Program

International Symposium on Olfaction and Electronic Nose (ISOEN)

ISOEN 2011

May 2-5, 2011

Rockefeller University
1230 York Avenue, New York, NY 10065

Chair

Perena Gouma
SUNY at Stony Brook, USA

ECI

Engineering Conferences International (ECI) is a not-for-profit global engineering conferences program, originally established in 1962, that provides opportunities for the exploration of problems and issues of concern to engineers and scientists from many disciplines.

Conference Organization

Executive Chair - Professor Giorgio Sberveglieri
Director of the CNR-INFM Sensor Laboratory
University of Brescia, Italy

Organizing Committee
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Alan Gelperin, Princeton University, USA
Ricardo Gutierrez-Osuna, Texas A&M, USA
Jeung-Soo Huh, Kyungpook National University, Korea
Sandrine Isz, Alpha MOS, France
Santiago Marco, University of Barcelona, Spain
Krishna Persaud, University of Manchester, UK
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Patrick Mielle, INRA, France
Jan Mitrovics, JML Innovation, Germany
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Maria Luz Rodriguez-Mendez, University of Valladolid, Spain
Susan Rose-Pehrsson, Naval Research Laboratory, USA
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International Society for
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STONY BROOK
STATE UNIVERSITY OF NEW YORK

Monday, May 2, 2011

17:30 – 19:30   Check-in & Welcome Reception (Rockefeller University – Weiss Café-East Room)

Notes

- Conference locations will be as follows:
    - **Tuesday, May 3**
        - Sessions   Caspary Auditorium
        - Lunch/Poster Session   Abby Lounge and Dinning Room

    - **Wednesday, May 4**
        - Concurrent Sessions   Weiss Research Building
            - Session A   Room 301
            - Session B   Room 305
            - Session C   Room 302

        - **Conference Banquet and Awards**
            Dinner Cruise on the Spirit of New York
            Participants must arrange their own transportation to the banquet – The address is 61 Chelsea Pier and West Side Highway.
            (arrive at 61 Chelsea Pier at 18:30 for boarding, departing promptly at 19:00)

    - **Thursday, May 5**
        - Sessions   Caspary Auditorium
        - Lunch/Poster Session   Abby Lounge and Dinning Room

- Audiotaping, videotaping and photography of presentations are prohibited.

- Speakers – Please leave at least 3-5 minutes for questions and discussion.

- Please do not smoke at any conference functions.

- Turn your cellular telephones to vibrate or off during technical sessions.

- Be sure to make any corrections to your name/contact information on the Master Participant List or confirm (with your initials) that the listing is correct. A corrected copy will be sent to all participants after the conference.

Tuesday, May 3, 2011 (all sessions to be held at Caspary Auditorium)

	Breakfast on your own
08:30 – 16:00	Conference Check-in / ECI conference information desk open
09:00 – 09:15	Welcome Introductions Professor Perena Gouma, Conference Chair Professor Julian Gardner, President of ISOCS
09:15 – 10:15	**Session 1: Keynote Lecture**
09:15 – 09:25	Introduction by Alan Gelperin
09:25 – 10:15	**Sensors and sensation: The molecular neurobiology of smell** Dr. Leslie B. Vosshall Robin Chemers Neustein Professor, Rockefeller University, USA
10:15 – 10:30	Coffee break
10:30 – 12:45	**Session 2: Focused Session - Optical nose** Session Chair: Troy Nagle
10:30 – 11:00	Plenary Talk – **A colorimetric sensor array for determination and identification of toxic industrial chemicals** Kenneth Suslick University of Illinois at Urbana-Champaign, USA
11:00 – 11:30	Invited Talk - **Optical detection for chemical sensing on ubiquitous devices** Daniel Filippini Linköping University, Sweden
11:30 – 12:00	Invited Talk - **Colors and odors: Porphyrinoids based artificial olfaction systems** Roberto Paolesse University of Rome, Italy
12:00 – 12:30	Invited Talk - **Gold nanoparticles: Effective receptors for 'chemical nose' sensing of proteins, bacteria, and mammalian cells** Vincent Rotello University of Massachusetts Amherst, USA
12:30 – 14:00	**Lunch and Poster Session I**

