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

Sensors Council News

- [Call for Nominations for the SC Awards](#), Deadline August 15, 2008
Recently the Sensors Council established [SC Awards](#).
- Nomination form for Technical Achievement /Meritorious Service Award ([doc](#), [pdf](#))
- Nomination form for IEEE Sensors Journal best published paper Award for year 2008 ([doc](#), [pdf](#))
- The 2007 awards were given during the Banquet of [the 2007 IEEE SENSORS Conference](#)
- [Top 25 most popular articles of IEEE Sensors Journal viewed through IEEE Xplore in 2006](#)
- [IEEE SENSORS 2007 Atlanta, Georgia. Conference snap shots.](#)

Sensor Technology



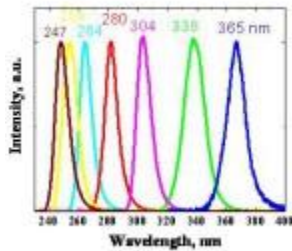
[Wireless Sensors Based Digital Home for Care of the Elderly](#)

S. C. Mukhopadhyay and G. Sen Gupta

This work describes some development work of a digital home for elder care configured around sensors. The integrated system is able to support people who wish to live alone but, because of old age, ill health or disability, are at risk and are a cause of concern for their family and friends. The system works on the principle of using sensor units (SU) to monitor various electrical appliances in a house....[\(more\)](#)

[Solid-State Ultraviolet Light Sources](#)

R. Gaska, J. Zhang, J. Yang, and M. S. Shur



Recent development of solid-state UV light sources enables many applications ranging from UV-water/air/surface sterilization to biohazard detection, non-line-of-sight communication, and applications in medicine, dentistry, and industrial processes. Small size, low power consumption and emission wavelengths in germicidal range, fast on/off switching time with characteristic time constant down to a few nanoseconds make ultraviolet LEDs to be a superb and environmentally friendly alternative to bulk, expensive, and hazardous mercury lamps – traditional UV sources.

....[\(more\)](#)

[A Standalone Programmable Signal Processing Unit for Versatile Characterization of MEMS Gyroscopes](#)

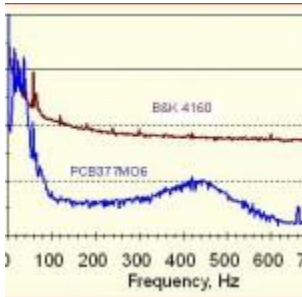
Alexander A. Trusov, Adam R. Schofield, and Andrei M. Shkel



We report a compact, computer programmable signal processing and control platform for capacitive micro-machined vibratory gyroscopes, Figure 1. Bench-top instruments are often used for initial structural and rate characterization of micro-machined gyroscopes. However, this approach is not practical for stand-alone field-testing of prototypes and is not convenient during the design stage for evaluation of different actuation, detection and control algorithms....[\(more\)](#)

[Development of Hyper-sensitive Microphone for Aerospace Applications](#)

Qamar A. Shams, Allan J. Zuckerwar, & Christopher C. Lawrenson



In collaboration with PCB Piezotronics, NASA Langley Research Center has developed a hyper-sensitive electret condenser microphone. The microphone is designed for a bandwidth of 0-500 Hz and a high sensitivity, typically 500-700 mV/Pa. These requirements necessitate a large membrane diameter (3”) and large backchamber (5” long), as shown in Figure 1. The backchamber is sufficiently large to permit the preamplifier to be located internally. The microphone system is powered by an off-the-shelf Model 480E09 Signal Conditioner. The electret technology has the advantage of a low noise floor

because the polarization voltage resistance found in air condenser microphones is absent, which is an additional source of background noise. The measured background noise level, shown in Figure 2 along with a commercially 1” laboratory standard microphone, is believed to be lower than that of any other known microphone system. [...\(more\)](#)

Sensor Conferences

- [IEEE SENSORS 2007](#): The 6th IEEE Conference on Sensors, Atlanta, Georgia, Oct. 28 - 31, 2007
- [IEEE SENSORS 2008](#): The 7th IEEE Conference on Sensors, Lecce, Italy, Oct. 26 - 29, 2008
- [Sensor Net / Networking / Ad Hoc Wireless / Systems / Security Conferences, Journals, and Deadlines](#) by A. D. Wood, UVA

