

## Plenary Conferences

### PL1: THE APPLICATION OF SCANNING ELECTROCHEMICAL MICROSCOPY TO THE DISCOVERY AND STUDY OF ELECTROCATALYSTS

Joaquin Rodriguez-Lopez and Allen J. BARD

*Department of Chemistry and Biochemistry and the Center for Electrochemistry  
The University of Texas at Austin, Austin, TX 78712*

### PL2: CONVOLUTION OF TOPOGRAPHY AND LOCAL ELECTROCHEMICAL ACTIVITY IN SECM IMAGING. CONSTANT DISTANCE MODE SECM AS A PREREQUISITE FOR HIGH-RESOLUTION ELECTROCHEMICAL IMAGING

Wolfgang SCHUHMANN

*Analytische Chemie - Elektroanalytik & Sensorik, Ruhr-Universität Bochum;  
Universitätsstr. 150; D-44780 Bochum*

### PL3: SEEING ELECTRON COMMUNICATION INSIDE MOLECULES BY ULTRAFAST CYCLIC VOLTAMMETRY

Christian AMATORE

*Ecole Normale Supérieure - CNRS. Département de Chimie, UMR 8640 (ENS- CNRS-UPMC), 24 rue Lhomond. F-75231 Paris Cedex 05. France*

### PL4: ELECTRON TRANSPORT VIA REDOX MOLECULES

NJ TAO

*Center for Bioelectronics and Biosensors, Biodesign Institute, Arizona State University, Tempe, AZ8528*

## Keynotes

**KN1: WHY ARE NUMERICAL SIMULATIONS UNAVOIDABLE FOR QUANTITATIVE SECM ?**

C. Lefrou  
*LEPMI / ENSEEG, CNRS-LEPMI, Grenoble, France*

**KN2: SCANNING ELECTROCHEMICAL MICROSCOPY COUPLED WITH EQCM AND EIS**

V. Vivier  
*LISE, 3 rue Galilée 94200 Ivry-Sur-Seine, FRANCE*

**KN3: MICROELECTROCHEMICAL PATTERNING OF SURFACES WITH ORGANIC LAYERS**

F. Kanoufi  
*Laboratoire Environnement et Chimie Analytique, ESPCI, 10 rue Vauquelin, 75231, Paris, France*

**KN4: ELECTROCHEMICAL GRAFTING OF BIOMOLECULES FOR DIAGNOSTIC**

C. Marquette  
*LPCML, Université Lyon 1, CNRS UMR 5620, Lyon, France*

**KN5: ELECTROCHEMICAL ATOMIC FORCE MICROSCOPY (AFM-SECM) USING TIP-ATTACHED REDOX-LABELED POLYMER CHAINS AS LOCAL MOLECULAR NANOSENSORS.**

C. Demaille  
*LEM, Université Paris 7 Denis Diderot, UMR 7591, 15 rue Jean de Baïf, 75205 Paris, France*

**KN6: HOW TO GET MORE INFORMATION FROM BIOCHIPS ? USE OF ELECTROCHEMISTRY FOR AN OPTICAL DETECTION PROCESS.**

T. Livache  
*CEA/INAC, Grenoble, France*

## Oral Communications

### OC 01: SECM INVESTIGATIONS OF TRANSPORT PROPERTIES IN PURE IONIC LIQUID AND IN IONIC LIQUIDS/ORGANIC SOLVENT MIXTURES

D. Zigah<sup>a</sup>, A. Wang<sup>a</sup>, J. Ghilane<sup>b</sup>, C. Lagrost<sup>a</sup>, and P. Hapiot<sup>a</sup>

*a. Université de Rennes1, Sciences Chimiques de Rennes (Equipe MaCSE), UMR-CNRS 6226, Campus de Beaulieu, Bat. 10C, 35042 Rennes Cedex, France*

*b. ITODYS, Université Paris 7 Denis Diderot, UMR-CNRS 7086, 15 rue Jean de Baïf, 75205 Paris, France*