14:00 – 15:30	**Session 3: Focused Session - Live cell-based sensors** Session Chair: Krishna Persaud
14:00 – 14:30	Plenary Talk - **Live cell-based sensor cells for nano-biomaterials evaluation** Akiyoshi Taniguchi Waseda University-NIMS, Japan
14:30 – 15:00	Invited Talk - **Cultured cell based biosensor for qualified analysis as HTA** Tetsuya Haruyama Kyushu Institute of Technology, Japan
15:00 – 15:30	Invited Talk - **Biological-switch-gate semiconductor-based biosensing technique for bio-functional analysis** Toshiya Sakata The University of Tokyo, Japan
15:30 – 15:45	Coffee break
15:45 – 16:45	**Session 4: Focused Session - Sensor data processing** Session Chair: Santiago Marco
15:45 – 16:15	Plenary Talk - **Experiences in pattern recognition for machine olfaction** Conrad Bessant Cranfield University, United Kingdom
16:15 – 16:45	Invited Talk - **Advances in active and adaptive chemical sensing** Ricardo Gutierrez-Osuna Texas A&M University, USA
17:00 – 19:00	Dinner on your own and free evening
17:00 – 19:00	ISOCS general assembly meeting (Caspary Auditorium)
19:00 – 21:00	ISOCS executive committee dinner meeting (invitation only)

	Breakfast on your own
08:30 – 16:00	ECI conference information desk open

SESSION A

08:15 – 10:30	**Session 5: Electronic olfaction for breath analysis diagnostics** Session Chair: Steve Semancik
08:15 – 08:30	**Identification of relevant olfactory receptors to be used as sensing elements of a bioelectronic odorant detection nanoplatform** Aurelie Dewaele INRA, France
08:30 – 09:00	Invited Talk **- A nanoscale artificial nose (NA-NOSE) for detecting volatile biomarkers of cancer** Hossam Haick Technion, Israel
09:00 – 09:15	**The role of spike temporal latencies in artificial olfaction** Eugenio Martinelli University of Rome Tor Vergata, Italy
09:15 – 09:30	**An electronic nose (cyranose-320) can distinguish between patients with obstructive sleep apnoea syndrome and healthy controls** Timm Greulich University Hospital of Giessen and Marburg, Germany
09:30 – 09:45	**Portable device for real-time breath acetone detection** Lisheng Wang University of British Columbia, Canada
09:45 – 10:00	**On line real-time odours dispersion modeling systems using electronic noses** Louis Vivola ALPHA MOS, France
10:00 – 10:15	**COPD identification by the analysis of breath with an electronic nose** Marco Santonico University of Rome Tor Vergata, Italy
10:15 – 10:30	**Semi-supervised learning techniques in artificial olfaction applications: a novel approach to drift counteraction** Saverio De Vito ENEA, Italy
10:30 – 10:45	Coffee break
10:45 – 13:00	**Session 6: Data processing on combined organoleptic system data** Session Chair: Ricardo Gutierrez-Osuna
10:45 – 11:00	**Quantification of gas mixtures with active recursive estimation** Rakesh Gosangi Texas A&M University, USA

11:00 – 11:15   **Covariance matrix adaptation evolutionary strategy for drift correction of electronic nose data**
Matteo Falasconi
CNR-IDASC & University of Brescia, Italy

11:15 – 11:45   Invited Talk - **Joining e-nose and vision characterizations for the fine quantification of olive oil adulteration**
Matteo Pardo
Institute of Applied Mathematics and Information Technology, CNR, Italy

11:45 – 12:00   **Artificial odor map and discrimination of odorants using the odor separating system**
Masahiro Imahashi
Kyushu University, Japan

