring Applications," *IEEE Sensors Journal*, 2020.

Peer Reviewed Conference Papers

1. D. J. Young, B. E. Boser, "A Micromachined Variable Capacitor for Monolithic Low-Noise VCOs," *Technical Digest*, *IEEE Solid-State Sensor and Actuator Workshop*, Hilton Head Island, SC. June 1996, pp. 86-89.

2. D. J. Young, B. E. Boser, "A Micromachine-Based RF Low-Noise Voltage-Controlled Oscillator," *Technical Digest*, *IEEE Custom Integrated Circuits Conference*, Santa Clara, CA. May 1997, pp. 431-434.

3. D. J. Young, V. Malba, J. J. Ou, A. F. Bernhardt, B. E. Boser, "Monolithic High-Performance Three-Dimensional Coil Inductors for Wireless Communication Applications," *Technical Digest, International Electron Devices Meeting,* Washington, D.C. December 1997, pp. 67-70.

4. V. Malba, D. J. Young, J. J. Ou, A. F. Bernhardt, B. E. Boser, "High-performance RF coil inductors on silicon," *48th IEEE Electronic Components & Technology Conference*, 1998, pp. 252-255.

5. D. J. Young, V. Malba, J. J. Ou, A. F. Bernhardt, B. E. Boser, "A Low-Noise RF Voltage-Controlled Oscillator Using On-chip Three-Dimensional Coil Inductor and Micromachined Variable Capacitor," *Technical Digest, IEEE Solid-State Sensor and Actuator Workshop*, Hilton Head Island, SC. June 1998. pp. 128-131.

6. D. J. Young, J. L. Tham, B. E. Boser, "A Micromachine-Based Low Phase-Noise GHz Voltage-Controlled Oscillator for Wireless Communication," *Technical Digest, The 10th International Conference on Solid-State Sensors and Actuators (Transducers'99)*, Sendai, Japan, June 1999. pp. 1386-1389.

7. D. J. Young, "Micromachining for RF Communications," *MRS Bulletin on Microelectromechanical Systems: Technology and Applications*, Volume 26, No. 4, pp.331-332, April 2001.

8. M. Suster, D. J. Young and W. H. Ko, "Micro-Watt Wireless System for MEMS Sensors Network," *IEEE 2001 Microelectromechanical Systems Conference*, Berkeley, CA. August 2001, pp. 25-28.

9. M. Suster, D. J. Young, W. H. Ko, "Micro-Power Wireless Transmitter for High-Temperature MEMS Sensing and Communication Applications," Technical Digest, *The 15th IEEE International Conference on Micro Electro Mechanical Systems*, Las Vegas, Nevada, January, 2002, pp. 641-644.

10. M. Suster, D. J. Young, and W. H. Ko, “Micro-Power Wireless Transmitter with Printed Battery for MEMS Sensing and Communication Applications,” Technical Digest, *Solid-State Sensor, Actuator, and Microsystems Workshop*, Hilton Head Island, South Carolina, June 2002. pp. 333-336.

11. J. Du, D. J. Young, and W. H. Ko, “Single Crystal Silicon MEMS Fabrication Technology Using Proton-Implantation Smart-Cut Technique,” Technical Digest, *IEEE Sensors 2002*, Orlando, Florida, June 2002, pp. 585-588.

12. D. J. Young, “Micromachined RF Voltage-Controlled Oscillator with Phase Noise Characterization (invited),” Technical Digest, *The 9th IEEE International Conference on Electronics, Circuits and Systems*, Dubrovnik, Croatia, September 2002. pp. 295-298.

13. M. Suster, W. H. Ko, D. J. Young, "Optically-Powered Wireless Transmitter For High-Temperature MEMS Sensing and Communication," *Technical Digest, The 12th International Conference on Solid-State Sensors and Actuators (Transducers’2003)*, Boston, June 2003. pp. 1703-1706.

14. J. Du, D. J. Young, C. A. Zorman, W. H. Ko, "Single Crystal SiC Capacitive Pressure Sensor at 400 °C," *Technical Digest, International Electron Devices Meeting,* Washington, D.C. December 2003, pp. 783-786.

15. J. Guo, H. Kuo, D. J. Young, and W. H. Ko, “Buckled Beam Linear Output Capacitive Strain Sensor,” *Technical Digest of Solid-State Sensor, Actuator, and Microsystems Workshop*, Hilton Head Island, South Carolina, June 2004. pp. 344-347.

