M. Nurul Abedin, Newsletter Editor-In-Chief
Dominic Matern, Web Editor

**Sensors Council News**

**IEEE Sensors Council Annual Four Different Category Awards:**

- **President's Student Research Award**
- **Technical Achievement Award,**
- **Meritorious Service Award**
- **IEEE Sensors Council Journal Best Paper Award. Nominations are due August 15th, 2010…(more).**

**2009 Sensors Council Award Winners**

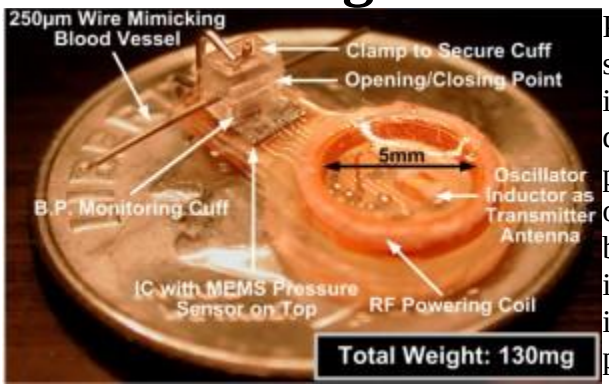
- **Technical Achievement Award: Prof. Andrei M. Shkel**
- **Best Paper Award: Zhiwei Zou, SooHyun Lee, and Ching Ahn.**

**Sensor Technology**

The fifth international "Advanced Workshop on Frontiers in Electronics" was held at Ricon, Puerto Rico, United States, December 12-16, 2009. This event was sponsored by the National Science Foundation (NSF), Seoul National University, and by the IEEE Electron Devices Society (EDS). The workshop was very successful in bringing together scientists, researchers, engineers and students from US, Europe, Asia and Australia working on state-of-the-art technologies ranging from CMOS and SOI to wide band gap semiconductor technology, and advanced terahertz and photonics technology. ...(more)

# Bio-Sensors

# Darrin Young




Professor Darrin Young and his graduate research students have developed a microsysem, which can be implanted in a laboratory mouse to wirelessly transmit digital blood pressure information to a receiver while powered by an external RF signal, eliminating the need of implantable battery. The microsystem is implemented by merging MEMS technology and low power CMOS integrated circuits design through a high level of system integration together with a conventional molding-based packaging technique...(more)

Advanced Workshop on frontiers in Electronics
M. Shur and V. Chivukula

**Executive Committee Members (2008-2009)**

**Present President,** Christina M. Schober (2010-2011)

**Christina M. Schober** is an IEEE senior member and is the current President of the IEEE Sensors Council for the years 2010-2011, and has been an active volunteer in the IEEE Computer Society since 1985. She currently serves on the Computer Society Board of Governors, and is the Computer Society member of the Technology Management Council. Schober is President Elect (2008-2009) for the IEEE Sensor Council.

Her IEEE volunteer work includes:

* IEEE Computer Society Board of Governors (1998-2003, 2005-2010, ExCom 2003-2007)
* IEEE Computer Society Conference & Tutorials Board (1995-2005, vice president 2003-2004)
* IEEE Chapter Activities Board (1986-2008, vice-president 2005- 2006)
* IEEE Sensors Council (2000-2008, Executive Committee member 2004-2010).
* IEEE Sensors Conference treasurer (2002 to 2005, 2007, 2008)
* IEEE Technology Management Council (2007-2008)

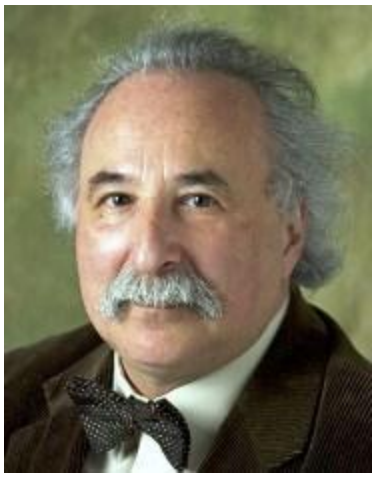
* IEEE Twin Cities Section chair and vice chair (1991, 1990)
* IEEE Twin Cities Computer Society chapter chair, vice chair, treasurer, and secretary between 1985 and 1988

Schober is an IEEE Computer Society Golden Core Member, and in 1990 was named the IEEE Twin Cities Section Young Engineer of the Year. She is a Six Sigma Blackbelt, a Honeywell product team leader for the Tactical Ring Laser Gyro in the sensors group, and holds six Ring Laser Gyroscope-related patents. Schober received a BME and MME from the University of Minnesota. She is married and has two children currently attending college.

