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B04-NANO IN LA FRANCOPHONIE

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Nanocarbons Division Robert C. Haddon Research Award

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Lydia Helena Wong

I03 - Carbon Dioxide Reduction

Integrating Materials Design and Operando Spectroscopy for the Development of Next Generation CO_2 Reduction and Biomass Valorization Catalytic Systems 1680
Nikolay Kornienko

Electrochemical Reduction of CO_2 to Ethylene with Coproduction of Glycolic Acid Via Glycerol Oxidation 1681
Mohd Adnan Khan, Shariful Kibria Nabil, Tareq A. Al-Attas, Jinguang Hu, Md Golam Kibria

Ligand Engineered Metal−Organic Frameworks for Electrochemical Reduction of Carbon Dioxide to Carbon Monoxide 1682
Tareq A. Al-Attas, Nedal N. Marei, Xue Yong, Nael Yasri, Samira Siahrostami, George Shimizu, Venkataraman Thangadurai, Md Golam Kibria

Comparative Life Cycle Assessment of CO_2 Electrosynthesis to Fuels and Feedstocks 1683
Shariful Kibria Nabil, Sean McCoy, Md Golam Kibria

I03 - Invited Talks on Carbon Dioxide Conversion

(Invited) Enable Efficient Solar Driven CO_2 Reduction with Stable and Highly Active Oxygen Evolution Catalyst in Neutral pH 1684
Hongfei Jia, Li Zhou, Ling Chen

(Invited) Electrochemical CO_2 Reduction Reaction to C_2 Chemicals with Cu-Based Nanocatalysts 1685
Yun Jeong Hwang

(Invited) Photoelectrochemical Reduction of CO_2 at Poly(4-vinylpyridine)-Stabilized Copper(I) Oxide Semiconductor Decorated with Palladium Cocatalyst 1686
Pawel J. Kulesza, Ewelina Szaniawska, Ewelina Seta-Wiaderek, Anna Wadas, Iwona Rutkowska, Krishnan Rajeshwar

(Invited) Mass Transport Considerations for High Performance CO_2 Electrolysers 1687
Wilson Smith

(Invited) Interfacial Chemistry As an Enabling Tool in the Development of Transition Metal Phosphide Electrocatalysts 1688
Brandi Cossairt, David Ung, Ian Murphy, Ricardo Rivera-Maldonado

I04-ENERGY CONVERSION SYSTEMS BASED ON NITROGEN 4

I04 - General NH3 Electrochemistry

(Invited) Ammonia: From Fertilizer to Fuel 1689
Grigorii L. Soloveichik

Ammonia Generation from 2D MoS_2 Catalysts 1690
Elisa Miller-Link, Nuwan Attanayake, Hanyu Zhang, Lucy Metzroth

(Invited) Critical Effect of Particle Size in Ru-Catalyzed Electrosynthesis of Ammonia 1691
Xiaofeng Feng

(Invited) High-Rate Ammonia Synthesis at Non-Aqueous Gas Diffusion Electrodes 1692
Karthish Manthiram

Electrochemical Nitrogen Reduction Reaction over Subnano-Clustered Ruthenium Catalysts: A DFT Study 1693
Seung-Hoon Kim, Geunsang Yoo

Proton-Conducting Ceramics for Electrochemical Ammonia Synthesis 1695
Carolina Herradon, Long Le, Charlie Meisel, Chris Cadigan, Ryan O'Hayre, Neal P. Sullivan
Revealing the Critical Challenges in State-of-the-Art Electrochemical Nitrogen Fixation Research 1697
Yifu Chen, Hengzhou Liu, Shuang Gu, Wenzhen Li