16. H. Kuo, J. Guo, D. J. Young, and W. H. Ko, “Rapid Bonding of Miro Strain Sensor,” *IEEE Sensors Conference,* Vienna, Austria, October 2004. pp. 546-549.

17. N. Chaimanonart, W. H. Ko, and D. J. Young, "Remote RF Powering System for MEMS Industrial Strain Sensing Applications," *IEEE Sensors Conference,* Vienna, Austria, October, 2004. pp. 1522-1525.

18. P. Cong, W. H. Ko, and D. J. Young, “Single Crystal 6-H Silicon Carbide Smart-Cut MEMS Fabrication Technology," *IEEE Sensors Conference,* Vienna, Austria, October, 2004. pp. 1161-1164.

19. P. Cong, D. J. Young, and W. H. Ko, “Novel Long-Term Implantable Blood Pressure Monitoring System,” *IEEE Sensors Conference*, Vienna, Austria, October, 2004. pp. 1359-1362.

20. M. Suster, J. Guo, N. Chaimanonart, W. H. Ko, and D. J. Young, “High Performance Stain Sensing Microsystem,” *IEEE Custom Integrated Circuits Conference*, Orlando, Florida, October 2004, pp. 693-696.

21. D. J. Young and W. H. Ko, "A High-Performance Strain Sensing Microsystem with Remote RF Power Capability (invited)," *the 7th International Conference on Solid-State and Integrated-Circuit Technology*, Beijing, China, 2004.

22. M. Suster, N. Chaimanonart, J. Guo, W. H. Ko, and D. J. Young, "Remote-Powered High-Performance Strain Sensing Microsystem," *the 18th IEEE International Conference On Micro Electro Mechanical Systems*, Miami Beach, Florida, January 2005, pp. 255-258.

23. P. Cong, K. Olszens, D. J. Young, and W. H. Ko, "Implantable Blood Pressure Monitoring of Small Animal for Advanced Biological Research," *the 13th International Conference on Solid-State Sensors, Actuators and Microsystems*, Seoul, Korea, June 2005, pp. 2002-2005.

24. N. Chaimanonart, W. H. Ko, and D. J. Young, "Remote RF Powering and Data Telemetry System for Wireless MEMS Strain Sensors," *the 2nd International Workshop on Network Sensing System (INSS 2005)*, San Diego, June 2005, pp. 48-53.

25. D. J .Young and W. H. Ko, "Wireless Strain Sensing Microsystem," *Technical Proceeding of the 5th Emerging Information Technology Conference (EITC 2005),* Taipei, Taiwan, R.O.C, August 2005.

26. N. Chaimanonart, K. Olszens, M. Zimmerman, W. Ko, D. J. Young, "Implantable RF Power Converter for Small Animal In Vivo Biological Monitoring," *the 27th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC-2005)*, Shanghai, China, September 2005, pp. 1559-1562.

27. J. Guo, M. Suster, D. J. Young, W. H. Ko, "High-gain Mechanically Amplified Capacitive Strain Sensor," technical proceeding of the *IEEE Sensors Conference,* Irvine, CA, October 2005, pp. 464-467.

28. C. K. Lu, H. Qu., H.K. Xie, D. J. Young, "CMOS MEMS Accelerometer for Long-Term In Vivo Real-Time Small Animal Biological Monitoring," technical proceeding of the *IEEE Sensors Conference,* Irvine, CA, October 2005, pp. 1377-1380.

29. N. Chaimanonart, M. Suster, and D. J. Young, "Two-Channel Data Telemetry with Remote RF Powering for High-Performance Wireless MEMS Strain Sensing Applications," technical proceeding of the *IEEE Sensors Conference,* Irvine, CA, October 2005, pp. 285-288.

30. W. H. Ko, D. J. Young, and C. A. Megerian, "Implantable Microphone for Cochlear Hearing System," *Asia-Pacific Conference of Transducers and Micro-Nano Technology*, Singapore, June, 2006, p. 151.

31. M. A. Zurcher, D. J. Young, T. Trang, C. A. Megerian, W. H. Ko, "Development of Middle Ear Acoustic Sensor for Fully Implantable Cochlear Prosthesis," *the 3rd*

International Workshop on Network Sensing System (INSS 2006), Chicago, May 2006, pp. 49-54.