**Past President,** Mona E. Zaghloul (2008-2009)

**Mona E. Zaghloul** received the B.S. degree from Cairo University, Egypt, in 1965, the Masters degree in Electrical Engineering, the Masters degree inApplied Mathematics and Computer Science, and the Ph.D. degree in Electrical Engineering from the University of Waterloo, Waterloo, Canada, in 1970, 1971, and 1975, respectively. She is currently a Professor of Electrical and Computer Engineering at the George Washington University, Washington, DC, where she is also Director for the Institute of MEMS and VLSI Technologies She has published over 260 technical papers in the general areas of circuits and systems, microelectronics system design, VLSI circuits design, RF-MEMS, and Microelectromechanical sensors systems and design of Biosensors with their interface circuits. She has also contributed to several books. Since 1984, she has been with the National Institute of Standards and Technology (NIST), Semiconductor Electronics Devices Division, Gaithersburg, MD. Dr. Zaghloul received the 50 th year Gold Jubilee Medal from the IEEE Circuits and Systems Society in recognition for outstanding contribution to the society. She was the Vice President of the IEEE-CAS Technical Activities (1999-2001). She was the President of the IEEE Sensors Council for the years 2008-2009. Dr. Zaghloul is Fellow of the IEEE.

**Present IEEE Sensors Journal, Editor-In-Chief,** Evgeny Katz (2009-2011)



**Evgeny Katz** received Ph.D. from Frumkin Institute of Electrochemistry (Moscow), Russian Academy of Sciences, in 1983. He was a senior researcher in the Institute of Photosynthesis (Pushchino), Russian Academy of Sciences, in 1983-1991. In 1992-1993 he performed research at München Technische Universität (Germany) as a Humboldt fellow. Later, Dr. Katz was a research assistant (1993-1999) and research associate professor (2000-2006) at the Hebrew University of Jerusalem. From 2006 he is Milton Kerker Chaired Professor at the Department of Chemistry and Biomolecular Science, Clarkson University, NY. He published more than 280 papers in peer-reviewed journals with the total citation more than 15,000 (Hirsch-index 58) and holds 20 international patents. Professor Katz was recently elected to a very prestigious committee, the IEEE Sensors Council. He serves as the Editor-in-Chief for IEEE Sensors Journal, Vice-Chair of "Bioelectrochemistry" Division of the International Society of Electrochemistry and member of the editorial boards of many international journals. His scientific interests are in the areas of bioelectronics, biosensors and biofuel cells. Currently he is actively involved in the research in biocomputing, signal-responsive materials and their applications in logically operating biosensors and actuators.

**Past IEEE Sensors Journal, Editor-In-Chief,** H. Troy Nagle (2003-2009)

Dr. Nagle is Professor of Biomedical Engineering at UNC & NCSU, and Professor of Electrical and Computer Engineering at NCSU. He was the Founding Chair of the UNC-NCSU Joint Department of Biomedical Engineering. He is Director of the NCSU-UNC Graduate Certificate Program in Medical Devices, and Director of the NCSU Biomedical Instrumentation Laboratory,

a facility for prototyping medical devices.

Dr. Nagle is widely published in data acquisition and signal processing, is coauthor of textbooks in digital logic design and digital control systems, and co-edited a handbook on machine olfaction. In recent years, he has developed an electronic nose prototype and experimented with its use in food processing, environmental monitoring, and medical diagnostics. Dr. Nagle received the BSEE and MSEE degrees from the University of Alabama, the PhD degree (Electrical Engineering) from Auburn University, and the MD degree from the University of Miami School of Medicine. He is a Fellow of IEEE and AIMBE. He served as IEEE President in 1994. He is currently Vice President for Conferences of the IEEE Sensors Council. He is a registered professional engineer. Dr. Nagle was the Editor-In-Chief of the IEEE Sensors Journal for the years 2003-2009.

**Sensor Conferences**

- **IEEE SENSORS 2010: - The 9th IEEE Conference on Sensors**
  **November 1-4, 2010, Waikola Hawaii**
- **IEEE SENSORS 2011: - The 10th IEEE Conference on Sensors**
  **October 28-31, 2011, Limerick, Ireland**

**Terahertz Conferences**

- 6th Terahertz Applications Symposium, June 10-12, 2009, Washington D.C.
- Infrared MMW-THz 2010, 9/6-10/2010, Rome, Italy.
- 21st International Symposium on Space Terahertz Technology, 23rd – 25th March, 2010, University of Oxford and STFC, Rutherford Appleton Laboratory, UK.

**Workshops**

- 4th Workshop on Terahertz Technology:
  March 2-3, 2010, Fraunhofer Center, 67663 Kaiserslautem, Rheinland-Pfalz, Germany.