I04 - NH3 Electrosynthesis and Fuel Cells

(Invited) Intermediate Temperature Direct Ammonia Fuel Cell Using Alkaline Electrolyte System 1698
Judith Lattimer, Hui Xu, Steve McCatty, Yamini Mohan
Electrocatalytically Denitrifying Wastewater Based on Unique Nitrate-to-Nitrite Selectivity on Ag 1699
Hengzhou Liu, Jaeryul Park, Yifu Chen, Shuang Gu, Brent H Shanks, Wenzhen Li
D–Band Contraction of Metal Nitride Nanosheets Enables Highly Efficient and Stable Electrochemical Oxidation of Ammonia 1700
Shi He, Jie Liu, Yufeng Chen, Mengdi Wang, Kai Liu, Siyuan Zhu
Rapid in Situ Detection of Ammonia with Surface Enhanced Raman Spectroscopy 1701
Yuanchao Liu, Eamonn Murphy, Ivana Matanovic, Eric Potma, Dmitry Fishman, Plamen Atanassov
(Invited) ATP-Independent Electroenzymatic Ammonia Production Using an Organic Redox Polymer-Immobilized Enzymatic System 1703
Yoo Seok Lee, Shelley D. Minteer
(Invited) Paired Flow Electrolyzers for Furanic Compounds Conversion to Valuable Chemicals 1705
Hengzhou Liu, Ting-Han Lee, Eric W Cochran, Wenzhen Li
(Invited) Advanced Catalysts for Efficient Electrochemical Ammonia Oxidation 1706
Yi Li, Gang Wu
Oxygen Reduction Reaction at Co and Fe MN5 Catalysts. Calculated and Experimental O_2-Fe and O_2-Co Binding Energy, Activity Indexes, Volcano Correlations 1707
Federico Tasca, Walter Orellana, Jose H Zagal
Electrochemical Nitrate Reduction to Ammonia in a PEM Cell: Maximizing Faradaic Efficiency and Single Pass Conversion 1709
Sorin Bunea, Kevin Clemens, Atsushi Urakawa

I04 Poster Session

The Effects of CeO_2 Inclusion in the Electrocatalytic Properties of Nanoparticles for an Ammonia Oxidation Electrocatalyst 1711
Jose Padin, Namir Andrea Huertas, Lisandro Cunci
Revealing Structure–Activity Links in Hydrazine Oxidation: Doping and Nanostructure in Carbide–Carbon Electrocatalysts 1712
Tomer Burshtein, Eliyahu Farber, Kasinath Ojha, David Eisenberg
Urea Oxidation Electrocatalysis on Nickel Hydroxide: The Role of Disorder 1714
Inbal Offen Polak, Sankalpita Chakrabarty, Tomer Burshtein, Eliyahu Farber, Lior Kornblum, David Eisenberg

IMCS 01-ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, CHEMOMETRICS, AND SENSOR ARRAYS

IMCS 01 - Artificial Intelligence, Machine Learning, Chemometrics, and Sensor Arrays 1

(Invited) Chemical Sensing in the Big Data Era: How and Where Does the Chemical World Store Its Information? 1715
Roderick Kunz
(Invited) Strategies for Calibration Cost Reduction in Heterogeneous Chemical Sensor Arrays 1718
Jordi Fonollosa

Predicting Odor Perception of Mixed Scent from Mass Spectrometry Using Machine Learning 1721
Tanoy Debnath, Takamichi Nakamoto

Few-Shot Time-Series Classification of Chemosensor Data 1724
Bhargavi Mahesh, Sebastian Hettenkofer, Thorsten Graunke, Jens-Uwe Garbas

Deep Learning Combined with Surface-Enhanced Raman Spectroscopy for Chemical Sensing and Recognition 1727
Morten Bertz, Masahiro Yanagisawa, Takayuki Homma

Sensor Array Complexity and Analytical Capability 1729
Kevin Johnson, Adam Knapp

Artificial Neuronal Networks for the Prediction of Atmospheric Corrosion in Bronze with Nanostructured Patinas with SiO_2 1731
Henevith Gisell Méndez Figueroa, Darío Colorado Garrido, R. Galván Martínez, Miguel Ángel Hernandez, Ricardo Orozco Cruz

IMCS 01 - Artificial Intelligence, Machine Learning, Chemometrics, and Sensor Arrays 2

(Invited) Using Machine Learning to Decode Output of a Mixed-Potential Sensor Array for Automotive Exhaust Monitoring 1735
Unab Javed, Kannan Pasupathikovil Ramaiyan, Cortney R. Kreller, Eric L. Brosha, Rangachary Mukundan, Alexandre V Morozov

Machine Learning for the Quantification and Identification of Natural Gas from Mixed Potential Electrochemical Sensors 1737
Lok-Kun Tsui, Sleight Halley, Kamil Agi, Fernando H Garzon

Detecting Trace Gases at PPM Levels with Low Temperature Plasma Optical Emission Spectroscopy 1739
Paul Maguire, Tahereh Shah-Mansouri, Jordan Vincent, Hui Wang, Omar Nibouche