32. M. Zimmerman, N. Chaimanonart, D. J. Young, "*In Vivo* RF Powering for Advanced Biological Research," *the 28th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC-2006)*, New York, N.J., 2006, pp. 2506-2509.

33. P. Cong, D. J. Young, B. Hoit, W. H. Ko, "Novel Long-Term Implantable Blood Pressure Monitoring System with Reduced Baseline Drift," *the 28th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC-2006)*, New York, N.J., 2006, pp. 1854-1857.

34. M. A. Zurcher, D. J. Young, M. Semaan, C. A. Megerian, W. H. Ko, "Effect of Incus Removal on Middle Ear Acoustic Sensor for a Fully Implantable Cochlear Prosthesis," *the 28th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS'06)*, New York, N.J., 2006, pp. 539-542.

35. M. A. Zurcher, D. J. Young, M. Semaan, C. A. Megerian, W. H. Ko, "MEMS Middle Ear Acoustic Sensor for Fully Implantable Cochlear Prosthesis," *the 20th IEEE International Conference on Micro Electro Mechanical Systems*, Kobe, Japan, 2007, pp. 11-14.

36. M. Suster, J. Guo, N. Chaimanonart, W. H. Ko, and D. J. Young, "A Wireless Strain Sensing Microsystem with External RF Powering and Two-Channel Data Telemetry Capability," *IEEE International Solid-State Circuits Conference (ISSCC)*, San Francisco, February, 2007, pp. 380-381.

37. D. J. Young, M. A. Zurcher, W. H. Ko, M. Semann, C. A. Megerian, "Implantable MEMS Accelerometer Microphone for Cochlear Prosthesis (invited)," *IEEE International Symposium on Circuits and Systems*, New Orleans, Louisiana, 2007, pp. 3119-3122.

38. D. J. Young, S. J. Mallin, and M. Cross, "2GHz CMOS Voltage-Controlled Oscillator with Optimal Design On Phase Noise and Power Dissipation," *2007 IEEE Radio Frequency Integrated Circuits Symposium*, Honolulu, Hawaii, pp. 131-134, 2007.

39. P. Huang, J. Guo, C. A. Megerian, D. J. Young, and W. H. Ko, "A Laboratory Study on a Capacitive Displacement Sensor as an Implant Microphone in Totally Implant Cochlear Hearing Aid Systems," *the 29th Annual International Conference on the IEEE Engineering in Medicine and Biology Society (EMBC-2007)*, Lyon, France, 2007, pp. 5691-5694.

40. D. J. Young, B. Farnsworth, R. Triolo, "Wireless Implantable EMG Sensing Microsystem," *2007 Biomedical Engineering Society Annual Fall Meeting (BMES 2007)*, Los Angeles, California, p. 1579.

41. D. J. Young, P. Cong, W. H. Ko, "Wireless Less-Invasive Long-Term Implantable Blood Pressure Sensing System for Small Animal Real-Time Monitoring (invited)," *2007 International Electron Devices and Materials Symposia (IEDMS)*, Taiwan, R.O.C. 2007, A1-1, pp. 1-4.

42. Wen H. Ko, P. Huang, J. Guo, R. Zhang, D. J. Young, C. Mergerian, "MEMS Acoustic Sensors for Totally Implantable Hearing Aid Systems," *IEEE International Symposium on Circuits and Systems*, Seattle, Washington, USA, May 2008, pp. 1812-1817.

43. P. Cong, W. H. Ko and D. J. Young, "Wireless Less-Invasive Blood Pressure Sensing Microsystem for Small Laboratory Animal *In Vivo* Real-Time Monitoring," *the 5th International Conference on Networked Sensing System (INSS 2008),* Kanazawa, Japan, June 2008, pp. 80-86.

44. D. J. Young, P. Cong and W. H. Ko, "Wireless Implantable Less-Invasive Blood Pressure Sensing Microsystem for Small Laboratory Animal Real-Timing Monitoring," *Asia-Pacific Conference on Transducers and Micro-Nano Technology*, Tainan, Taiwan, June 2008, p. 89.

45. P. Cong, W. H. Ko, and D. J. Young, "Low Noise μWatt Interface Circuits for Wireless Implantable Real-Time Digital Blood Pressure Monitoring," *IEEE Custom Integrated Circuits Conference*, San Jose, California, September 2008, pp. 523-526.