**New Books on Sensors**

-Piezoelectric Transducers and Applications (Hardcover), Antonio Arnau Vives (Editor) Publisher: Springer; 2nd edition (May 29, 2008)

-Dielectric Elastomers as Electromechanical Transducers: Fundamentals, Materials, Devices, Models and Applications of an Emerging Electroactive Polymer Technology (Hardcover), Federico Carpi (Editor), Danilo De Rossi (Editor), Roy Kornbluh (Editor), Ronald Edward Pelrine (Editor), Peter Sommer-Larsen (Editor), Publisher: Elsevier Science; illustrated edition edition (March 24, 2008)

-The 2009-2014 Outlook for Blood Pressure Transducers in Africa (Paperback), Icon Group International (Author), Publisher: ICON Group International, Inc. (July 29, 2009)

-The 2009-2014 Outlook for Blood Pressure Transducers in The Middle East (Paperback), Icon Group International (Author), Publisher: ICON Group International, Inc. (July 29, 2009)

-Broadband Antennas for the Double Quantum Well Terahertz Detector (Paperback), Majid Khodier (Author), Publisher: VDM Verlag (June 21, 2009)

-Terahertz Techniques (Springer Series in Optical Sciences) (Hardcover), Erik Bründermann (Author), Heinz-Wilhelm Hübers (Author), Maurice Kimmitt (Author), Publisher: Springer; 1 edition (April 1, 2010)

-Terahertz Physics, Devices, and Systems III: Advanced Applications in Industry and Defense (Proceedings of Spie) (Paperback), Mehdi Anwar (Editor), Nibir K. Dhar (Editor), Thomas W. Crowe (Editor), Publisher: Society of Photo Optical (May 29, 2009)

-Optical Millimeter-Wave and Terahertz Generation: Technologies and Applications (Hardcover), Andreas Stöhr (Editor), Publisher: Springer; 1 edition (May 1, 2010)

-Terahertz Physics, Devices, and Systems II (Proceedings of Spie) (Paperback), Mehdi Anwar (Editor), Anthony J. Demaria (Editor), Michael S. Shur (Editor), Publisher: Society of Photo Optical (September 26, 2007)

-Terahertz Technology and Applications II (Proceedings of Spie) (Paperback), Kurt J. Linden (Editor), Laurence P. Sadwick (Editor), Creidhe M. O'sullivan (Editor), Publisher: Society of Photo Optical (March 12, 2009)

-Practical MEMS: Design of microsystems, accelerometers, gyroscopes, RF MEMS, optical MEMS, and microfluidic systems (Hardcover), Ville Kaajakari (Author), Publisher: Small Gear Publishing (March 17, 2009)

-Modern Semiconductor Devices for Integrated Circuits (Hardcover), Chenming C. Hu (Author), Publisher: Prentice Hall; 1 edition (April 1, 2009)

-Semiconductor Devices for High-Speed Optoelectronics (Hardcover), Giovanni Ghione(Author), Publisher: Cambridge University Press; 1 edition (October 26, 2009)

-Fundamentals of Modern VLSI Devices (Hardcover), Yuan Taur (Author), Tak H. Ning (Author), Publisher: Cambridge University Press; 2 edition (August 28, 2009)

-Wireless Sensor and Actuator Networks: Algorithms and Protocols for Scalable Coordination and Data Communication (Hardcover), Ivan Stojmenovi (Author), Publisher: Wiley-Interscience (February 2, 2010)

-Advanced Materials and Technologies for Micro/Nano-Devices, Sensors and Actuators (NATO Science for Peace and Security Series B: Physics and Biophysics) (Paperback), Evgeni Gusev (Editor), Eric Garfunkel (Editor), Arthur Dideikin (Editor), Publisher: Springer; 1 edition (February 1, 2010)

-Silicon Carbide: Volume 2: Power Devices and Sensors (Hardcover), Peter Friedrichs (Editor), Tsunenobu Kimoto (Editor), Lothar Ley (Editor), Gerhard Pensl (Editor), Publisher: Wiley-VCH

(December 21, 2009)
-FABRICATING MINIATURIZED BIOSENSORS: Detection of DNA Damage and DNA Base Alterations (Paperback), N. Indika Perera (Author), Publisher: VDM Verlag Dr. Müller (December 22, 2009)
-Optical Guided-wave Chemical and Biosensors I (Springer Series on Chemical Sensors and Biosensors) (Hardcover), Mohammed Zourob (Editor), Akhlesh Lakhtakia (Editor), Publisher: Springer; 1 edition (March 1, 2010)
-Biosensors: From Electric Circuits to Immunosensors (Hardcover), Jeong-Yeol Yoon (Author), Lonnie J. Lucas (Author), Publisher: Springer; 1 edition (April 2010)
-The 2009-2014 Outlook for Fiber Optic Sensors in Japan (Paperback), Icon Group International (Author), Publisher: ICON Group International, Inc. (July 6, 2009)
-The 2009-2014 Outlook for Fiber Optic Sensors in North America & the Caribbean (Paperback), Icon Group International (Author), Publisher: ICON Group International, Inc. (May 29, 2009)