

EACCS 2007 Detailed Programme - Day 1

Date & Time: Monday, 3 December 2007

09:00 - 09:15 Welcome Address

09:15 - 10:00 A-1-KN1 An Approach to the Detection of Volatile Organic Compounds
Keynote Egashira Makoto, Nagasaki University, Japan

Coffee Break 10:00 - 10:30

10:30 - 11:15 A-1-KN2 Optical Detection Technologies Developed for Point of Care Bioassay Devices
Keynote Swee Chuan Tjin, Nanyang Technological University, Singapore

11:15 - 12:00 A-1-KN3 Crystalline Nanowires of Semiconducting Metal Oxides as a New Generation
Keynote of Selective and Stable Gas Sensors
Giorgio Sberveglieri, Brescia University, Italy

Lunch & Posters 1 12:00 - 14:00

[GS1] Gas Sensors 1
Date & Time: Monday, 3 December 2007

14:00 - 14:30 GS1-I1 conf114a276 Theoretical Approach to Semiconductor Gas Sensor
Noboru Yamazoe

14:30 - 15:00 GS1-I2 conf114a274 Illumination effects on the gas sensing properties of metal oxides nanowires and 3-D
nanocrystal networks: Engineering the chemical electrical transduction mechanism

Joan Ramon Morante

15:00 - 15:20 GS1-O1 conf114a248 Complex Impedance Measurement in Tin Oxide Microsensors for Evaluation of
Resistances at Grain Boundary and Grain-Electrode Interface
Jun Tamaki

15:20 - 15:40 GS1-O2 conf114a278 The VOCs gas sensitivity of nano-structured polyaniline
Joon-Boo Yu

15:40 - 16:00 GS1-O3 conf114a257 A physics-based model for the impedance spectrum of a hydrocarbon sensor with a
zeolite/Cr₂O₃ interface
Alice Fischerauer

Coffee Break 16:00 - 16:15

[GS2] Gas Sensors 2
Date & Time: Monday, 3 December 2007

16:15 - 16:45 GS2-I1 conf114a46 Recent developments in the field of automotive exhaust sensing
Ralf Moos

16:45 - 17:05 GS2-O1 conf114a179 Highly sensitive integrated dual type sensor to detect harmful exhaust gas and
offensive odor for automotive application
Wan-Young Chung

17:05 - 17:25 GS2-O2 conf114a38 Output of resistive oxygen sensor having yttria-doped zirconia as temperature
compensating material in model exhaust gas
Noriya Izu

17:25 - 17:45 GS2-O3 conf114a27 Hydrocarbon sensor for automotive exhaust gases integrated into an electrochemical
cell to adjust the oxygen partial pressure
Diana Biskupski

17:45 - 18:05 GS2-O4 conf114a103 Disconnected Au Nanoparticles – a Novel Sensitive and Selective Electrode for
Planar YSZ-based NO₂ Sensor
Vladimir V. Plashnitsa

[BS1]
Date & Time: Biosensor & TAS 1
Monday, 3 December 2007

14:00 - 14:30	BS1-I1	conf114a47	Stimuli-sensitive layer-by-layer films for biosensor applications Jun-ichi Anzai
14:30 - 15:00	BS1-I2	conf114a70	Electrochemical Biosensors using enzyme micelle membranes and aminated carbon electrode Shunichi Uchiyama
15:00 - 15:20	BS1-O1	conf114a282	Electrochemical Biosensors Based on Nano-materials Genxi Li
15:20 - 15:40	BS1-O2	conf114a48	Highly-Sensitive Determination of Hydrogen Peroxide Based on the Enzyme/Electrochemical Reaction Sequence Fumio Mizutani
15:40 - 16:00	BS1-O3	conf114a258	Development of Bioelectronic Sensor Using Extended Gate-type Chemical Charge Coupled Device Hiroaki Shinohara