A Gas Classification Algorithm of Electronic Noses Based on Convolutional Spiking Neural Network 1742
Yizhou Xiong, Yingying Xue, Yuantao Chen, Hao Wan, Ping Wang

Detection of Volatile Organic Compounds in Contaminated Air Using Gas Sensors with Machine Learning 1744
Woosuck Shin, Toshio Itoh, Yutaro Koyama, Takafumi Akamatsu, Akihiro Tsuruta, Yoshitake Masuda, Kazuhisa Uchiyama

Chemometrics and Signal Processing-Assisted Design of a Textile-Based Colorimetric Sensing Platform for Real-Time Monitoring of Glucose 1746
Peiyao Zhao, Trisha L. Andrew

The Complexity of Analytical Tasks: A Driving Force for Sensor Array Design 1748
Adam Knapp, Kevin Johnson

Novel Data Science Driven Chemical Agent Sensors: Towards Better Discrimination in Complex Environments 1751
Joshua R Uzarski, Michael S. Wiederoder, Matthew Weiss, Alexander Moore, Randy Paffenroth

Orthogonal Gas Sensor Arrays By Chemoresistive Material Design 1752
Nicolay J Pineau, Julia F Kompalla, Andreas T. Guntner, Sotiris E. Pratsinis

Statistical Shape Mapping Pre-Processing of Metal Oxide Gas Sensor Response for Machine Learning Detection Improvement 1755
Matvei Andreev, Alexander Efitorov, Valeriy Krivetskiy

Quantification of Multi-Ion Mixtures Using a Machine Learning Assisted Integrated Electronic Tongue Leveraging Mobile and Cloud Platforms 1758
Gianmarco Gabrieli, Rui Hu, Keiji Matsumoto, Yuksel Temiz, Sacha Bissig, Ralph Heller, Antonio Lopez, Jorge Barroso Carmona, Kitahiro Kaneda, Yasumitsu Orri, Patrick Ruch

Comparison of Chemometric Models for Quantification of Total Curcuminoids in Powdered Turmeric Using Visible and Near Infrared Spectra 1761
Hasika Suresh, Amruta Ranjan Behera, Shankar Kumar Selvaraja, Rudra Pratap

Use of Statistical Methods for the Interpretation of Peruvian Wines Measurement Results with MOS Electronic Noses 1763
Rosario Sun-Kou, Ana Paredes-Doig, Gino Picasso, Adolfo La Rosa-Toro, Elizabeth Doig-Camino

IMCS 01 Poster Session

Implementation of Extreme Gradient Boosting Machine Learning Algorithm in Low Power FPGA for Wearable Lactate Sensing Platforms 1765
Anthony Wright, Fahmida Alam, Nezih Pala

Development of Cu/F-MWCNT/ZnO Based Active Layer for Long Term Soil Urea Measurements 1767
Naveen Kumar S K, Akshaya Kumar A, Aiswarya Baburaj, Renny Edwin Fernandez, Ajit Khosla

F- MWCNT/ ZnO Nanocomposites for Real-Time Detection of Ammonium Level in Paddy Field..... 1768
Akshaya Kumar A, Naveen Kumar S K, Aiswarya Baburaj, Renny Edwin Fernandez, Ajit Khosla

Estimation of Soil Moisture and Earth Resistivity Using Wenner's Method and Machine Learning 1769
Valdimiro Cassule Cussei

Synthesis of Fe_3O_4@MIL-101(Fe) for a Novel Electrochemistry Detection of Citric Acid 1770
Shuqi Zhou, Tao Liang, Chiyu Ma, Xinyi Wang, Liubing Kong, Wencheng Lin, Dmitry Kirsanov, Andrey Legin, Hao Wan, Ping Wang

IMCS 02-CHEMICAL AND BIOSENSORS, MEDICAL/HEALTH, AND WEARABLES

IMCS 02 - Invited Talks on Electrochemical Sensors and Point-of-Care Devices 1

(Keynote) Blood, Sweat and Tears... – Sensing of Human Performance Biomarkers in Bodily Fluids Using Point-of-Use Devices 1773
Andrew Steckl

(Invited) The Microfluidic Chip Combining a Position-Raised Channel and Ultramicroelectrodes for Fast Estimation of Cellular Respiratory Activity 1775
Ching-Chou Wu, Chieh-Jen Wang, Lee-Tian Chang

(Invited) Electrochemical Microbiosensors for In Vivo Monitoring of Neurotransmitters 1777
Emanuela Andreescu