12:00 – 12:15   **Study of odor approximation by using mass spectrometer**
Takamichi Nakamoto
Tokyo Institute of Technology, Japan

12:15 – 12:30   **Active sensing with Fabry-Perot infrared interferometers**
Jin Huang
Texas A&M University

12:30 – 12:45   **Gas sensors array applied to the monitoring of biogas process**
Gilles Adam
University of Liege, Belgium

12:45 – 13:00   **Array of Love-wave sensors to detect CWA low-levels**
Daniel Matatagui
CSIC, Spain

13:00 – 14:00   Boxed lunch

14:00 – 16:45   **Session 7: Novel Sensor/E-nose Concepts**
Session Chair: Baranidharan Raman

14:00 – 14:30   Invited Talk - **Possibility of SPR application as an electronic nose**
Ken Watanabe
NIMS, Japan

14:30 – 14:45   **Biomimetic chemical sensors using nanoelectronic read out of olfactory Receptor Proteins**
A.T. Charlie Johnson
University of Pennsylvania, USA

14:45 – 15:00   **Selective vapor monitoring using individual multivariable RFID sensors**
Cheryl Surman
GE-Global Research, USA

15:00 – 15:15   **H+ activated polyaniline sensors**
Aisha Haynes
US Army ARDEC, USA

15:15 – 15:30	**Lignin-based nanocomposite polymeric materials for liquid sensing** Alisa Rudnitskaya University of Aveiro, Portugal
15:30 – 15:45	Coffee break
15:45 – 16:00	**DNA-decorated carbon nanotube-based FETs as ultrasensitive chemical sensors** A.T. Charlie Johnson University of Pennsylvania, USA
16:00 – 16:30	Invited Talk – **The photonic nose: smelling chemicals with structural color** Leonardo Bonifacio Opalux, Inc, Canada
16:30 – 16:45	**Solid-state nanostructured thin-film RuO_2-based pH sensors: Influence of film thickness** Serge Zhuiykov CSIRO, Australia
16:45 – 17:00	**Improving MOS virtual multisensor systems by combining temperature cycled operation with impedance spectroscopy** Andreas Schuetze Saarland University, Germany
17:00	Participants must arrange their own transportation to the banquet – The address is 61 Chelsea Pier and West Side Highway
18:30 – 22:00	**Conference Banquet and Awards** **Dinner Cruise on the Hudson River** **(arrive at 61 Chelsea Pier at 18:30 for boarding, departing promptly at 19:00)**

SESSION B

08:15 – 12:45	**Session 8: Novel materials for sensors and advanced sensing systems** Session Chair: Tetsuya Haruyama
08:15 – 08:30	**Kinetic and statistical analysis of the conductance transient to address the selectivity issue of the wet chemically synthesized tailored nano-structured ferrite gas sensors** Kalisadhan Mukherjee Indian Institute of Technology, India
08:30 – 09:00	Invited Talk - **Applications of metal oxides nanowires in safety and security** Elisabetta Comini University of Brescia, Italy
09:00 – 09:15	**Hybrid polymer 1D nanostructure-based sensor arrays for detection of explosives** Christopher Field U.S. Naval Research Laboratory, USA
09:15 – 9:30	**Controlled synthesis of ZnO nanostructures for ppb-level VOC detection** Shaolin Zhang Kyungpook National University, Korea
09:30 – 09:45	**Preparation and sensor properties of conducting molecular sieve ceramics based on potassium and silver hollandite** Marco Mugnaini Universita di Siena, Italy
09:45 – 10:00	**An analog low-power frequency readout ASIC for a SAW array** Shih-Wen Chiu National Tsing Hua University, Taiwan
10:00 – 10:15	Coffee break
10:15 – 10:30	**Measurement of food texture by an acoustic vibration method** Naoki Sakurai Hiroshima University, Japan
10:30 – 10:45	**Evaluating zeolite-modified sensors: towards a faster set of chemical sensors** Alexander Vergara University of California, San Diego, USA
10:45 – 11:00	**A high temperature SOI CMOS NO_2 sensor** Julian Gardner The University of Warwick, United Kingdom
11:00 – 11:15	**Development and characterization of $YCoO_3$ based CO gas sensors** Marco Mugnaini Universita di Siena, Italy