Coffee Break 16:00 - 16:15

[BS2]
Date & Time: Biosensor & TAS 2
Monday, 3 December 2007

16:15 - 16:45	BS2-I1	conf114a124	High-Performance SPR Immunosensors for Environmental and Biomedical Applications Norio Miura
16:45 - 17:05	BS2-O1	conf114a108	Surface Nano-Organization of Immunoprobosc on Mixed Monolayers for Highly Sensitive and Selective SPR Detection of Small Molecular Fragrant Benzaldehyde K. Vengatajalabathy Gobi
17:05 - 17:25	BS2-O2	conf114a100	Amorphous (Ba,Sr)TiO ₃ Thin Film Based Impedimetric Immunosensor Xiaoqin Fang
17:25 - 17:45	BS2-O3	conf114a99	Real-time Monitoring of L-Glutamate Release from Nerve Model Cells Using a Novel Enzyme-Luminescence Method and Its Application to Drug Assessment S. M. Zakir Hossain
17:45 - 18:05	BS2-O4	conf114a125	Simultaneous detection of a tumor marker and creatinine in urine sample by surface plasmon resonance and electrochemical methods on an integrated micro fluidic chip Kohei Nakamoto

[N1]
Date & Time: Nanotechnology Applications in Chemical Sensors 1
Monday, 3 December 2007

14:00 - 14:30	N1-I1	conf114a288	Diamond Based Ultramicroelectrode Chemical Sensing Arrays Weng P Kang
14:30 - 15:00	N1-I2	conf114a127	Surface Modification of SnO ₂ Nanorod Arrays for Gas Sensors Hui Huang
15:00 - 15:20	N1-O1	conf114a196	Fabrication of micro gas sensor based on electrospun SnO ₂ nanofiber Y Zhang, JP Li, XL He, XG Gao
15:20 - 15:40	N1-O2	conf114a115	Hydrothermal Synthesis of SnO ₂ Hierarchical Spheres: The Correlation between Hierarchical Nanostructures and Gas Sensing Characteristics Hae-Ryong Kim
15:40 - 16:00	N1-O3	conf114a187	Camphor Sulfonic Acid Doped Polyaniline/Diamond Nanofibers Based ZnO/64˚ YX LiNbO ₃ SAW H ₂ Gas Sensor Joy Tan

[N2] Nanotechnology Applications in Chemical Sensors 2

Date & Time: Monday, 3 December 2007

16:15 - 16:45	N2-11	conf114a52	Nano-Structured ZnO – Platform for Catalysis and Sensing Wei Gao
16:45 - 17:15	N2-12	conf114a176	Gas Sensing Characteristics of Nano-structured Metal Oxides Zilong Tang
17:15 - 17:35	N2-O1	conf114a244	Glucose biosensor using one dimensional ZnO nanostructures Jianxiong Wang
17:35 - 17:50	N2-O2	conf114a21	Humidity and temperature effects on carbon nanotube field-effect transistor based gas sensors Ning Peng
17:50 - 18:15	N2-O3	conf114a75	A Study of The Effects of Process Parameters on The Synthesis of PZT Nano Powders by Sol-Gel and Mechanical Activation Methods Shahab Khameneh Asl

EACCS 2007 Detailed Programme - Day 2

[GS3] Gas Sensors 3 Date & Time: Tuesday, 4 December 2007

08:00 - 08:30			Registration
08:30 - 09:00	GS3-I1	conf114a23	Gas Sensing Design with Multivalent Ion Conducting Solids Nobuhito Imanaka
09:00 - 09:30	GS3-12	conf114a43	Design of Fast-Responding Gas Sensors using Nano-porous Structures Jong-Heun Lee
09:30 - 09:50	GS3-O1	conf114a121	Preparation and Gas Sensor Application of Ceramic Particles with Sub-micron Sized Spherical Macropores Mayu Hashimoto
09:50 - 10:10	GS3-O2	conf114a105	Improvement in sensing characteristics of mixed-potential-type zirconia-based gas sensor Perumal Elumalai
10:10 - 10:30	GS3-O3	conf114a24 (u)	High Efficiency Methane Gas Sensor Based on Nano Porous ZnO Thin Films Produced by Electrochemical Anodization Sukumar Basu