46. D. J. Young, B. D. Farnsworth and R. J. Triolo, "Wireless Implantable EMG Sensor for Powered Prosthesis Control (invited)," *the 9th International Conference on Solid-State and Integrated-Circuit Technology*, Beijing, China, October 2008.

47. M. Cross and D. J. Yong, "CMOS Cross-Coupled VCO Architecture Comparison at 2GHz and 16GHz," *the 9th International Conference on Solid-State and Integrated-Circuit Technology*, Beijing, China, October 2008.

48. N. Chaimanonart, M. D. Zimmerman and D. J. Young, "Adaptive RF Power Control For Wireless Implantable Bio-Sensing Network To Monitor Untethered Laboratory Animal Real-Time Biological Signal," *IEEE Sensors Conference,* Lecce, Italy, October 2008, pp. 1241-1244.

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Invited Book Chapters

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2. D. J. Young and H. Kim, "Microelectromechanical Systems (MEMS)," *Chapter 18 of Guide to State-of-the-Art Electronic Devices*, John Wiley & Sons Ltd, 2013.

3. C-K Lu and D. J. Young, "Wireless MEMS Accelerometer for Small Laboratory Animal Activity Monitoring," *VDM Verlag Dr. Muller Aktiengesellschaft & Co. KG*, 2000 (ISBN: 978-3-8364-7595-2).

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Patents

US 8,634,924 "MEMS Implanted Acoustic Sensor"

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Presentations

"Microsystem Research Overview and Graduate Programs in ECE Department at University of Utah" presented at School of Electronics and Information Engineering, Soochow University, March 27, 2018.

"About Graduate School" presented at the ECE Department Junior Seminar, University of Utah, Salt Lake City, Utah, March 3, 2017

"Smart and Robust Sensing Systems Enabled by MEMS Technology and Low Power Electronics", presented at the graduate seminar, Electrical and Computer Engineering Department, University of Utah, Salt Lake City, Utah, August 29, 2016.

"MEMS-Based Personal Navigation System Under GPS-Denied Environment", presented at the Mechanical Engineering Department Seminar, National Taiwan University, Taiwan, R.O.C., June, 6, 2016.

"Smart and Robust Sensing Systems Enabled by MEMS Technology and Low Power Electronics", presented at Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, May 20, 2016.

"Bionic Human", panel discussion of Leo After Hours at the Leonardo Museum, Salt Lake City, Utah, March 10, 2016.

"Smart and Robust Sensing Systems Enabled by MEMS Technology and Low Power Electronics" presented at GE HealthCare, Salt Lake City, Utah, February 10, 2016.

"Smart and Robust Sensing Systems Enabled by MEMS Technology and Low Power Electronics" presented at School of Electronics and Information Engineering, Soochow University, January 22, 2016.

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"Smart and Robust Sensing Systems Enabled by MEMS Technology and Low Power Electronics" presented at the Institute of Microelectronics, Tsing Hua University, December 16, 2015.

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"Smart Sensing Applications Enabled by Micro-Electro-Mechanical Sensors and Low-Power Integrated Circuits," presented at the Computer Engineering Students Seminar, Univeristy of Utah, November 25, 2014.

"Skin-Coupled Wearable Ambulatory Health Monitoring System Using MEMS Sensors," presented as an invited talk at the International conference on BioSensors, BioElectronics, BioMedical Devcies, BioMEMS/NEMS and Applications 2014 & The 5th Symposium on Green Microsystem Technology, Shanghai, China, November 17, 2014,

"Skin-Coupled Wearable Ambulatory Pulse Wave Velocity Monitoring System Using MEMS Sensors," presented at RF & Wireless Day, University of Utah, September 16, 2014.

"High Performance Microsystems Enabled by MEMS and Integrated Circuits," presented at the Electrical and Computer Engineering Department Graduate Seminar, Univeristy of Utah, September 16, 2013.

"Biomedical Implant System Design Enabled by MEMS and CMOS IC," presented at the International Conference on BioElectronics, BioSensors, BioMedical Devices, BioMEMS/NEMS and Applications, Singapore, November 20, 2012.

"Wireless Microsystem Technologies and Future Direction", presented at National Taiwan University, October 31, 2012.

"MEMS-Based Biomedical Implant Research and Commercialization Opportunities", presented at the 6th Asia-Pacific Conference on Transducers and Micro/Nano Technologies, Nanjing, China, July 10, 2012

"Wireless Microsystem Technologies for Biomedical Implant Applications", presented at the Electrical and Computer Engineering Department Graduate Seminar, Univeristy of Utah, September 16, 2011.