### OC 02: OXYGEN REDUCTION REACTION ON PREFERENTIALLY ORIENTED PLATINUM NANOPARTICLES STUDIED BY SCANNING ELECTROCHEMICAL MICROSCOPY

C. M. Sánchez-Sánchez, J. Solla-Gullón, F. J. Vidal-Iglesias, A. Aldaz, V. Montiel, E. Herrero

*Instituto Universitario de Electroquímica, Universidad de Alicante Ap. 99, E-03080 Alicante, Spain*

### OC 03: SECM ANALYSIS OF THE NANO-STRUCTURATION OF GLASSY CARBON AND GOLD ELECTRODES BY SPONTANEOUS ADSORPTION OF DIAZONIUM SALTS

Sophie Griveau<sup>a</sup>, Renaud Cornut<sup>b</sup>, Christine Lefrou<sup>b</sup>, Fethi Bedioui<sup>a</sup>

*a. Unité de Pharmacologie Chimique et Génétique, CNRS 8151, INSERM 640, Université Paris Descartes, ENSCP Chimie Paris ParisTech, 11 rue Pierre et Marie Curie, 75231 Paris cedex 05, France*

*b. Laboratoire d'Electrochimie et de Physicochimie des Matériaux et des Interfaces CNRS 5631, Grenoble-INP, 1130 rue de la piscine, 38402 Saint Martin d'Hères Cedex, France*

### OC 04: PROTEIN IMAGING BY SCANNING ELECTROCHEMICAL MICROSCOPY

F. Cortés Salazar<sup>a</sup>, M. Zhang<sup>a</sup>, J-M. Busnel<sup>a</sup>, F. Li<sup>a</sup>, M. Prudent<sup>a</sup>, B. Sua, M. Hojeij<sup>a</sup>, Y. Shao<sup>b</sup>, G. Wittstock<sup>c</sup> and H. H. Girault<sup>a</sup>

*a. Laboratoire d'Electrochimie Physique et Analytique, Ecole Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland*

*b. Institute of Analytical Chemistry, College of Chemistry and Molecular Engineering, Peking University, Beijing CN-100871, China*

*c. Department of Pure and Applied Chemistry and Institute of Chemistry and Biology of the Marine Environment, Faculty of Mathematics and Natural Sciences, Carl von Ossietzky University of Oldenburg, D-26111 Oldenburg, Germany*

### OC 05: SECM ACTIVITY MAPPING OF ENZYME MODIFIED CARBON NANOPARTICLES BASED ELECTRODES FOR BIOELECTROCATALYTIC DIOXYGEN REDUCTION

W. Nogala<sup>a</sup>, A. Celebanska<sup>a</sup>, K. Szot<sup>a</sup>, J. Rogalski<sup>b</sup>, G. Wittstock<sup>c</sup>, M. Opallo<sup>a</sup>

*a. Institute of Physical Chemistry, Polish Academy of Sciences, Kasprzaka 44/52, PL-01224 Warsaw, Poland*

*b. Maria Curie Skłodowska University, Department of Biochemistry, Pl. Marii Curie Skłodowskiej 3, PL-20031 Lublin, Poland*

*c. Carl von Ossietzky University of Oldenburg, Department of Pure and Applied Chemistry, D-26111 Oldenburg, Germany*

**OC 06: ELECTROCATALYTIC REACTIVITY MAPPING OF MODEL PROTON EXCHANGE MEMBRANE FUEL CELL CATALYST FILMS**

Patrick Nicholson, Andrew Wain, Shengqi Zhou, Gareth Hinds, Alan Turnbull  
*National Physical Laboratory, Hampton Rd, Teddington, Middlesex, UK, TW11 0LW*

**OC 07: ELECTROGRAFTING OF THE CYANOMETHYL RADICAL ON METALS AND CARBON. FORMATION OF NANOMETRIC AMINO LAYERS**

A. Adenier<sup>b</sup>, C. Combellas<sup>a</sup>, G. Hallais<sup>c</sup>, F. Kanoufi<sup>a</sup>, Zeineb Osman<sup>a</sup>, Jean Pinson<sup>a</sup>  
*a. Laboratoire Environnement et Chimie Analytique, ESPCI, 10 rue Vauquelin, 75231, Paris, France*  
*b. ITODYS, Université Paris 7 Denis Diderot, UMR-CNRS 7086, 15 rue Jean de Baïf, 75205, Paris, France*  
*c. Alchimer, 15 rue du Buisson aux Fraises, 91300, Massy, France*

