

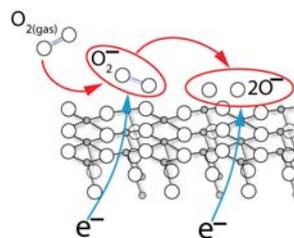
4th GOSPEL Workshop on:

Gas sensors based on semiconducting metal oxides: basic understanding & applications



ISOCS

International Society for
Olfaction and Chemical Sensing



Tübingen (Germany), 6th and 7th of June, 2011

Monday, June 6

08:00 Registration

09:00 **N. Barsan**
Welcome and introduction

Session 1

09:15 **N. Yamazoe**, Kyushu University, Japan

Gas reception and transduction in oxide semiconductor gas sensor

10:00 **V. Guidi**, University of Ferrara, Italy

Classical and semiclassical approaches for determination of the intergranular energy barrier height in metal-oxide nanograins

10:45 *Break*

11:05 **J-D. Grunwaldt**, KIT, Germany

Shining light on metal oxide based gas sensor: Operando synchrotron radiation experiments

11:50 **K. Suematsu**, Kyushu University, Japan

Electric properties of SnO₂ gas sensor treated in humid atmosphere

12:10 **S. Herberger**, Applied Sensor GmbH, Germany

Implementation of a MEMS Metal Oxide Semiconductor Gas Sensor in a Building Monitoring System

12:30 **H.W. Jang**, Korea Institute of Science and Technology

Embossed TiO₂ thin films: tailoring links between hollow hemispheres and its influence on gas sensing properties

12:50 *Break*

EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



Workshop organized by:
Nicolae Barsan - University of Tübingen, Germany
Kengo Shimano - Kyushu University, Japan
and Udo Weimar - University of Tübingen, Germany



ISOCS
International Society for
Olfaction and Chemical Sensing

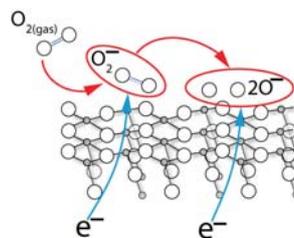
4th GOSPEL Workshop on:

Gas sensors based on semiconducting metal oxides: basic understanding & applications



ISOCS

International Society for
Olfaction and Chemical Sensing



Monday, June 6

Session 2

- 13:50 A-M. Andringa, University of Groningen, The Netherlands
NO₂ sensors based on field-effect transistors
- 14:10 Z. Öztürk, Gebze Institute of Technology, Turkey
ZnO nanostructures for resistive gas detection: effect of doping and dimensions on sensitivity
- 14:30 M. Uehara, NEW COSMOS ELECTRIC CO. LTD., Japan
Optimized Requirements for Gas Detectors to Prevent Explosion with Flexible Measuring Ranges from very Low to High Concentration of Combustible Gases
- 14:50 K. Yoshioka, Figaro Engineering, Japan
CH₄ sensor using MEMS technology for battery operation
- 15:25 *Break*
- 16:00 K. Fukui, New Cosmos Electric, Japan
Practical type gas sensors based on sintered metal oxide semiconductors for detection of hydrogen and odor
- 16:45 H. Ulmer, Applied Sensor GmbH, Germany
Application of MEMS MOS Gas Sensors in Everyday Life: From Cars to Cooker hoods

Session 3

- 17:05 Poster session & exhibition of Figaro Engineering (Japan) and Applied Sensor (Germany) products
- K. Aguir, Aix Marseilles University, France
Noise spectroscopy as selectivity tool for metal-oxide gas sensors devices



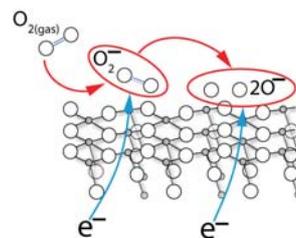
4th GOSPEL Workshop on:

Gas sensors based on semiconducting metal oxides: basic understanding & applications



ISOCS

International Society for
Olfaction and Chemical Sensing



H-G. Byun, Kangwon National University, Korea

Exhaled breath analysis of lung cancer patients using metal oxide gas sensor array

T. Fischer, University of Cologne, Germany

Nanostructured Gas Sensors: From Single Nanowires to Nanostructured Surfaces

K. Großmann, University of Tübingen, Germany

DRIFTS of H₂/D₂ exchange on a tin dioxide surface

H.W. Jang, Korea Institute of Science and Technology, Republic of Korea

Direct synthesis of highly ordered TiO₂ nanotubes onto patterned Si substrates and their applications to chemical sensors

C. Leroux, University du Sud Toulon Var, France

Cobalt ferrites for gas sensing

B. Lyson, AGH University of Science and Technology, Poland

Nanocrystalline TiO₂ – SnO₂ sensor for H₂ and NH₃

D. Pham, University of Bremen, Germany

Ethanol cross-sensitivity reduction with Cr₂O₃ catalytic filter on SnO₂-based gas sensor via FSP

A. Rydosz, AGH University of Science and Technology, Poland

The gas microconcentrator structures for low level acetone concentration detection

K. Schierbaum, University of Düsseldorf, Germany

Hydrogen sensors based on Pt/TiO₂: Hot electron effects versus Schottky diode behavior

18:35 End lecture

19:30 Dinner



Workshop organized by:

Nicolae Barsan - University of Tübingen, Germany
Kengo Shimano - Kyushu University, Japan
and Udo Weimar - University of Tübingen, Germany

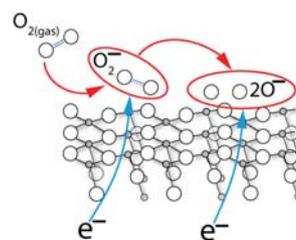
4th GOSPEL Workshop on:

Gas sensors based on semiconducting metal oxides: basic understanding & applications



ISOCS

International Society for
Olfaction and Chemical Sensing



Tuesday, June 7

Session 4

- 09:00 **J-H. Lee**, Korea University, Korea
Gas sensors using oxide nanowire networks
- 09:45 **T. Hyodo**, Nagasaki University, Japan
Microstructural design of gas-sensing materials by utilizing various templates
- 10:30 *Break*
- 10:50 **W. Shin**, AIST, Japan
Inorganic-organic hybrid materials for gas sensors
- 11:35 **U. Diebold**, TU Wien, Austria
Surface structure and reactivity of transparent conducting oxides
- 12:20 *Lunch break*
- 13:20 **L. Ciacchi**, University of Bremen, Germany
Synthesis, sensing properties and mechanism of the formaldehyde sensing reaction of an In/Sn binary oxide compound
- 13:40 **I. Giebelhaus**, University of Cologne, Germany
Metal Alkenolates as New Precursors to Metal Oxides
- 14:00 **P. Neumaier**, Fraunhofer-Institut IPM, Germany
Nanostructured gas sensitive metal oxides using an ultra-thin alumina mask for patterning
- 14:20 **Closing address**
N. Barsan, K. Shimano, U. Weimar



4th GOSPEL Workshop on:

Gas sensors based on semiconducting metal oxides: basic understanding & applications



ISOCS

International Society for
Olfaction and Chemical Sensing