11:15 – 11:30   **Phthalocyanines as sensitive coatings for QCM sensors-experimental results and computational approaches**
Dilek Erbahar
TUBITAK Marmara Research Center, Turkey

11:30 – 12:00   Invited Talk - **Voltammetric sensors and biosensors based on phthalocyanines for an electronic tongue**
Maria Luz Rodriguez-Mendez
University of Valladolid, Spain

12:00 – 12:15   **Classification and concentration estimation of explosive precursors using nanowires sensor array and decision tree learning**
Junghwan Cho
University of Massachusetts Lowell, USA

12:15 – 12:30   **Development of ultra-low power metal oxide sensors and arrays for embedded applications**
Brent Lutz
Synkera Technologies Inc., USA

12:30 – 12:45   **Electronic nose sensor array optimization using rough set theory**
Rajib Bandyopadhyay,
Jadavpur University, India

12:45 – 14:00   Boxed Lunch

14:00 – 16:45   **Session 9: Artificial olfaction in quality control**
Session Chair: Sandrine Isz

14:00 – 14:30   Invited Talk - **Odor recognition vs. classification in artificial olfaction**
Barani Raman
Washington University, USA

14:30 – 14:45   **Sensing basic tastes by electronic tongue sensors**
Zoltan Kovacs
Corvinus University of Budapest, Hungary

14:45 – 15:00   **Application of combined electronic nose and tongue technology in petfood flavor development and quality control**
Omobola Oladipupo
AFB International, USA

15:00 – 15:15   **Detection of hexanal in rotten milk using a cell-derived olfactory nano-vesicle-based bioelectronic nose**
Jong Hyun Lim
Seoul National University, Korea

15:15 – 15:30   Coffee break

15:30 – 15:45   **Ratiometric chemical blend processing with a neuromophic model of the insect macroglomerular complex**
Tim Pearce
University of Leicester

15:45 – 16:00   **Humidity compensation of bad-smell sensing system using a detector tube and a built-in camera**
Takamichi Nakamoto
Tokyo Institute of Technology, Japan

16:00 – 16:15   **Quality control of spices by multigas sensors**
Thomas Huebert
BAM Federal Institute for Materials Research & Testing, Germany

16:15 – 16:30   **Kinetics of dry roasting as related to peanut quality**
Jack Davis
USDA ARS Market Quality, USA

16:30 – 16:45   **An application of specific sensors for the monitoring of NaCl in soft cheeses**
Patrick Mielle
INRA, UMR CSGA, France

16:45 – 17:00   **Identification of geographical origin of coffee before and after roasting by electronic nose**
Veronica Sberveglieri paper 128
University of Modena e Reggio Emilia, Italy

17:00   Personal transit to banquet – location 61 Chelsea Pier and West Side Highway

18:30 – 22:00   Conference Banquet and Awards
Dinner Cruise on the Hudson River.
(arrive at 61 Chelsea Pier at 18:30 for boarding, departing promptly at 19:00)