**OC 08: A SIMPLE AND GENERAL STRATEGY TO BUILD FUNCTIONAL MOLECULAR MODIFIED-SURFACES.**

Yann Leroux, Marcel Mayor  
*Department of Chemistry, University of Basel, St Johannis-Ring 19, CH-4056 Basel, Switzerland*

**OC 09: DIRECT LOCALIZED ELECTROGRAFTING OF VINYLIC MONOMERS ONTO CONDUCTING SUBSTRATES: FROM MICRO- TO NANO- ELECTROGRAFTING.**

F. Grisotto, A. Ghorbal, J. Charlier, S. Palacin  
*Laboratoire de Chimie des Surfaces et des Interfaces, DSM/IRAMIS/SPCSI, CEA - Saclay, 91191 Gif-sur-Yvette, France*

**OC 10: ELECTROCHEMICAL NANO LITHOGRAPHY OF THIN METALLIC LAYERS BY AFM**

O. de Abril<sup>a</sup>, A. Băiri<sup>a</sup>, F. Maroun<sup>a</sup>, P. Allongue<sup>a</sup>, J-P. Jamet<sup>b</sup>, A. Mougin<sup>b</sup>, J. Ferré<sup>b</sup>  
*a. Laboratoire de Physique de la Matière Condensée, Ecole Polytechnique, F- 91128 PALAISEAU*  
*b. Laboratoire de Physique des Solides, Université d'Orsay, 91405 Orsay, France*

**OC 11: LIGHT-INDUCED SUPER-HYDROPHILIC BEHAVIOUR IN NANO-COLUMNAR TiO<sub>2</sub> FILMS. ELECTROCHEMICAL APPROACH**

E. Sutter<sup>a</sup>, V. Spagnol<sup>a</sup>, B. Baroux<sup>b</sup>, H. Cachet<sup>a</sup>  
*a. Université P. et M. Curie, LISE, CNRS-UPR15, 4 place Jussieu 75005 Paris, France*  
*b. SIMAP, INPG, domaine universitaire, 1130 rue de la Piscine, 38402 Saint Martin d'Hères, France*

**OC 12: ONE-STEP TEMPLATE-FREE ANODIC DEPOSITION OF POLYPYRROLE NANOWIRE ARRAYS.**

Catherine DEBIEMME-CHOUVY  
*LISE - UPR15 CNRS - Université P. et M. Curie, 4 place Jussieu, 75005 Paris, France*

**OC 13: ELECTROCHEMICAL GROWTH OF ZNO NANOWIRE ARRAYS FOR UV LIGHT EMISSION APPLICATIONS.**

Th. Pauporté<sup>a</sup>, B. Viana<sup>b</sup>, F. Pellé<sup>b</sup>

*a. Laboratoire d'Électrochimie, Chimie des interfaces et Modélisation pour l'Énergie, UMR-CNRS 7575, ÉNSCP, 11 rue P. et M. Curie, 75231 Paris cedex 05, France.*

*b. Laboratoire de Chimie de la Matière Condensée de Paris, UMR-CNRS 7574-ENSCP-UPMC, 11 rue P. et M. Curie, 75231 Paris cedex 05, France.*

#### **OC 14: DISSYMMETRIC NANOOBJECTS BY BIPOLAR ELECTRODEPOSITION**

C. Warakulwit<sup>a,c</sup>, M.-H. Delville<sup>b</sup>, V. Ravaine<sup>a</sup>, J. Limtrakul<sup>c</sup>, A. Kuhn<sup>a</sup>