New Books on Sensors

- Piezoelectric Transducers and Applications (Hardcover)** by [Antonio Arnau](#) (Editor), Antonio Arnau Vives (Author), **Publisher:** Springer; 1 edition (May 25, 2007).
- Transducers and Arrays for Underwater Sound (Underwater Acoustics) (Hardcover)** by [Charles H. Sherman](#) (Author), [John L. Butler](#) (Author), **Publisher:** Springer; 1 edition (April 8, 2008).
- Terahertz Spectroscopy: Principles and Applications (Optical Science and Engineering Series) (Hardcover)** by [Susan L. Dexheimer](#) (Editor), **Publisher:** CRC (December 22, 2007).
- Terahertz Science And Technology For Military And Security Applications (Selected Topics in Electronics and Systems) (Selected Topics in Electronics and Systems) (Hardcover)** by [Dwight L. Woolard](#) (Editor), [James O. Jensen](#) (Editor), [R. Jennifer Hwu](#) (Editor), [Michael S. Shur](#) (Editor), **Publisher:** World Scientific Publishing Company (September 27, 2007).
- CMOS: Circuit Design, Layout, and Simulation (IEEE Press Series on Microelectronic Systems) (Hardcover)** by [R. Jacob Baker](#) (Author), **Publisher:** Wiley-IEEE Press; 2 edition (November 9, 2007).
- CMOS/CCD Sensors and Camera Systems (Press Monograph) (Hardcover)** by [Gerald C. Holst](#) (Author), [Terrence S. Lomheim](#) (Author), **Publisher:** Society of Photo Optical (October 31, 2007).
- CMOS Integrated Analog-to-Digital and Digital-to-Analog Converters (The Springer International Series in Engineering and Computer Science) (Hardcover)** by [Rudy J. van de Plassche](#) (Author), **Publisher:** Springer; 2nd ed. edition (May 25, 2007).
- Principles of Semiconductor Devices and Heterojunctions (Paperback)** by [Bart V Van Zeghbroeck](#) (Author), **Publisher:** Prentice Hall; 1 edition (July 25, 2008).
- Silicon Carbide: Materials, Processing, and Devices (Optoelectronic Properties of Semiconductors and Superlattices) (Kindle Edition)** by [Zhe Chuan Feng](#), **Publisher:** Taylor & Francis; 1 edition (April 17, 2007).
- Physics of Semiconductor Devices (Hardcover)** by [Simon M. Sze](#) (Author), [Kwok K. Ng](#) (Author), **Publisher:** Wiley-Interscience; 3 edition (October 27, 2006).

- Fiber Optic Sensors (OPTICAL ENGINEERING) (Kindle Edition)** by [Francis T.S. Yu](#), **Publisher:** Taylor & Francis; 1 edition (April 17, 2007).
- Smart Sensor Systems (Hardcover)** by [Gerard Meijer](#) (Editor), **Publisher:** John Wiley & Sons (September 17, 2007).
- Piezoelectric Sensors (Springer Series on Chemical Sensors and Biosensors) (Hardcover)** by [Claudia Steinem](#) (Editor), [Andreas Janshoff](#) (Editor), **Publisher:** Springer; 1 edition (February 21, 2007).
- Environmental Applications of Nanomaterials: Synthesis, Sorbents And Sensors (Hardcover)** by [Glen E. Fryxell](#) (Editor), [Guozhong Cao](#) (Editor), **Publisher:** Imperial College Press (April 30, 2007).
- Advances in Biometrics: Sensors, Algorithms and Systems (Hardcover)** by [Nalini K. Ratha](#) (Editor), [Venu Govindaraju](#) (Editor), **Publisher:** Springer; 1 edition (November 7, 2007).
- Electroactive Polymers for Robotic Applications: Artificial Muscles and Sensors (Hardcover)** by [Kwang J. Kim](#) (Editor), [Satoshi Tadokoro](#) (Editor), **Publisher:** Springer; 1 edition (January 24, 2007).
- Sensors for Chemical and Biological Applications (Hardcover)** by [Manoj Komar Ram](#) (Editor), [Venkat R. Bhethanabotla](#) (Editor), **Publisher:** CRC; 1 edition (July 15, 2008).
- Nanotechnology-Enabled Sensors (Hardcover)** by [Kourosh Kalantar-zadeh](#) (Author), [Benjamin Fry](#) (Author), **Publisher:** Springer; 1 edition (October 31, 2007).
- Pharmaceutical Applications of Raman Spectroscopy (Wiley Series on Technologies for the Pharmaceutical Industry) (Hardcover)** by [Slobodan Sasic](#) (Author), **Publisher:** Wiley-Interscience (November 9, 2007).
- Surface-Enhanced Raman Scattering: Physics and Applications (Topics in Applied Physics) (Hardcover)** by [Katrin Kneipp](#) (Editor), [Martin Moskovits](#) (Editor), [Harald Kneipp](#) (Editor), **Publisher:** Springer; 1 edition (September 14, 2006).
- Micromachined Thin-Film Sensors for SOI-CMOS Co-Integration (Hardcover)** by [J. Laconte](#) (Author), [D. Flandre](#) (Author), [J.-P. Raskin](#) (Author), **Publisher:** Springer; 1 edition (April 11, 2006).