SESSION C

08:15 – 10:30	**Session 10: E-tongues** Session Chair: Milutin Stanacevic
08:15 – 08:30	**Temperature cycled operation of SiC field effect gas sensors: Increasing the selectivity for improved sensor systems** Andreas Schutze Saarland University, Germany
08:30 – 09:00	Invited Talk **- Electronic Tongue on a way towards the universal bitterness scale** Andrey Legin St. Petersburg University, Russia
09:00 – 09:15	**Bioelectronic tongue employing enzyme-modified sensors for the resolution of phenolic antioxidant mixtures** Xavier Ceto Universitat Autonoma de Barcelona, Spain
09:15 – 09:30	**Electronic tongue-FIA system for the monitoring of heavy metals biosorption processes** Manel del Valle Universitat Autonoma de Barcelona, Spain
09:30 – 09:45	**A PKD channel-based biosensor for taste transduction** Ping Wang Zhejiang University, China
09:45 – 10:00	**Food saltiness optimization using in-mouth sensors** Patrick Mielle INRA, UMR CSGA, France
10:00 – 10:15	**Development of electronic tongue system for quantification of rare earth metals in spent nuclear fuel reprocessing** Dmitry Kirsanov St. Petersburg State University, Russia
10:15 – 10:30	Coffee break
10:30 – 12:45	**Session 11: Applications of sensor arrays in safety and defense** Session Chair: Corrado Di Natale
10:30 – 10:45	**Electronic noses as flexible tools for evaluating food quality and safety: can we trust them?** Isabella Concina CNR-IDASC & Brescia University, Italy
10:45 – 11:00	**Sensing materials with a concurrent sensitivity: design, synthesis and application in multisensory systems** Larisa Lvova University of Rome Tor Vergata, Italy

11:00 – 11:15	**Portable electronic nose system for identification of synthesized gasoline using single metal oxide gas sensor and pattern recognition** Young Wung Kim Kyungpook National University, Korea
11:15-11:30	**TD kernel DM+V: Time-dependent statistical gas distribution modelling on simulated measurements** Achim Lilienthal Orebro University, Sweden
11:30 – 12:00	Invited Talk - **Advances toward practical detection of trace chemical hazards with solid state microarray devices** Steve Semancik NIST, USA
12:00 – 12:15	**Early detection of fungal contamination on green coffee by a MOX sensors based electronic nose** Veronica Sberveglieri paper 95 CNR-IDASC & Brescia University, Italy
12:15 – 12:30	**An analog multilayer perceptron neural network with on-chip learning for a portable electronic nose** Chih-Heng Pan National Tsing Hua University, Taiwan
12:30 – 12: 45	**Electronic nose characterization of the quality parameters of freeze-dried bacteria** Eugenio Martinelli University of Rome Tor Vergata, Italy
12:45 – 14:00	Boxed Lunch
14:00 – 16:45	**Session 12: Medical applications of sensors and sensor systems** Session Chair: Jan Mitrovits
14:00 – 14:30	Invited Talk - **A review of rhinological applications of electronic nose technology** Erica Thaler University of Pennsylvania, USA
14:30 – 14:45	**Detection and identification of inflammatory bowel disease by electronic nose** Nathalie Ouaret, University of Warwick, United Kingdom
14:45 – 15:00	**Mammalian odor information recognition by implanted microsensor array in vivo** Jun Zhou Zhejiang Unviersity, China
15:00 – 15:15	**Towards a multi-centre approach for breath metabolomics; viability of discriminative potential after adsorption, storage and desorption of exhaled air samples** Lieuwe Bos Amsterdam Academic Medical Center, The Netherlands

15:15 – 15:30	**Effects of self-generated heat on gas sensing in mobile robots and olfactory sensing in humans** Hiroshi Ishida Tokyo University of Agriculture and Technology, Japan
15:30 – 15:45	Coffee break
16:00 – 16:15	**Chemical sensitivity of porphyrinoid-functionalized cotton yarns** Corrado Di Natale University of Rome Tor Vergata, Italy
16:15 – 16:30	**Identification of the different sources responsible for the olfactory annoyance, using an e-nose** Kevin Clarke Universite de Liege, Belgium
16:30 – 16:45	**Data-driven modeling of metal-oxide sensors with dynamic bayesian networks** Rakesh Gosangi Texas A&M University, USA
16:45 – 17:00	Concluding Remarks by session chairs
17:00	Personal transit to banquet – location 61 Chelsea Pier and West Side Highway
18:30 – 22:00	Conference Banquet and Awards Dinner Cruise on the Hudson River. (arrive at 61 Chelsea Pier at 18:30 for boarding, departing promptly at 19:00)