Coffee Break 10:30 - 10:45

[GS4] Gas Sensors 4 Date & Time: Tuesday, 4 December 2007

10:45 - 11:15	GS4-I1	conf114a101	Electrode Design for High H ₂ Sensing Performance of TiO ₂ -based Diode-type Sensor Yasuhiro Shimizu
11:15 - 11:35	GS4-O1	conf114a50	A Study of the Response Characteristics of a Proton Pumping Gate FET Hydrogen Gas Sensor Tomiharu Yamaguchi
11:35 - 11:55	GS4-O2	conf114a25	Hydrogen Sensor for Fuel-cell vehicles Kazuya Shinnishi
11:55 - 12:15	GS4-O3	conf114a208 (u)	TiSi ₂ /Pt for Hydrogen Detection Wahyu Widanarto

Lunch & Posters 12:15 - 14:00

[GS5] Gas Sensors 5 Date & Time: Tuesday, 4 December 2007

14:00 - 14:30	GS5-I1	conf114a42	On the Road to Inexpensive, Sub-ppb, Room-temperature, Ozone Detectors Kiriakidis George
14:30 - 14:50	GS5-O1	conf114a3	A two-step hydrothermally grown oriented ZnO microtube array for CO gas sensing Jianxiong Wang and Xiaowei Sun
14:50 - 15:10	GS5-O2	conf114a37	Investigation of Conductivity, Morphology and Sensing Properties of Au-doped CoOOH Nanostructures for Low-temperature Carbon Monoxide Measurement Serge Zhuiykov
15:10 - 15:30	GS5-O3	conf114a81(u)	Study on Planar Structure Carbon Monoxide Gas Sensor with Low Power Consumption Tong Zhang, Li Liu, Qi Qi, Huitao Fan, Lijie Wang, Kuixue Liu, Weiyu Chen

Coffee Break 15:30 - 15:45

[GS6]
Date & Time: **Gas Sensors 6**
Tuesday, 4 December 2007

15:45 - 16:15	GS6-I1	conf114a192	Classification of Toxic Gases Using Polymer SAW Micro Sensing Devices Duk Dong Lee
16:15 - 16:35	GS6-O1	conf114a126	The Performance of Quartz Crystal Microbalance Gas Sensor Using Titanium Dioxide Nanoparticles Coated With Porphyrin Thin Films Muhamad Mat Salleh
16:35 - 16:55	GS6-O2	conf114a218	Quartz crystal microbalance sensor based on partially reduced IrO ₂ Chin-hsin J. Liu
16:55 - 17:15	GS6-O3	conf114a87	H ₂ S Sensor Combining NASICON With NiO-TiO ₂ Electrode Tiegang Zhong, Xishuang Liang, Biao Wang, Fengmin Liu, Yuehua He, Baofu Quan*, Geyu Lu
17:15 - 17:35	GS6-O4	conf114a216	Investigation of the stability under high humid conditions for NASICON-based CO ₂ sensor fitted with BiCuVO _x /perovskite reference electrode Shotaro Kishi

[EC]
Date & Time: **Electrochemical Devices/Systems**
Tuesday, 4 December 2007

08:00 - 08:30			Registration
08:30 - 09:00	EC-I1	conf114a188	Integrated Electrochemical Microsystems Hiroaki Suzuki
09:00 - 09:30	EC-I2	conf114a136	Development of New Ion-Sensing Materials and Their Application to FET Checker Shin-ichi Wakida
09:30 - 09:50	EC-O1	conf114a286	Electrochemical Based Multisensor for Natural Gas Combustion Control Joan Ramon Morante
09:50 - 10:10	EC-O2	conf114a207	Electrochemical Analysis of Pesticides by Nano Zirconia Modified Film Electrode Min Wang
10:10 - 10:30	EC-O3	conf114a226	Potentiometric VOCs detections using 8YSZ based Oxygen Sensor in Middle Temperatures Y. Sadaoka