(Invited) Potential Applications of Nano-Electrochemistry in Point-of-Care Sensing Devices 1778
Julia Chung, Pheobe Hertler, Kevin W. Plaxco, Lior Sepunaru

IMCS 02 - In Vivo or In Vitro Testing

Developing Wearables for Neuropeptides and Neurotransmitters Detection in Sweat Using Flexible Substrates 1780
Antonio Vázquez, Vitmary Rivera, Lina Acosta, Arianna Santiago, Lisandro Cunci

Chemical and Biological Sensor Capsules for Real-Time Measurement of Cell Properties in Bioreactors..... 1781
Decarle S. Jin, Xingyuan Zhu, Eleanor L. Brightbill, Billyde Brown, Eric M. Vogel

Simultaneous Monitoring of ECG and EDA Using a Wearable Armband for Analyzing Sympathetic Nerve Activity 1784
Farzad Mohaddes, Yilu Zhou, Jenna Pedersen, Fatma Patlar Akbulut, Bongmook Lee, Veena Misra

Antibody Nanopatterned Biosensor for Detection of Physical Confinement-Induced Cytokine Secretion in Breast Cancer 1788
Zhiru Zhou, Feiyun Cui, Hong Zhou

Conductive Polymers Modification for Carbon Fiber and Platinum Microelectrodes for the Measurement of Neuropeptide Y 1789
Kelly Lozano, Luis F. Lopez, Lisandro Cunci

Metabolic Health Monitoring By Continuous Sensing of Breath Acetone at ppb 1790
Ines C. Weber, Nina Derron, Philipp A. Gerber, Andreas T. Guntner, Sotiris E. Pratsinis

In Brain and in Vein Detection of Antibiotics Using Electrochemical-DNA Biosensors 1793
Philippe Dauphin Ducharme

Probing DNA Stability in High Electric Fields: Electrochemical Melting Analysis 1795
Ryan West

Ferrocene Functionalized Gold Nanoparticles on Carbon Nanotube Electrodes for Portable Dopamine Sensor 1796
Bo Wu, Sanjida Yeasmin, Ye Liu, Li-Jing Cheng

A High-Resolution Microfluidic LAPS Imaging System for 3D Cell Metabolism Monitoring 1799
Yong Qiu, Tao Liang, Deming Jiang, Xin Liu, Hao Wan, Ping Wang

In-Situ Detection of Saliva Cortisol with Cu-MOF Catalyst Integrated-Antibody Based on Portable E-Eye 1803
Xinyi Wang, Shuqi Zhou, Liubing Kong, Tao Liang, Chiyu Ma, Hao Wan, Ping Wang

Research on Intelligent Electronic Nose Based on Exhaled Breath to Detect Halitosis 1806
Tao Zhang, Yingying Xue, Yuantao Chen, Hao Wan, Ping Wang

IMCS 02 - Invited Talks on Optical Sensors

(Invited) Theranostics with Lanthanide Doped Nanoparticles 1808
Fiorenzo Vetrone

(Invited) Plasmonic and Surface Plasmon Electrochemiluminescence Sensors for Detecting Biomarkers and Drugs 1809
Jean-Francois Masson, Federico Polo

(Invited) Nanoscale Engineering of Plasmonic Materials for Biosensing and Bioimaging 1810
Fang Xie

(Invited) Exploring in the Near Infrared: Multifunctional Nanoplatforms for Biomedical Applications 1811
Dongling Ma

(Invited) Rational Design of NIR-II Optofunctional Materials for Biomedical Applications 1812
Ming Li

IMCS 02 - Wearable Devices

All-Fabric Piezoionic Sensor for Simultaneous Sensing of Static and Dynamic Pressures 1813
S. Zohreh Homayounfar, Ali Kiaghadi, Deepak Ganesan, Trisha L. Andrew

Applications of Tin Oxide in the Field of Wearable Technology 1815
Sandeep Arya, Asha Sharma, Anoop Singh, Ajit Khosla

Blood Pressure Estimation Using Custom Photoplethysmography Sensors Located on Radial Artery at Wrist 1817
Long Nguyen, Jong-Jin Kim, Wan-Young Chung

Universal Fentanyl Sensor for Strip and Wearable Non-Invasive Testing 1820
Zhe Wang