*a. Université Bordeaux 1, ISM UMR 5255, Groupe NSysA,, ENSCPB, 33607 Pessac*

*b. ICMCB, 87 avenue Dr. Schweitzer, 33608 Pessac, France*

*c. University Kasetsart, Bangkok*

#### **OC 15: PLATINUM-FREE H<sub>2</sub>-EVOLVING MATERIALS ENGINEERED THROUGH THE CHEMICAL DERIVATIZATION OF CARBON NANOTUBES WITH A BIO-INSPIRED HYDROGENASE MIMIC**

A. Le Goff,<sup>a</sup> V. Artero,<sup>b</sup> B. Jusselme,<sup>a</sup> N. Guillet,<sup>c</sup> R. Métayé,<sup>a</sup> A. Fihri,<sup>b</sup> S. Palacin<sup>a</sup>, M. Fontecave<sup>b</sup>

*a. Laboratoire de Chimie des Surfaces et Interfaces, DSM/IRAMIS/SCSI, CEA Saclay, F-91191 Gif sur Yvette, France*

*b. Laboratoire de Chimie et Biologie des Métaux, Université Joseph Fourier, CNRS UMR 5249, CEA DSV/iRTSV, 17 rue des Martyrs, F-38054 Grenoble cedex 9, France*

*c. Institut Liten, CEA DRT/Liten/DTH/LCPEM, 17 rue des Martyrs, 38054 Grenoble cedex 9, France*

#### **OC 16: ELECTROCHEMISTRY AT THE NANO-ITIES ARRAY FORMED WITHIN NANOPATTERNED SILICON NITRIDE MEMBRANES**

D.W.M. Arrigan, M.D. Scanlon, A. Blake, D. Iacopino, A.J. Quinn, J. Strütwolf.

*Tyndall National Institute, Lee Maltings, University College Cork, Ireland.*

## Posters

### P01- REDOX COMPETITION SCANNING ELECTROCHEMICAL MICROSCOPY (RC-SECM) FOR VISUALISATION OF THE CATALYTIC ACTIVITY OF LACCASE/REDOX POLYMER SPOT LIBRARIES

Y. Ackermann<sup>a</sup>, S. Shleev<sup>b</sup>, A. Puschhof<sup>a</sup>, D. Guschin<sup>a</sup>, T. Erichsen<sup>a</sup>, W. Schuhmann<sup>a</sup>

*a. Analytische Chemie - Elektroanalytik & Sensorik, Ruhr-Universität Bochum, Universitätsstr. 150 D-44780 Bochum, Germany*

*b. Biomedical Laboratory Science, Faculty of Health and Society, Malmö University; Södra Förstadsgatan 101; SE-20506 Malmö; Sweden*

### P02- QUANTIFYING TWO-DIMENSIONAL AXIOSYMMETRIC DIFFUSION ANISOTROPY USING MICROELECTRODES

L.A. Evans, M. J. Thomasson, S. M. Kelly, J. Wadhawan

*Department of Physical Sciences (CHEMISTRY), The University of Hull, Cottingham Road, Kingston-upon-Hull HU6 7RX, United Kingdom.*

### P03- ELECTROCHEMICAL IMPEDANCE SPECTROSCOPY OF A MICROELECTRODE IN POSITIVE FEEDBACK MODE

Michel Keddam, Dao Trinh, Vincent Vivier

*Laboratoire Interfaces et Systèmes Electrochimiques, 3 rue Galilée 94200 Ivry-Sur-Seine, FRANCE*

### P04- NEW GENERATION OF DIAZONIUM BASED ON HETEROCYCLIC AMINES: ELECTROCHEMICAL INVESTIGATIONS

V. Stockhausen, J. Ghilane, P. Martin, G. Trippé-Allard, H. Randriamahazaka, J.-C. Lacroix

*ITODYS, Université Paris 7- Denis Diderot, UMR-CNRS 7086, 15 rue Jean Antoine Baïf, 75205 Paris, France*

### P05- NANODIAMOND THIN FILM ELECTRODES FOR APPLICATION IN ELECTROCHEMILUMINESCENT ANALYSIS

D. Snizhko, O. Bilash, M. Rozhitskii

*Laboratory of Analytical Optochemotronics, Kharkiv National University of Radio Electronics, 14 Lenin Ave., 61166, Kharkiv, Ukraine*