	Breakfast on your own
08:30 – 12:00	ECI conference information desk open
08:30 – 11:30	**Session 13: Novel sensor materials and device platforms for artificial noses** Session Chair: Giorgio Sberveglieri
08:30 – 09:00	Plenary Talk - **Nano-structured oxides by surface modification: platforms for chemical sensing and beyond** Sheikh A. Akbar The Ohio State University, USA
09:00 – 09:30	Invited Talk - **Research into use of non woven fibers as food biosensor platforms** Kris Senecal US Army RDECOM, NSRDEC, USA
09:30 – 10:00	Invited Talk **- A 166-dB dynamic range and low power interface circuit for gas-sensing System** Milutin Stanacevic SUNY Stony Brook, USA
10:00 – 10:15	Coffee break
10:15 – 15:00	**Session 14: Biologically inspired computation for chemical sensing** Session Chair: Julian Gardner
10:15 – 10:45	Invited Talk -**Signal processing for chemical sensing: statistics or biological inspiration** Santiago Marco University of Barcelona, Spain
10:45 – 11:00	**Study of sensory diversity and redundancy to encode for chemical mixtures** Agustin Gutierrez-Galvez IBEC, Spain
11:00– 11:30	**Chemical plume source localization with multiple mobile sensors using bayesian inference under background signals** Santiago Marco University of Barcelona, Spain
11:30 – 11:45	**A large scale chemical sensor array testing biological olfaction concepts** Krishna Persaud CNR-IMM, Italy
11:45 – 12:00	**A large scale virtual gas sensor array** Alexandre Perera Lluna Universitat Politecnica de Catalunya, Spain
12:00 – 14:00	Lunch and poster session II
14:00 – 15:00	**Closing session**, ISOCS new president announcement, next ISOCS meeting location announcement, poster awards

Poster List

Tuesday, May 3, 2011

A. **Breath Analysis**

1. **Exhaled breath analysis for the monitoring of elderly COPD patients health-state**
   Giorgio Pennazza
   University of Rome, Italy

2. **Monitoring the halitosis with an electronic nose**
   Giorgio Pennazza
   University of Rome, Italy

3. **Hand held numeric prototype for breath analyzing**
   Aditya Shyam Ambre
   State University of New York at Stony Brook, USA

4. **An electronic nose distinguishes the exhaled breath condensates obtained by two different devices and two different breath patterns**
   Andreas Rembert Koczulla
   Philipps-Universitat Marburg, Germany

5. **An electronic nose based on hybrid MOS-SAW sensors for detection of different biomarkers of lung cancer**
   Ping Wang
   Zhejiang University, China

6. **Multi-model diagnosis method for lung cancer based on MOS-SAW breath detecting e-nose**
   Ping Wang
   Zhejiang University, China

7. **Portable gas sensor for breath analysis**
   Marco Righettoni
   ETH Zurich, Switzerland

8. **Continuous exhaled breath analysis on the ICU: Feasibility study**
   Lieuwe DJ Bos
   Academic Medical Center, The Netherlands

9. **Nanosensor array-based breath analyzer for disease diagnosis**
   Perena Gouma
   Stony Brook University, USA

B. Quality Control

10. **A supervised feature extraction method for GCMS data based on PLS: Application to the detection of adulterated olive oil**
    Eugenio Martinelli
    University of Rome, Italy

11. **Portable electronic nose to discriminate artificial aged wine from barrel-aged wine**
    Jose Pedro Santos
    CSIC, Spaing

12. **Using a multi-way analysis for the application of an electronic noses in wine quality control**
    N. Prieto
    University of Valladolid, Spain

13. **Aroma analysis by GC/MS and electronic nose dedicated to negroamaro and primitivo typical apulian wines**
    Simonetta Capone
    IMM-CNR, Italy

14. **Olive oil headspace characterization by a gas sensor array**
    Corrado Di Natale
    University of Rome, Italy