IMCS 02 - In-Field or Point-of-Care Testing 1

An Aptamer-Based Colorimetric Assay Integrated a Portable Spectrometer for on-Site Detection of Pbtx-2 1821
Liubing Kong, Chiyu Ma, Xinyi Wang, Yuxuan Zhu, Dmitry Kirsanov, Andrey Legin, Hao Wan, Ping Wang

Monitoring Methanol Exposure during Liquor Distillation with a Hand-Held Device 1825
Nicolay J Pineau, Leandro Magro, Jan Van Den Broek, Peter Anderhub, Andreas T. Guntner, Sotiris E. Pratsinis

Rapid Diagnosis of Methanol Poisoning with a Handheld Detector 1829
Jan Van Den Broek, Dario Bischof, Sebastian Abegg, Nina Derron, Philipp A. Gerber, Andreas T. Guntner, Sotiris E. Pratsinis

Explosives Trace Detector (ETD) Testing 1833
Young Choi, Michelle Sunderman, David Glasbrenner, Meg Howard, Stacy Dean, Jason Middleton

(IMCS Second Place Best Paper Award) A High-Efficient Handheld Spectrometer for Ascorbic Acid Detection Based on MnO_2 Nanosheet 1834
Chiyu Ma, Liubing Kong, Xianyou Sun, Yuxuan Zhu, Hao Wan, Ping Wang

IMCS 02 - Electrochemical Sensors 1

Capacitive Electrochemical Sensor with Molecularly Imprinted Polymer for Determination of Heterocyclic Aromatic Amines 1836
Viknasvarri Ayerdurai, Alvaro Garcia-Cruz, Maciej Cieplak, Piyush Sindhu Sharma, Francis D'Souza, Wlodzimierz Kutner

Quick Portable Electrochemical Sensing Platform to Detect Al^{3+} Content in Our Dietary Fruit Juices 1837
Durgasha Poudyal, Vikram Narayanan Dhamu, Anirban Paul, Sriram Muthukumar, Shalini Prasad

Using an RTIL-Based Electrochemical Sensor Platform for Trace Detection of Heptane As Biomarker for Lung Cancer 1839
Ivneet Kaur Banga, Anirban Paul, Shalini Prasad

Protecting Consumer Health by Developing an Electrochemical Immunosensor for the Detection of Banned Antibiotic Residues in Honey 1841
Valerie Gaudin, Céline Hédou, Christophe Soumet, Eric Verdon

Nanoscale Amperometry Reveals Only a Fraction of Vesicular Serotonin Content Is Released during Exocytosis from Beta Cells 1843
Amir Hatami

Self-Reporting Molecularly Imprinted Polymer with Covalently Immobilized Ferrocene Redox Probe for Selective Electrochemical Sensing of P-Synephrine 1844
Patrycja Lach, Maciej Cieplak, Krzysztof Noworyta, Piotr Pieta, Wojciech Lisowski, Jakub Kalecki, Raghu Chitta, Francis D'Souza, Wlodzimierz Kutner, Piyush Sindhu Sharma

Reagentless and Ultrasensitive Electrochemical Dnazyme Based Sensing Platform for Clinical Detection of Uropathogenic Escherichia coli 1846
Richa Pandey, Dingran Chan, Yingfu Li, Leyla Soleymani

Fabrication of Electrochemical Biosensor for Detection of Full-Length Tau Protein through Biotin-Streptavidin on Gold Surface 1847
William Wallace, Sanela Martic

Quantification of Protease Activity Using a Multiplex Microelectrode Array Sensor 1848
Morgan J Anderson, Yang Song, Huafang Fan, Jestin Gage Wright, Zhaoyang Ren, Duy H Hua, Jessica E. Koehne, Meyya Meyyappan, Jun Li

Electrochemical Immuno-Biosensors on Nanostructured Electrodes for Rapid Sensitive Detection of Disease Biomarkers 1849
Sahar Sadat Mahshid

pH and Temperature Sensor Platform for Detecting Inflammation at Specific Sites in the Oral Cavity 1850
Nicole L Ritzert, Shinae Kim, Asha Rani, Thomas Moffat

UV-Ozone Treated Modified Laser-Induced Graphene Based Electrochemical Sweat Sensor 1851
Sudipta Choudhury, Gourav Bhattacharya, Susanta Sinha Roy

IMCS 02 Poster Session

3D Printed Hydrogel-Based Sensors for UV Sensing Applications 1852
Abraham Samuel Samuel Finny, Cindy Jiang, Emanuela Andreescu

