

---

# Sensors, Actuators, and Microsystems (General) – 216th ECS Meeting

---

## Editors:

### **R. Mukundan**

Los Alamos National Laboratory  
Los Alamos, New Mexico, USA

### **G. Hunter**

NASA Glenn Research Center  
Cleveland, Ohio, USA

### **Z. Aguilar**

Ocean Nano Tech, LLC  
Springdale, Arkansas, USA

## Sponsoring Division:



**Sensor**



Published by

**The Electrochemical Society**

65 South Main Street, Building D  
Pennington, NJ 08534-2839, USA

tel 609 737 1902

fax 609 737 2743

[www.electrochem.org](http://www.electrochem.org)

**ecs**transactions™

**Vol. 25 No. 31**

---

Copyright 2010 by The Electrochemical Society.  
All rights reserved.

This book has been registered with Copyright Clearance Center.  
For further information, please contact the Copyright Clearance Center,  
Salem, Massachusetts.

Published by:

The Electrochemical Society  
65 South Main Street  
Pennington, New Jersey 08534-2839, USA

Telephone 609.737.1902  
Fax 609.737.2743  
e-mail: [ecs@electrochem.org](mailto:ecs@electrochem.org)  
Web: [www.electrochem.org](http://www.electrochem.org)

ISSN 1938-6737 (online)  
ISSN 1938-5862 (print)  
ISSN 2151-2051 (cd-rom)

ISBN 978-1-56677-804-6 (PDF)  
ISBN 978-1-60768-154-0 (Softcover)

Printed in the United States of America.

---

## Table of Contents

<i>Preface</i>	<i>iii</i>
Quantum Dot-based Sensors for Proteins <i>H. Xu, Z. P. Aguilar and A. Wang</i>	1
Cell Uptake of Nanoparticles <i>H. Xu, Z. P. Aguilar, H. Wei and A. Wang</i>	9
Effect of Electrolyte Sintering Temperature on Mixed Potential Sensor Performance <i>P. Sekhar, E. Brosha, R. Mukundan, M. Nelson, D. Toracco and F. Garzon</i>	19
Fabrication of High Aspect Ratio SU-8 Structures Using UV Lithography and Megasonic-Enhanced Development <i>D. Figura and J. Bartel</i>	29
Blocking Non-Specific Uptake of Engineered Nanomaterials <i>Z. P. Aguilar, H. Xu, J. Dixon and A. Wang</i>	37
CO <sub>2</sub> Detection in Nanostructured CoSb <sub>2</sub> O <sub>6</sub> Prepared by a Non-aqueous Colloidal Method <i>C. R. Michel, A. H. Martínez-Preciado, J. P. Morán-Lázaro and H. Guillén-Bonilla</i>	49
The Grain Size Influence on Boron Doped Diamond Sensitivity for Nitrate Electrochemical Reduction <i>J. T. Matsushima, A. F. Azevedo, M. R. Baldan and N. G. Ferreira</i>	53
Electrochemical Investigation of Porous Silicon/Gold System in Biological Electrolyte <i>M. Simion, M. Miu, L. Cortojan, I. Kleps, L. Savu, M. Danila and A. Bragaru</i>	59
Antireflective Subwavelength Structures on 4H-SiC for UV Photodetectors <i>Y. Hirabayashi, S. Kaneko, K. Akiyama, K. Sakurazawa and M. Yasui</i>	69
Author Index	75