"MEMS-Based Biomedical Implant Development and Commercialization Opportunity", presented at the 4th International Workshop on Innovation and Commercialization of Micro & Nano Technology (ICMAN 2010), Shanghai, China, 11-23-2010.

"Low-Interference Sensing Electronics for High-Resolution Error-Correcting Biomechancial Ground Reaction Sensor", presented at the IEEE Sensors Conference, Big Island, Hawaii, 11-2-2010.

"Wireless Biomedical Microsystems", presented at the Bioengineering Seminar, Unvieirty of Utah, 10-6-2010.

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"A Wireless and Batteryless Blood Pressure Sensor for Laboratory Mice *In Vivo* Real-Time Monitoring", presented at the CMOS Emerging Technology Workshop, Whistler, British Columbia, Canada, May 20, 2010.

"Interface Electronics for MEMS-Based Wireless Sensing Applications", presented at the *IEEE International Symposium on VLSI Design, Automation and Test*, Hsinchu, Taiwan, R.O.C., April, 28, 2010.

"Wireless Implantable Microsystem Applications In Animal And Human" presented at Zhe Jiang University, March 25, 2010.

"Wireless Biomedical Microsystems", presented at the Bioengineering Seminar, Unvieirty of Utah, February 17, 2010.

"Wireless Batteryless Less-Invasive Blood Presusre Sensing Microsystem for Advanced Biomedical Application," presented at the 23rd IEEE International Conference on Micro Electro Mechanical Systems, Hong Kong, China, January, 2010

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"Wireless Microsystem Technology With Focus on Biomedical Applications", presented at the graduate seminar of Mechanical Engineering Department, National Taiwan University, October 19, 2009.

"Wireless MEMS-Based Strain Sensing Microsystem" presented at the Department of Information and Elctronic Engineering, Zhejiang University, Hangzhou, China, 9-22-2009.

"Wireless and Batteryless Biomedical Implant Microsystem" presented at the Shanghai Institute of Microsystem and Information Technology, Shanghai, China, 9-21-2009.

"Wireless MEMS Strain Sensing Technology for Military Applications" presented at the Worshop on the Research and Evaluation of NEMS/MEMS sponsored by US Army AMRDEC, DARPA, and SMDC, Redstone Arsenal, Alabama, 9-9-2009.

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"Wireless Microsystem Research", presented at EECS Department Seminar at Case Western Reserve University, Cleveland, Ohio, 1-20-2009.

"Wireless Microsystem Technology for Biomedical Applications", presented at the ECE Department Seminar at University of Utah, Salk Lake City, Utah, 12-1-2008.

"Wireless Implantable EMG Sensor for Powered Prosthesis Control", presented in *the 9th International Conference on Solid-State and Integrated-Circuit Technology*, Beijing, China, 10-22-2008.

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"Wireless Microsystem Technology for Biomedical Interface", presented at the Institute of Electronics, Chinese Academy of Sciences, Beijing, China, 10-16-2008

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"MEMS Middle Ear Microphone for Fully Implantable Cochlear Prosthesis", presented at National Chiao Tung University, Taiwan, R.O.C., 6-26-2008.

"Wireless Implantable Less-Invasive Blood Pressure Sensing Microsystem for Small Laboratory Animal Real-Timing Monitoring", presented at the Asia-Pacific Conference on Transducers and Micro-Nano Technology, Taiwan, R.O.C., 6-25-2008.

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"Wireless Less-Invasive Long-Term Implantable Blood Pressure Sensing System for Small Animal Real-Time Monitoring", presented at the 2007 International Electron Devices and Materials Symposia (IEDMS), Taiwan, R.O.C., 11-29-2007.

"Wireless Implantable EMG Sensing Microsystem", presented at the 2007 Biomedical Engineering Society Annual Fall Meeting, Los Angeles, California, 9-29-2007.

"MEMS Accelerometer with Low Noise Interface Circuits as Middle Ear Microphone for Fully Implantable Cochlear Prosthesis", presented at the College of Mechanical Engineering, Dalian Technical University, Dalian, China, 10-27-2006.

"Microsystem Technology for Fully Implantable Cochlear Prosthesis", presented at the 6th Emerging Information Technology Conference, University of Texas at Dallas, Dallas, Texas, 8-11-2006.

