

# PROCEEDINGS OF SPIE

## ***Smart Structures, Devices, and Systems III***

**Said F. Al-Sarawi**  
*Chair/Editor*

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## Introduction

The Smart Structures, Devices, and Systems conference was part of SPIE's 2006 Symposium on Smart Materials, Nano- and Micro-Smart Systems III held at the University of Adelaide, Adelaide, Australia. Four other parallel conferences were held as part of this symposium: Smart Materials IV, Micro- and Nanotechnology III, Biomedical Applications of Micro- and Nanoengineering III, and Complexity and Nonlinear Dynamics.

The papers in these proceedings represent some of the latest research issues in the field of smart structures that are used for devices and systems implementation. The presented research covered a broad spectrum of topics such as actuators, polymers, PZT, photonics, sensors, structure monitoring, and fibers. Due to the great demand in this conference for oral presentations, two parallel sessions were set up the first day. This seemed to be popular with the delegates and the authors.

The conference chair and co-chairs would like to thank the symposium chairs, Joe Shapter (Flinders University), Vijay K. Varadan (University of Arkansas), and Derek Abbott (The University of Adelaide), for their superb work and effort.

Special thanks are due to the plenary speakers: Peter Hanggi "Brownian Motion Reigning Manipulation and Transport on the Nanoscale," Benjamin Eggleton "Microphotonics for Signal Processing, Microfluidics and Sensing Applications," Hywel Morgan "Microfluidic Analytical Systems for High-Throughput Multiplexed Bio-assays," Vijay Varadan "The Role of Nanotechnology and Monitoring and Control of Cardiovascular Diseases and Neurological Disorders," and Barry Luther-Davies "All Optical Processing for Advanced Communications Systems." These speakers did a wonderful job in setting the scene for the conference.

Special thanks are due to SPIE staff for their very professional organization of this conference. All the hard work producing the materials, managing the website, liaising with conference chairs, co-chairs, and participants was done by the SPIE, thus considerably lightening the load for the Chairs and Committee to get research outcomes to the research communities in a timely matter. The committee members of this conference must also be thanked for their excellent support and labors. Finally, our appreciation must go to all the delegates for sharing their research, vision, enthusiasm, and stimulating questions. The resulting interaction made this a very vibrant conference.

In order to comply with the requirements of some institutions, the authors were able to have their full manuscripts peer-reviewed by the international conference committee listed in these proceedings.

**Said F. Al-Sarawi**  
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