Coffee Break 10:30 - 10:45

[BS3]
Date & Time: **Biosensors & TAS 3**
Tuesday, 4 December 2007

10:45 - 11:15	BS3-I1	conf114a79	Ultrasensitive MicroRNA Biosensors Zhiqiang Gao
11:15 - 11:35	BS3-O1	conf114a223	Copper-ion-embedded DNA-based polyelectrolyte films for highly sensitive H ₂ O ₂ and glutamate biosensors Yasushi Hasebe
11:35 - 11:55	BS3-O2	conf114a65	Carbon Nanotubes Synthesis on an Electrode Surface for Development of Enzyme Sensor Based on Direct Electron Transfer Reactions Masato Tominaga
11:55 - 12:15	BS3-O3	conf114a172	Highly sensitive GABA sensor based on stable NADPH detection using an electron cyclotron resonance sputtered carbon film electrode Naoyuki Sekioka

Lunch & Posters 12:15 - 14:00

[BS4]
Date & Time: **Biosensors & TAS 4**
 Tuesday, 4 December 2007

14:00 - 14:30	BS4-I1	conf114a110	Label-Free Biosensors for the Detection and Quantification of Cardiovascular Risk Markers Yasar Gurbuz
14:30 - 15:00	BS4-I2	conf114a232	Development of a label-free immunosensor based on in-plane resistance change of barium-strontium titanate composite film Lingling Sun
15:00 - 15:20	BS4-O2	conf114a73	Grafting of 18-Crown-6 Functionalization on Microcantilever Biosensor for Pb ²⁺ Poisoning Detection Cheng-Yen Wu
15:20 - 15:40	BS4-O3	conf114a249	Triaxial MEMS Accelerometer for Activity Monitoring of Elderly Person Amit Purwar

Coffee Break 15:40 - 15:55

[EM]
Date & Time: **Other Emerging Chemical Sensors**
 Tuesday, 4 December 2007

15:55 - 16:15	EM-O1	conf114a281	SnO ₂ thin films for Organophosphorus Insecticides Detection Muhamad Yahaya
16:15 - 16:35	EM-O2	conf114a191	Development of a fiber-optic oxygen sensor for long-term corrosion monitoring of radioactive-waste repository Yuki Nakamura
16:35 - 16:55	EM-O3	conf114a241	Determination of Oil Palm Fruit Ripeness Using an Electronic Nose Wahyu Hidayat
16:55 - 17:15	EM-O4	conf114a245 (u)	Mobile Early Detection System for Basal Stem Rot (BSR) Disease of Oil Palm Trunk Abdul Hamid Adom

[NA1]
Date & Time: **Novel Approaches to Sensing 1**
 Tuesday, 4 December 2007

08:00 - 08:30			Registration
08:30 - 09:00	NA1-I1	conf114a237	Odor recorder Takamichi Nakamoto
09:00 - 09:30	NA1-I2	conf114a40	Detection of biomarkers using high frequency vibrational and Kelvin fields Mike Thompson
09:30 - 09:50	NA1-O1	conf114a186	Laser-Terahertz Readout for Non-contact Flow Channel Monitoring Toshihiko Kiwa
09:50 - 10:10	NA1-O2	conf114a221	Investigation of Biomacromolecule Interaction and DNA Biosensor Xiurong Yang *, Juan Wang, Aixue Li

Coffee Break 10:30 - 10:45

[NA2] Novel Approaches to Sensing 2**Date & Time: Tuesday, 4 December 2007**

10:45 - 11:15	NA2-I1	conf114a280	Chemical Sensing and its Applications: Lessons learnt from Networking Udo Weimar
11:15 - 11:35	Na2-I2	conf114a34	New micro-nanotechnological perspectives of sensors and microsystems for food analysis Pietro Siciliano
11:35 - 11:55	NA2-O1	conf114a213	Personal Mobile Healthcare Diagnosis System with Auto Switching of IEEE802.15.4 Network and CDMA Network Chiew-Lian Yau
11:55 - 12:15	NA2-O3	conf114a231	The effects of electrical characteristics and thermal annealing on electrochemically deposited CdTe thin film for adsorbed layer of solar cell Shu-Ying Yang