Olfactory Bulb Neuronal Network Chip-Based Biosensor for Analysis of Dysosmia Model in Alzheimer's Disease 1854
Ping Wang, Mengxue Liu, Liujing Zhuang, Fan Gao

Chemoresistive Nanostructured Metal-Oxide Sensors for Human Tumor Tissue and Blood Exhalations Analysis 1856
Michele Astolfi, Giulia Zonta, Nicolò Landini, Sandro Gherardi, Giorgio Rispoli, Gabriele Anania, Mascia Benedusi, Vincenzo Guidi, Caterina Palmonari, Matteo Valt, Cesare Malagù

Cell-Based Electrochemical Biosensor for Evaluating the Oxidant Stress Levels Induced By Specific Anti-Cancer Drugs 1858
Deming Jiang, Xin Liu, Yong Qiu, Liubing Kong, Yuxuan Zhu, Hao Wan, Liujing Zhuang, Ping Wang

Engineered Hierarchical CuO Nanoleaves Based Electrochemical Nonenzymatic Biosensor for Glucose Detection 1861
Rafiq Ahmad, Marya Khan

Interdigitated Electrode Arrays for Electrochemical Immunosensing of Interleukin-6 in Cerebrospinal Fluid (CSF) and Serum 1864
Christiana Oh, Liu Yang, Bumjun Park, Paul Bohn

Biopolymer Derived Thin Carbon Film As a Novel Sensing Material for Low-Cost Resistive and Fast-Response Humidity Sensors 1865
Beomsang Kim, Shalik Ram Joshi, Shin-Kwan Kim, Gun-Ho Kim, Heungjoo Shin

Aptamer-Modified Electrode Biosensors for Npy Detection Using Methylene Blue Redox Probe 1868
Lyza Martinez, Luis F. Lopez, Lisandro Cunci

Real-Time Viscoelasticity Monitoring of Cardiomyocytes Based on Love Wave Biosensor 1869
Junyu Zhang, Xinwei Wei, Liujing Zhuang, Hao Wan, Ping Wang

IMCS Plenary Address - Joseph Wang

(Plenary) Wearable Sensors for Monitoring Chemical Markers: Beyond Steps and Vitals 1872
Joseph Wang

IMCS 02 - Invited Talks on Wearable Sensors and Point-of-Care Devices

(Keynote) Artificial Intelligence Biosensors: Challenges and Prospects 1873
Tailin Xu, Xueji Zhang

(Invited) SERS-Based Paper Lateral Flow Assays for Point-of-Care Testing 1874
Nianqiang Nick Wu

(Invited) Fabric Pressure Sensors for Longitudinal Monitoring of Human Motion in Natural Environments 1875
Trisha L. Andrew

(Invited) Eight Channel Microphysiometry Using a Lab on a Chip Microclinical Analyzer 1876
David Cliffel, Sara Melow, Dusty Miller, Pragun Tuladhar

(Invited) Skin-Interfaced Wearable Sweat Biosensors 1877
Wei Gao

IMCS 02 - In-Field or Point-of-Care Testing 2

On-Sensor Cryopreservation of Adherent Cells in Lab-on-a-Chip Systems 1878
Dua Ozsoylu, Tugba Isik, Mustafa Muammer Demir, Sefa Kizildag, Michael J. Schoening, Torsten Wagner

Development of Point-of-Care Lateral Flow Assay Devices for Salivary Endotoxin Detection..... 1881
Daewoo Han, Sancai Xie, Andrew Steckl

(IMCS First Place Best Paper Award) A Novel Lab-on-a-Chip Microdevice for Study the Effectiveness of Electrochemotherapy 1884
Zbigniew Brzozka, Sandra Skorupska, Ilona Grabowska-Jadach, Artur Dybko

Molecularly Imprinted Carbon-Paste for Theophylline Sensing on a Disposable Paper Chip Sensor 1886
Aaryashree Aaryashree, Yui Nakane, Yuuto Takeda, Masaki Abe, Tomoji Ohishi, Yasuo Yoshimi

Dual-Signal Readout By Hybrid Nanoflowers for Point-of-Care Ultrasensitive Detection of Organophosphorus Pesticide 1888
Rui Jin, Xu Yan, Peng Sun, Geyu Lu

Lab-on-a-Chip System for Developing and Fluorescence Imaging a Three-Dimensional Model of Pancreatic Islets Under Flow Conditions 1890
Zbigniew Brzozka, Patrycja Sokolowska, Kamil Zukowski, Justyna Janikiewicz, Ekzbieta Jastrzebska, Agnieszka Dobrzyn