15. **Detection of acetic acid in wine by means of an electronic nose**
    Jose Pedro Santos
    Universidad de Extremadura, Spain

16. **An 'olfactory fatigue' measurement method for chinese liquors classification with a metal oxide gas sensor array**
    Shunping Zhang
    Huazhong University of Science and Technology, China

17. **A combined gas and liquid chemical sensors array for fuel adulteration detection**
    Corrado Di Natale
    University of Rome Tor Vergata

<u>**C.**</u> <u>**Electronic Tongue**</u>

18. **Novel sensors for the artificial mouth**
Patrick Mielle
INRA, UMR CSGA, France

19. **Use of an electronic tongue to detect geosmin in distilled water**
Guilherme de Souza Braga
University of Sao Paulo, Brazil

20. **Assessment of volatile sulfur compounds production by select oral bacteria with cysteine and methione as substrates measured by OralChroma^{TM}**
Nathanael Salako
Kuwait University, Kuwait

21. **Fusion of potentiometric & voltammetric electronic tongue for classification of black tea taste based on theaflavins (TF) content**
Nabarun Bhattacharyya
CDAC, Kolkata, India

22. **Portable e-Tongue based on multi-channel LAPS array with PVC membrane for rapid environment detection**
Ping Wang
Zhejiang University, China

23. **Data fusion from voltammetric and potentiometric sensors to build a hybrid electronic tongue applied in classification of beers**
Manel del Valle
University of Barcelona, Spain

24. **Discrimination of soils and assessment of some soil fertility parameters using an electronic tongue**
Manel del Valle
University of Barcelona, Spain

25. **An impedancemetric electronic tongue for discrimination of adulteration process of ethanol fuel with water**
Thiago Paixao
University of Sao Paulo, Brazil

26. **Sensory evaluation and electronic tongue analysis for sweetener recognition in coke drinks**
Daniel Szollosi
Corvinus University of Budapest, Hungary

27. **Development of taste sensing system using inorganic membrane**
Yohichiro Kojima
Tomakomai National College of Technology, Japan

D. Sensor Nanomaterials

28. **Sensing characteristic of polyaniline/TiO2 nanocomposites**
Jeung Soo Huh
Kyungpook National University, Korea

29. **A novel method for synthesis of 3-D WO$_3$-CuO nanogrids**
Jusand Lee
SUNY at Stony Brook, USA

30. **Tunneling through surface barrier and oxygen in-diffusion in nanostructured SnO$_2$ gas sensors**
Cesare Malagu
University of Ferrara, Italy

31. **TiO2 nanostructures for gas sensing room temperature**
Daniel Rodriguez
Commission Nacional de Energia Atomica

32. **Headspace analysis of Philippine civet coffee beans using gas chromatography mass spectrometry and electronic nose**
Matteio Falasconi
CNR-IDASC Sensor, Italy

Thursday, May 5, 2011

<u>**E.**</u> <u>**Environmental Monitoring**</u>

33. **A gas sensor array for environmental air monitoring: A study case of application of artificial neural networks**
Marco Alvisi
ENEA, Italy

34. **Development of an electronic nose for environmental monitoring: detection of specific environmentally important gases at their odor detection threshold concentration**
Licinia Dentoni
Politecnico di Milano, Italy

35. **Cumulative measurement principle for the detection of small amounts of gaseous species**
Andrea Geupel
University of Bayreuth, Germany

36. **Electronic nose system combined with membrane interface probe for detection of VOCs in water**
Junghwan Cho
University of Massachusetts Lowell, USA

37. **Electronic noses implentation on landfill site**
Genevieve Carayon
ALPHA MOS, France

38. **Hand-held device for monitoring dissolved organics in fresh and recycled water on ppb levels**
Serge Zhuiykov
Commonwealth Scientific Industrial Research Org., Australia

39. **Pursuing contamination detection on aircraft CFRP surfaces by artificial olfaction techniques**
Saverio De Vito
ENEA UTTP/MDB, Italy