Lunch & Posters 12:15 - 14:00**[SM1] New Sensing Materials Development 1****Date & Time: Tuesday, 4 December 2007**

14:00 - 14:30	SM1-I1	conf114a175	New film electrodes for highly sensitive and selective electrochemical detection and sensing Osamu Niwa
14:30 - 14:50	SM1-O1	conf114a285	Acidic and Basic Sites in Modified Nano-TiO ₂ for gas sensors C. Fabrega
14:50 - 15:10	SM1-O2	conf114a224	Material analysis and application of ruthenium-doped titanium dioxide sensing film with co-sputtering system Jung-Chuan Chou
15:10 - 15:30	SM1-O3	conf114a102	Optical pH sensor using porphyrin immobilized polymer composite Yoshiteru Itagaki

Coffee Break 15:30 - 15:45**[SM2] New Sensing Materials Development 2****Date & Time: Tuesday, 4 December 2007**

15:45 - 16:15	SM2-I1	conf114a5	Nanorod-based sensors Lionel Vayssieres
16:15 - 16:45	SM2-I2	conf114a287	Sensing behavior of TiO ₂ thin film prepared by r.f. reactive sputtering Sheikh A. Akbar
16:45 - 17:05	SM2-O1	conf114a271	Synthesis, Structure/Texture of Nanocrystalline Rare Earth-doped SnO ₂ Gang Xu
17:05 - 17:25	SM2-O2	conf114a128	Chemical analysis with tin oxide gas sensors: Choice of additives, method of operation and analysis of numerical signal. Heinz Kohler
17:25 - 17:45	SM2-O3	conf114a142	The influence of the copolymer structure of coatings on the QCM-based toluene vapor sensing properties Masanobu Matsuguchi

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[GS7]

Gas Sensors 7

Date & Time: Wednesday, 5 December 2007

08:30 - 08:50	GS7-O1	conf114a260	Effect of the deposition condition for carbon nanotube thin films on gas sensing performance Sutichai Chaisitsak
08:50 - 09:10	GS7-O2	conf114a261	Microstructure of WO ₃ and Pt/WO ₃ Thin Films Obtained by Reactive Magnetron Sputtering Anisimov Oleg
09:10 - 09:30	GS7-O3	conf114a277	Study on the affection of sensing area to sensitivity of ZnO nanorods based gas sensor Jeung-Soo Huh
09:30 - 09:50	GS7-O4	conf114a135	Preparation of nano-sized PdO loaded on SnO ₂ nano-particles by reverse micelle method Masayoshi Yuasa
09:50 - 10:10	GS7-O5	conf114a279	Fabrication and sensing properties of TiO ₂ nanotube based gas sensors Min-Hyun Seo
10:10 - 10:30	GS7-O6	conf114a56	Fabrication of Modified 1-3 Ceramic/Epoxy Piezocompsite and Linear Array Transducer Li li

Coffee Break 10:40 - 10:55

[GS8]

Gas Sensors 8

Date & Time: Wednesday, 5 December 2007

10:55 - 11:15	GS8-O1	conf114a78 (u)	Complex Impedance Analysis of Humidity Sensing Properties Based on Polypyrrole Rui Wang, Tong Zhang, Yuan He, Wangchang Geng, Qi Qi, Li Liu, Xiaotian Li
11:15 - 11:35	GS8-O2	conf114a22 (u)	Porous Silicon based Moisture Detector in the PPM Range T. Islam
11:35 - 11:55	GS8-O3	conf114a95 (u)	Study on formaldehyde gas sensing properties of ZnSnO ₃ nanoparticles XU Jiaqiang
11:55 - 12:15	GS8-O4	conf114a30 (u)	Direct electrochemistry and electrocatalysis with hemoglobin based on electron tunneling of CTAB monolayer Qing Lu, Shengshui Hu