Smartphone-Assisted Robust Sensing Platform for on-Site Quantitation of 2, 4-Dichlorophenoxyacetic Acid Using Red Emissive Carbon Dots..... 1892
Dandan Su, Xu Yan, Geyu Lu

Rapid Point of Care Diagnostic Test for the Detection of Rare Metabolic Disorders 1895
Shima Dalirirad, Thomas Christiani, Nicholas Schifano, Robert Harper

Determination of Manganese in Human Whole Blood with Indium Tin Oxide Electrochemical Point-of-Care Sensor 1898
Zhizhen Wu, William R. Heineman, Erin Haynes, Elena Boselli

Medical Parameters of a Sensing Device for Colorectal Cancer Preventive Screening through Fecal Odor Analysis..... 1900
Giulia Zonta, Michele Astolfi, Andrea Gaiardo, Sandro Gherardi, Vincenzo Guidi, Nicolò Landini, Caterina Palmonari, Elena Spagnoli, Cesare Malagù

Detection of Bacteria Using Near Infrared Fluorescent Nanosensors 1902
Robert Nißler, Oliver Bader, Maira Dohmen, Sebastian Walter, Christine Noll, Gabriele Selvaggio, Uwe Groß, Sebastian Kruss

Bionic E-Eye Based High-Throughput Immunocolorimetric Sensor System for Sensitive Detection BNP in Blood through Carbon-Gold Nanocomposites..... 1903
Xin Liu, Ying Gan, Fengheng Li, Yong Qiu, Deming Jiang, Liubing Kong, Yuxuan Zhu, Tao Liang, Shuqi Zhou, Hao Wan, Ping Wang

Strain-Mitigated Two Dimensional Based Electronics for Integrated Wearable Sensor-Systems 1906
Chris Martin Williams, Shideh Kabiri Ameri

Application of Printer Toner As a Versatile Intermediate for Protein Immobilization in Flexible Immunosensing Platforms..... 1908
Polina Ivanova, Marcin Drozd, Aleksandra Zakrzewska, Katarzyna Tokarska, Kamil Zukowski, Mariusz Pietrzak, Adam Nowinski, Zbigniew Brzozka, Elzbieta Malinowska

IMCS Plenary Address - Mark Meyerhoff

(Plenary) Electrochemical/Optical Sensors in Medicine: Meeting Needs for the 21st Century 1910
Mark E. Meyerhoff

IMCS 02 - Invited Talks on Electrochemical Sensors

(Invited) Diamond Based Chemical/Biochemical Sensors: State-of-the-Art and Perspectives 1913
Emmanuel Scorsone

(Invited) Barcode-Based Biorecognition for Electrochemical and Photoelectrochemical Biosensing 1915
Leyla Soleymani, Richa Pandey, Sarah Traynor, Amanda Victorious, Sudip Saha

(Invited) Tailoring 2D Materials As Artificial Enzymes for Developing Electrochemical Biosensors 1916
Aida Ebrahimi

(Invited) Nanosurface Fluidic Devices for Electrochemical Sensing and Biosensing 1918
Sara Mahshid

(Invited) Development of Electrochemical 6-Well Plate for Immunosensors 1919
Feiyun Cui, Zhiru Zhou, Hong Zhou

IMCS 02 - Electrochemical Sensors 2

Fabrication of an Electrochemical Aptasensor for Stress Hormone Using a Rationally Truncated Aptamer on Graphene Quantum Dots Modified Screen Printed Electrodes 1921
Vipasha Sharma, Tarun Kumar Sharma, Inderpreet Kaur

Nano Gold-Doped Molecularly Imprinted Polymer for Enhanced Electrochemical Detection of Hormone Cortisol 1922
Sanjida Yeasmin, Bo Wu, Ye Liu, Li-Jing Cheng

Development of an Improved Immunosensor for Fast Electrochemical Determination of Progesterone 1925
Disha Disha, Poonam Kumari, Manoj Kumar Nayak, Parveen Kumar

Combined Thermal and Electrochemical Sensor Platform Employing a Novel Surface-Imprinted Polymer As Receptor for the Real Time Detection of Escherichia coli 1926
Rocio Arreguin Arreguin Campos, Kasper Eersels, Hanne Diliën, Bart Van Grinsven, Thomas J. Cleij