### P06- ELECTROCHEMICAL INVESTIGATION OF POROUS SILICON/GOLD SYSTEM IN BIOLOGICAL ELECTROLYTE

M. Simion, I. Kleps, M. Miu, T. Ignat, A. Bragaru

*National Institute for Research and Development in Microtechnologies (IMT), Bucharest, 077190, Romania*

### P07- COMBINED SECM AND SKPFM STUDIES OF CU ISLANDS ON ALUMINUM AND PRELIMINARY INVESTIGATIONS ON DURAL ALLOY

C. Senöz<sup>a</sup>, A. Maljusch<sup>b</sup>, M. Rohwerder<sup>a</sup>, W. Schuhmann<sup>b</sup>

*a. Max Planck Institute for Iron Research, 40237 Düsseldorf, Germany*

*b. Ruhr-Universität, 44801 Bochum, Germany*

**P08- CAVITY MICROELECTRODE (CME): HOW TO USE IT FOR NEW NICKEL DITHIOLENE COMPLEXES?**

B. Garreau-de Bonneval<sup>a,b</sup>, K.I. Chane-Ching<sup>a,b</sup>, A. Sournia-Saquet<sup>a,b</sup>

*a. CNRS ; LCC (Laboratoire de Chimie de Coordination) ; 205, route de Narbonne, 31077 Toulouse, France*

*b. Université de Toulouse ; UPS, INPT ; LCC ; F-31077 Toulouse, France)*

**P09- NANOSTRUCTURED ELECTRODES FOR TIME RESOLVED SPECTRO-ELECTROCHEMISTRY OF BIOMOLECULES.**

C. Renault<sup>a</sup>, V. Balland<sup>a</sup>, L. Nicole<sup>b</sup>, C. Sanchez<sup>b</sup>, B. Limoges<sup>a</sup>

*a. Laboratoire d'Electrochimie Moléculaire, Université Paris Diderot, UMR CNRS 7591, 15 rue Jean-Antoine de Baïf, 75205 Paris Cedex 13, France*

*b. Chimie de la matière condensée de Paris - UMR 7574, Université Pierre et Marie Curie, 4 place Jussieu 75005 Paris Cedex 05, France*

**P10- LOCALIZED ATTACHMENT OF CARBON NANOTUBES IN MICROELECTRONIC STRUCTURES**

X. Joyeux, P. Mangiagalli, J. Pinson

*Alchimer, 15 rue du Buisson aux Fraises, 91300 Massy, France*

**P11- MODIFICATION OF GLASSY CARBON SURFACES WITH ARYLDIAZONIUM SALTS: ELECTRON TRANSFER AT REDOX-ACTIVE SURFACES**

J. M. Noel, D. Zigah, A. Wang, C. Lagrost, and P. Hapiot

*Université de Rennes 1, Sciences Chimiques de Rennes (Equipe MaCSE), CNRS, UMR N°6226, Campus de Beaulieu, Bât. 10C, 35042 Rennes Cedex, France*

**P12- 4D SHEARFORCE-BASED CONSTANT DISTANCE MODE OF SCANNING ELECTROCHEMICAL MICROSCOPY (SECM)-**

M. Nebel, K. Eckhard, T. Erichsen, W. Schuhmann

*Analytische Chemie - Elektroanalytik & Sensorik, Ruhr-Universität Bochum Universitätsstr. 150, 44780 Bochum, Germany*

**P13- HIGH-SURFACE-AREA ELECTROCATALYST DESIGN AND FABRICATION**

M. Miu, T. Ignat, I. Kleps, M. Simion, M. Danila, A. Bragaru

*National Institute for Research and Development in Microtechnologies, Bucharest, Romania*

**P14- ELECTROGRAFTING OF DIAZONIUM SALTS CORRELATED TO REFLECTANCE MICROSCOPY MEASUREMENTS.**

T. Matrab<sup>a</sup>, G. Tessier<sup>b</sup>, J-P. Roger<sup>b</sup>, C. Combellas<sup>a</sup>, F. Kanoufi<sup>a</sup>,

*a. Laboratoire Environnement et Chimie Analytique, CNRS UMR 7195, ESPCI-Paris Tech, 10 rue Vauquelin, 75231 Paris Cedex 05*