"Wireless Strain Sensors", presented at The Timken Company, Canton, Ohio, 2-28-2006.

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"Microsystem Technology for Totally Implantable Cochlear Prosthesis", presented at Neural Prosthesis Seminar at Case Western Reserve University, Cleveland, Ohio, 7-15-2005

"Strain Sensing Microsystem with Remote RF Powering and Data Telemetry", presented at ECE Department Seminar, Carnegie Mellon University, Pittsburgh, Pennsylvania, 3-18-2005.

"High-Temperature Wireless Sensing Technology and Its Future Directions", presented at Beijing University, Beijing, China, 10-21-2004.

"A High-Performance Strain Sensing Microsystem with Remote RF Power Capability," presented at the 7th International Conference on Solid-State and Integrated-Circuit Technology (ICSICT-2004), Beijing, China, 10-19-2004.

"High-Performance MEMS Capacitive Strain Sensing Microsystem", presented at Army Research Office MEMS Meeting, Arlington VA. 6-24-2004.

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"3D-MEMS Approaches to Varactors", presented at IEEE International Microwave Symposium, Philadelphia, Pennsylvania, 6-9-2003.

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"RF MEMS and Its Applications", presented at Institute of Microelectronics, TsingHua University, Beijing, China, 7-30-2002.

"Micromachined RF Low Phase Noise Voltage-Controlled Oscillator", presented at Shanghai Institute of Microsystem and Information Technology, Shanghai, China, 7-15-2002.

"MEMS Technologies for Radio Frequency (RF) and Optical Applications" Short Course Presented at Adriatic Research Institute, Berkeley, California, 4-26-2002.

"Micromachined Low Phase Noise Voltage-Controlled Oscillator", EE Department Seminar, University of Southern California, Los Angels, California, 3-19-2002.
"MEMS for RF Communications", Tutorial Session Presented at Material Research Society (MRS) Fall Meeting, Boston, Massachusetts, 11-26-2001.

"Micromachined Low Phase Noise RF Voltage-Controlled Oscillator", EECS Department Seminar, University of Michigan, Ann Arbor, Michigan, 11-5-2001.

"MEMS for Wireless Communication", presented at National Taiwan University, Taipei, Taiwan. R. O. C. on 10-29-2001.

"Key Technology for MEMS", Short Course Presented at Precision Instrument Development Center, National Science Council, The Executive Yuan, Taiwan, R. O. C., 10-22-2001 to 10-25-2001.

"MEMS & Communications - A Complimentary System" presented at Glennan Microsystem Initiative Meeting, Independence, Ohio on 6- 9-2000.

"RF Voltage-Controlled Oscillator (VCO) with MEMS Capacitors and Inductors" presented at Naval Research Lab workshop on Military Application of RF MEMS, Washington, D.C. on 2-8-2000.

"MEMS for Wireless Communications" presented at Symposium of Micromachine and Microtechnology, Bio-Medical, and Industrial Prospects at Case Western Reserve University, Cleveland, Ohio on 11-12-1999.

"A Low-Noise RF VCO Using On-Chip High-Q 3-D Coil Inductor & Micromachined Variable Capacitor" presented at Solid-State Circuit Technology Committee Workshop, Arlington, Virginia on 11-15-1999.

Honors:

- Recognition and Appreciation of Service and Dedication as the Sensors Council Representative form the IEEE Solid-State Circuits Society between 2002-2010 and 2012-2016.

- Recognition and Appreciation of Valued Services and Contributions as IEEE EDS Microelectromechanical Systems Chair, December 2011

- Nomination for 2003 Carl F. Wittke Award at Case Western Reserve University for Excellence in Undergraduate Teaching

- Bachelor of Science Degree with Honors in EECS at U.C. Berkeley, 1991

- Scholastic All American Collegiate Award, 1988

Professional Service Activities:

- Administrative Committee of IEEE Sensors Council, 2002-2010, 2012-2016
- Technical Program Session Chair, The 12th International Conference on Solid-State Sensors, Actuators, and Microsystems, Boston, MA, 2003
- MEMS Plenary Session Chair, Emerging Information Technology Conference, Princeton University, Princeton, NJ, 2003
- MEMS Session Chair, Emerging Information Technology Conference, Princeton University, Princeton, NJ, 2004
- Advisor Board, Emerging Information Technology Conference, Princeton University, Princeton, NJ, 2004
- Technical Program Committee for IEEE Sensors Conference, Vienna, Austria, 2004
- Technical Program Committee for International Electron Device Meeting, 2004
- Technical Program Session Chair, International Electron Device Meeting, 2004
- Technical Program Committee for the 1st International Workshop on Networked Sensing Systems, University of Tokyo, Tokyo, Japan, 2004
- Organizing Committee for the 7th International Conference on Solid-State and Integrated-Circuit Technology, Beijing, China, 2004
- Technical Program Session Chair, The 13th International Conference on Solid-State Sensors, Actuators, and Microsystems, Seoul, Korea, 2005
- Conference MEMS Session Chair, Emerging Information Technology Conference, National Taiwan University, Taiwan, R.O.C., 2005
- Advisor Board, Emerging Information Technology Conference, National Taiwan University, Taiwan, R.O.C., 2005
- Technical Program Committee for IEEE Sensors Conference, Irvine, California, USA, 2005
- Technical Program Session Chair, IEEE Sensors Conference, Irvine, California, USA, 2005

- Technical Program Committee for International Electron Device Meeting, Washington, D.C. 2005

- Technical Program Session Chair, International Electron Device Meeting, Washington, D.C. 2005

- Technical Program Committee for the 2nd International Workshop on Networked Sensing Systems, San Diego, California, USA, 2005

- Technical Program Session Chair, International Workshop on Networked Sensing Systems, San Diego, California, USA, 2005

- Technical Program Committee for IEEE International Symposium on Circuits and Systems, Island of Kos, Greece, 2006

- Technical Program Committee for IEEE International Conference on Nano/Micro Engineered and Molecular Systems, Zhuhai, China, 2006

- Program Vice-Chair for the 3rd International Conference on Networked Sensing Systems, Chicago, Illinois, USA, 2006

- Technical Program Committee for IEEE Sensors Conference, Korea, 2006

- Conference MEMS Session Chair, Emerging Information Technology Conference, University of Dallas, Dallas, Taxes, 2006

- Advisor Board, Emerging Information Technology Conference, University of Dallas, Dallas, Taxes, 2006

- Technical MEMS Program Committee of Electronic Device Society, 2006

- Technical Program Committee for MEMS/MOEMS Technologies and Applications Conference as part of the Photonics Asia Symposium, Beijing, China, 2007

- Associated Editor for IEEE Journal of Solid-State Circuits, 2006 to 2011

- Editor of the IEEE Transactions on Electron Devices (T-ED) in the area "Solid-State Sensors and Actuators", 2015-Present.

- IEEE Electron Devices Society MEMS Committee Member, January 2006 to December 2009

- Chair of the IEEE Electron Devices Society MEMS Committee, January 2010 to January 2014

- Technical Program Committee Member and Conference Publicity Co-Chair for the 4th International Conference on Networked Sensing Systems, Braunschweig, Germany, 2007

- Steering Committee and Technical Program Committee Member the 5th International Conference on Networked Sensing Systems, Kanazawa, Japan, 2008

- Organizing Committee Member and Session Chair for the 9th International Conference on Solid-State and Integrated-Circuit Technology, Beijing, China, 2008

- Steering Committee Member for 2008 Emerging Information Technology Conference

- Technical Program Committee Member and MEMS-Track Co-Chair for the 21st Annual IEEE International SOC Conference, 2008

- Technical Program Committee Member and Industry-Track Co-Chair for the 6th International Conference on Networked Sensing Systems, Pittsburgh, Pennsylvania, 2009

- Technical Program Committee Member for the 22nd Annual IEEE International SOC Conference, 2009

- Medical IC Session Chair, Emerging Information Technology Conference, M.I.T., Cambridge, MA, August 2009

- Technical Program Session Chair, The 5th Annual IEEE International Conference On Nano/Micro Engineered and Molecular Systems, Xiamen, China, 2010

- Steering Committee and Technical Program Committee Member the 7th International Conference on Networked Sensing Systems, Kassel, Germany 2010

- Technical Program Committee Member for the 10th International Conference on Solid-State and Integrated-Circuit Technology, Shanghai, China, 2010

- Technical Program Committee Member of the 22nd Annual IEEE International SOC Conference, 2010

- Technical Program Committee Member and Session Chair of the 24th IEEE International Conference on Micro Electro Mechanical Systems, Cancun, Mexico, 2011