Universal Bacterial Detection Utilizing PEDOT:PSS-Based Organic Electrochemical Transistors 1928
Eric Frantz, Daewoo Han, Andrew Steckl

Silicone-Rubber Based Multiplex Ion-Sensitive Light-Addressable Potentiometric Sensor (ISLAPS) System for Physiological Ions Detection 1930
Tao Liang, Shuqi Zhou, Xinyi Wang, Nan Jiang, Yong Qiu, Wencheng Lin, Hao Wan, Ping Wang

A Flexible Electrochemical Biosensor Based on Modified Laser-Induced Graphene for Selective Detection of Phenazines 1933
Keren Zhou, Derrick Butler, Jian Yang, Aida Ebrahimi

Insight into the Effect of the Continuous Testing and Aging on the so_2 Sensing Characteristics of a YSZ (Yttria-stabilized Zirconia)-Based Sensor Utilizing $ZnGa_2O_4$ and Pt Electrodes 1936
Xidong Hao, Xishuang Liang, Geyu Lu

Novel Electrochemical Aptasensors Based on Bipolar Exfoliated Graphene for Label-Free Detection of Cancer Biomarkers 1939
Shahrzad Forouzanfar, Iman Khakpour, Fahmida Alam, Nezih Pala, Chunlei Wang

Simultaneous Electrochemical Determination of L-Dopa and Melatonin Using RGO-Spinel Nanocomposite Decorated Pt Electrode 1940
Leena R, Arya Sethu Madhavan, Lineesh M Kunjappan

Highly Sensitive and Selective Non-Enzymatic Measurement of Glucose Using Arraying of Two Sweat Sensors Modified By Controlled Growth of Co/Cu and Functionalized Carbon Nanotubes 1942
Reza Eslami, Nahid Azizi, Reza Ghaffarian, Mehrab Mehrvar, Hadis Zarrin

Catechol-O-Methyl Transferase (COMT) Activity Detection Using Metal Oxide Electrodes 1943
Fred Lisdat, Gero Göbel

Decorating Metal Oxide Nanostructures with Noble Metal NP for Bio-Sensing Applications 1944
Rakefet Almog, Eden Shashar, Yelena Sverdlov, Yosi Shacham-Diamand

IMCS Plenary Address - Lisa Hall

(Plenary) From Gene to Device: The Route to Diagnostics in Low Resource Countries 1946
Lisa Hall, Dushanth Seevaratnam, Cassi Henderson, Ronan Daly, Felix Ansah, Gordon Awandare

IMCS 02 - Invited Talks on Electrochemical Sensors and Point-of-Care Devices 2

(Keynote) Rapid Detection of Small Molecule Pollutants by Surface-Enhanced Raman Spectroscopy with Nanostructure Array 1947
Guowen Meng, Haibin Tang

(Invited) Cavitas Sensors: Non-Invasive Bio/Chemical Sensing in Human Body Cavities for Medical and Healthcare 1949
Kohji Mitsubayashi

(Invited) Graphene-Based Micro Biosensors 1953
Yuko Ueno

(Invited) The New Paradigm in Passive Sweat Wearables: Temporal Profiling of Biomarkers to Elucidate the Relationship between Stress and Inflammation in Passively Expressed Eccrine Sweat 1955
Shalini Prasad, Kai-Chun Lin, Badrinath Jagannath, Madhavi Pali, Sayali Upasham, Ashlesha Bhide, Devangsingh Sankhala, Sriram Muthukumar

(Invited) Transdermal Alcohol Monitoring with a Printed Amperometric Sensor 1956
Michael Carter, Melvin Findlay, David Peaslee, Lloyd Ploense, Bennett Meulendyk, Eric Devine, Joseph R. Stetter

IMCS 03-ELECTROCHEMICAL AND METAL OXIDE SENSORS

IMCS 03 - Electrochemical and Metal Oxide Sensors: Oxide-based

Synergistic Effects of Au and SnO_2 Nanoparticles Decorated on WS_2 Nanosheets for Flexible, Room-Temperature CO Gas Sensing 1959
Jae-Hun Kim, Sang Sub Kim, Noriko Saito

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Electrodeposition of Gold Nanoparticles on Halloysite Nanotubes Modified Glassy Carbon Electrode for Detection of Dopamine and Serotonin 1984
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(Plenary) Rational Design of Oxide Chemiresistors for Next-Generation Gas Sensors and Artificial Olfaction 2000
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