40. **Tin oxide nanowire sensors and their potential for selective detection of the toxic gases SO2 and H2S**
Anton Koeck
AIT, Austria

41. **Microwave-hydrothermal synthesis and vibrational spectroscopy of nanostructured (NI,MN,CO)SB2O6 compounds for chemical sensing**
Anderson Dias
Federal University of Ouro Preto, Brazil

F. **Sensing Complex Odors**

42. **Discrimination of body odor using odor sieving sensor system**
    Tadashi Takamizawa
    U.S.E. Co., Ltd., Japan

43. **Towards an analogue neuromorphic VLSI instrument for the sensing of complex odours**
    Julian Gardner
    University of Warwick, United Kingdom

44. **Optimizing the operating temperature for an array of MOX sensors on an open sampling system**
    Marco Trincavelli
    Orebro University, Sweden

45. **Portable e-Nnose and multivariate data analysis to identify different kinds of drugs**
    Benachir Bouchikhi
    Moulay Ismail University, Morocco

46. **Development of odor gas sensor using TiO_2 nanostructures**
    Jeung Soo Huh
    Kyungpook National University, Korea

47. **Odour profile of different varieties of extra-virgin olive oil during deep-frying using an electronic nose and SPME-GC-FID**
    Valeria Messina
    CINSO, Argentina

48. **Odour profile and colour characteristics of waxy brakedown paralysis process in garlic assessed by instrumental methods**
    Valeria Messina
    CINSO, Argentina

49. **Odors discrimination by olfactory epithelium biosensor**
    Ping Wang
    Zhejiang University, China

50. **Odour mapping under strong backgrounds with a metal oxide sensor array**
    Andrey Ziyatdinov
    ESAII, Spain

51. **A portable gas sensor system for environmental monitoring and malodours control: Data assessment of an experimental campaign**
    Marco Alvisi
    ENEA, Italy

52. **Temperature centric evaluation of sensor transients**
Alexander Vergara
University of California, San Diego, USA

53. **Gas identification by dynamic measurements of SnO₂ sensors**
Daniel Rodriguez
Commission Nacional de Energia Atomica, Argentina

54. **Ensemble classifier strategy based on transient feature fusion in electronic nose**
Mohammad Ali Bagheri
Tarbiat Modares University, Tehran

G. **Sensor Systems**

55. **A flexible gas sensor for the integration into smart textiles**
Thomas Kinkeldei
ETH Zurich, Switzerland

56. **An on-chip multi-class support vector machine applied to portable electronic nose data classification**
Yao-Sheng Liang
National Tsing Hua University, Taiwan

57. **Towards a low-power miniaturized micromechanical electronic nose**
Sywert H. Brongersma
Holst Centre / IMEC, Holland

H. Biosensors & Bio-inspired Systems

58. **Biosensor based on olfactory receptors immobilization for the detection of odorant compounds**
Marta Sanmarti
IBEC, Spain

59. **Cystic fibrosis sweat patch**
Gagan Jodhani
Stony Brook University, USA

60. **Molecularly imprinted polymer based sensor for the detection of theophylline**
Guilherme de Souza Braga
University of Sao Paulo, Brazil

61. **Metal ion binding motifs in vertebrate olfactory receptors**
Ken Suslick
University of Illinois at Ubana-Champaign, USA

62. **VLSI implementation of a bio-inspired olfactory spiking neural network**
Hung-Yi Hsieh
National Tsing Hua University, Taiwan

63. **Estimation of theaflavins (TF) and thearubigins (TR) ratio in black tea liquor using electronic vision system**
Abhra Pal
C-DAC (K), India

64. **Classification of optical-sensor response cues with a bi-dimensional wavelet-transform approach**
Jose Murguia
Bio Circuits Institute, USA

65. **Biomimetic transducting support for enhanced explosive detection thresholds**
Nelly Piazzon
ISL, France