- Technical Program Committee Member and Session Chair of the 25th IEEE International Conference on Micro Electro Mechanical Systems, Paris, France, 2012

- Technical Program Committee Member of the 8th International Conference on Networked Sensing Systems, Penghu, Taiwan, 2011

- Technical Program Session Chair for the 8th International Conference on Networked Sensing Systems, Penghu, Taiwan, 2011

- Technical Program Committee Member of the 9th International Conference on Networked Sensing Systems, Germany, 2012

- Guest Editor for the Special Issue of ACM Journal of Emerging Technologies in Computing Systems (JETC) – Special Issue on Implantable Electronics, Volume 8 Issue 2, June 2012.

- Member of Editorial Board of the Journal of Sensor and Actuator Networks

- Technical Program Committee Member of the 24th Annual IEEE International SOC Conference, 2012.

- Technical Session Chair for the 6th Asia-Pacific Conference on Transducers and Micro/Nano Technologies, Nanjing, China, July 2012

- Technical Track Chair and Session Chair of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2012

- Technical Program Committee Member and Session Chair of the International Conference on BioElectronics, BioSensors, BioMedical Devices, BioMEMS/NEMS and Applications, Singapore, November 2012

- IEEE Sensors Council Meritorious Award Committee Member, 2012-2013

- IEEE Sensors Council Technical Achievement Award Committee Member, 2017-2020

- Technical Program Committee Member of the 8th IEEE International Conference on Nano/Micro Engineered and Molecular Systems in 2013

- Chair of IEEE Sensors Council Meritorious Award Committee, 2014

- Technical Program Committee Member of the 9th IEEE International Conference on Nano/Micro Engineering and Molecular Systems, Hawaii, USA, 2014.

- Technical Program Committee Member of the 9th IEEE International Conference on Intelligent Sensors, Sensor Networks and information Processing, Singapore, 2014.

- Technical Program Committee Member and Session Chair of the International Conference on BioElectronics, BioSensors, BioMedical Devices, BioMEMS/NEMS and Applications, Shanghai China, November 2014.

- Technical Program Committee and Track Chair for Circuits and Systems for Biomedical Applications of the IEEE 58th International Midwest Symposium on Circuits and Systems, 2015.

- Special Sessions Co-Chair, IEEE Sensors Conference, 2015.

- Chair of IEEE Sensors Council Meritorious Award Committee, 2015

- Technical Session Chair of the 29th IEEE International Conference on Micro Electro Mechanical Systems, Shanghai, China, January 2016.

- Member of IEEE Sensors Council Achievement Award Committee, 2018

- Member of IEEE Sensors Conference Venue Selection Committee, 2018

- NSF Review Panel for Major Research Instrumentation (MRI) Program, 2004

- NSF Review Panel for Sensor Networks, RF Communications, and VLSI Program, 2004

- NSF Review Panel for SBIR Program, 2003 and 2004

- NSF Review Panel for Sensor Networks, 2005

- NSF CAREER Panel, 2005 and 2008

- NSF Review Panel for Biomedical Engineering / Research to Aid Persons with Disabilities (BME/RAPD) Program, 2006

- NSF Review Panel, 2006

- NSF Review Panel, 2007

- NSF MNS Horizon 2040 Workshop-Health Care Panelist, June 2009

- NSF Biomedical Engineering CAREER Panel, October 2009

- NSF Biomedical Engineering Review Panel, May 2010

- NSF Biomedical Engineering Review Panel, January 2011

- NSF Biomedical Engineering Review Panel, May 2011

- Journal Review for IEEE Journal of MicroElectroMechanical Systems

- Journal Review for IEEE Transactions on Electron Devices
- Journal Review for IEEE Electron Devices Letter
- Journal Review for IEEE Sensors Journal
- Journal Review for Journal of Micromechanics and Microengineering
- Journal Review for IEEE Transaction on Biomedical Engineering
- Journal Review for IEEE Transaction on Biomedical Circuits and Systems
- Journal Review for Sensors & Actuators: A. Physical
- Journal Review for IEEE Transactions on Microwave Theory and Techniques
- Journal Review for Journal of Micromechanics
- Journal Review for Journal of Microelectronics Engineering
- Journal Review for Biosensors
- Journal Review for Journal of Sensors and Sensor Systems
- Journal Review for Microsystems & Nanoengineering
- Journal Review for IEEE Sensors Letters