Lunch 12:15 - 14:00

[NA3]

Nanotechnology Applications in Chemical Sensors 3

Date & Time: Wednesday, 5 December 2007

08:30 - 08:50	NA3-O1	conf114a66	Nanotechnology applications in chemical sensors Huangxian Ju
08:50 - 09:10	NA3-O2	conf114a13	Size, temperature, and bond nature dependence of diffusivity and reactivity of nanostructures Changqing Sun
09:10 - 09:30	NA3-O3	conf114a35	Ceramic nano-structures without lithography: platforms for sensing and catalysis Sheikh Akbar
09:30 - 09:50	NA3-O4	conf114a71	Electrocatalysis by Gold Nanoparticles: Application to the Oxidation of Glucose in an Alkaline Solution Sami Ben Aoun
09:50 - 10:10	NA3-O5	conf114a74	The piezoelectrical and dielectrical properties of 0-3 PZT-PVC nano composites Shahab Khameneh Asl

Coffee Break 10:10 - 10:30

[SFT] Sensor Fabrication Technology**Date & Time: Wednesday, 5 December 2007**

10:30 - 10:50	SFT-O1	conf114a230	Development of Sensor System for 6-Chloro-N,N-diethyl-1,3,5-Triazine (CAT) Utilizing an Amalgamated Gold Electrode and Molecularly Imprinted Polymer Receptor Yusuke Fuchiwaki
10:50 - 11:10	SFT-O2	conf114a162	Infrared spectrometer based on grating and bolometer Jae Chang Yang
11:10 - 11:30	SFT-O3	conf114a251	Detection and combination of acid-base solution and UV light using a TiO ₂ sensor Shih-Hua Hsiao
11:30 - 11:50	SFT-O4	conf114a259	Si ₃ N ₄ membranes for integrated ISFET and REFET application fabricated by thickness and RTA modification Chao-Sung Lai
11:50 - 12:10	SFT-O5	conf114a246	Simulation and optimization of Micro- and nanosystems first-level packaging Fangmin Guo

Lunch 12:10 - 14:00**[SPM] Sensing Principles and Mechanisms****Date & Time: Wednesday, 5 December 2007**

0830 - 09:00	SPM-I1	conf114a290	Study of the Low Temperature Oxygen Sensing Mechanisms for the Synthesized Nanosized SrTiO ₃ Material at the Different Annealing Temperatures Ying Hu
09:00 - 09:20	SPM-O1	conf114a45	CO sensing with tin oxide sensors; effect of fabrication technology and operation conditions as revealed by DRIFTS and conductance measurements Dorota Koziej
09:20 - 09:40	SPM-O2	conf114a29	P-Type Semiconducting Hydrocarbon Sensors: Mechanistic Model Kathy Sahner
09:40 - 10:00	SPM-O3	conf114a17	Study on Love Wave Sensor for Detection of SEB DNA in Liquid Phase Zhixian Gao
10:00 - 10:20	SPM-O4	conf114a284	Preparation of ZnO powders by hydrazine method and its high sensitivity to C ₂ H ₅ OH Sun-Jung Kim
10:20 - 10:40	SPM-O5	conf114a233	Numerical simulations and controllable stoichiometry on cadmium telluride compound by electrochemical deposition Shu-Ying Yang

Coffee Break 10:40 - 10:55**[CST] Chemical Sensors in Sensing Explosives and Toxicants****Date & Time: Wednesday, 5 December 2007**

10:55 - 11:15	CST-O1	conf114a210	A MEMS Surface Ionization Source for Ion Mobility Spectrometer XL He, HY Guo, JP Li, J Jia and XG Gao
11:15 - 11:35	CST-O2	conf114a16	Studies on Detection of Atrazine and Papaverine with Protein Arrays Zhixian Gao
11:35 - 11:55	CST-O3	conf114a18 (u)	Research on immuno chip techniques for the detection of FB1, SEA and SEB Zhixian Gao

Lunch 11:55 - 14:00