



## **Prof. Shanhong Xia**

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### **Title:**

Research and Development on Micro Sensors and Systems

### **Abstract:**

Sensors are the basic devices for information perception and acquisition. Miniaturization, integration, networking and intelligence are the important development direction of sensors. Microsensors and microsystems have experienced rapid development in recent decades, along with the discovery of new principles, the invention of new technologies, the emergence of new devices and the arising of new functions. MEMS based sensors have the advantages of small size, light weight, low power consumption and batch fabrication. They have been widely used in many fields. This presentation will briefly review the development of sensors and microsystems, and then report the work of the presenter's team in the research and application of micro sensors and systems, mainly including MEMS based electric field sensors, chemical microsensors and systems for water environment monitoring, micro biosensor system-on-chip. The research background, working principle, design, fabrication, testing and application will be introduced, and the future development will be discussed.

## **Biography :**

Professor Shanhong Xia received her B.Sc. degree from Tsinghua University, Beijing, China in 1983, her M.Sc. degree from the Institute of Electronics, Chinese Academy of Sciences (IECAS) in 1986, and her Ph.D. degree from Cambridge University, UK, in 1994. She received a Royal Fellowship from the Royal Society, UK in 1990 and a Berkeley Scholarship from the University of California at Berkeley, USA in 2002. She served as the General Chair and the International Steering Committee Chair at the 16th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers'2011), and worked as the vice-director of IECAS and the director of the State Key Laboratory of Transducer Technology. Now she is the director of the Institute of Photoelectric Technology, Beijing Institute of Collaborative Innovation, and a fellow and council member of the Chinese Institute of Electronics, vice-president of the Sensor Society and council member of the China Instrument and Control Society. She is a member of editorial board of the *IEEE Sensors Journal*, *Sensors & Actuators: A. Physical*, *Journal of Micromechanics and Microengineering*, *Microsystems & Nanoengineering*, *Nanotechnology* and *Precision Engineering*. Her research interests include sensors and microsystems, system-on-chip, wireless sensor network and micro/nano fabrications. Her current research mainly focuses on electric field microsensor, and integrated microsensor system for water pollution monitoring.