*b. Laboratoire d'Optique Physique, CNRS UPR A0005, ESPCI, 10 rue Vauquelin, 75231 Paris Cedex 05, France*

**P15- SPECTROELECTROCHEMICAL STUDY OF PEDOT FILMS ON SINGLE WALL CARBON NANOTUBES OPTICALLY TRANSPARENT ELECTRODES**

J. López-Palacios<sup>a</sup>, A. Colina<sup>a</sup>, A. Heras<sup>a</sup>, E. Kauppinen<sup>b</sup>, V. Ruiz<sup>b</sup>

*a. Department of Chemistry, University of Burgos, Pza. Misael Bañuelos s/n, E-09001 Burgos, Spain.*

*b. Nanomaterials Group, Dept. of Engineering Physics, Helsinki University of Technology, P.O.Box 5100, FI-02150 Espoo, Finland.*

**P16- PHYSIOCHEMICAL KEY PARAMETERS FOR DIRECT CATALYTIC OXIDATION OF H<sub>2</sub> BY MESOPHILIC AND HYPERTHERMOPHILIC HYDROGENASES IMMOBILIZED AT GOLD AND CARBON NANOTUBES-MODIFIED ELECTRODES.**

X.J. Luo, M. Brugna, P. Tron-Infossi, M.T. Giudici-Ortoni, É. Lojou

*Bioénergétique et Ingénierie des Protéines - CNRS - 31 Chemin Joseph Aiguier, 13402 Marseille Cedex 20, France*

**P17- DEVELOPMENT OF A BIOSENSOR BY ELECTROCHEMISTRY USING BIOTIN / STREPTAVIDIN SYSTEM AND A REDOX PROBE**

H. Q. A. Lê, S. Chebil, C. Deydier, H. Sauriat-Dorizon, H. Korri-Yousoufi

*ECBB, ICMMO, UMR-CNRS 8182, Bât 420, Université Paris-Sud 91405 Orsay, France*

**P18- ELECTROCHEMICAL PROPERTIES OF Au NANO-ELECTRODE ARRAYS STUDIED BY IMPEDANCE SPECTROSCOPY AND CYCLIC VOLTAMMETRY**

D. Lantiat<sup>a</sup>, V. Vivier<sup>b</sup>, D. Grosso<sup>a</sup>, C. Laberty<sup>a</sup>, C. Sanchez<sup>a</sup>

*a. Laboratoire de Chimie de la Matière Condensée, 11 place Marcelin Berthelot, 75231 Paris Cedex 05, France*

*b. Laboratoire Interfaces et Systèmes Electrochimiques, 4 place Jussieu, 75252 Paris Cedex 05, France*

**P19- PATTERNING OF POLYSTYRENE BY SCANNING ELECTROCHEMICAL MICROSCOPY. APPLICATION TO BIOLOGICAL CELLS ADHESION**

N. Ktari, P. Poncet, H. Sénéchal, F. Kanoufi, C. Combellas

*Laboratoire Environnement & Chimie Analytique - CNRS UMR 7195 ESPCI : 10, rue Vauquelin 75005 Paris, France*

**P20- ELECTROCHEMICAL INVESTIGATION OF ELECTROACTIVE LAYER DEPOSIT ONTO GLASS SUBSTRATE: CASES OF ORGANIC THIN FILM AND GOLD NANOPARTICLES.**

M. Janin<sup>a</sup>, P. Martin<sup>a</sup>, J. Ghilane<sup>a</sup>, H. Randriamahazaka<sup>a</sup>, P. Hapiot<sup>b</sup>, J-C. Lacroix<sup>a</sup>.

*a. ITODYS, Université Paris 7- Denis Diderot, UMR-CNRS 7086, 15 rue Jean Baif, 75205 Paris, France.*

*b. Université de Rennes 1, Sciences Chimiques de Rennes (Equipe MaCSE). CNRS, UMR N° 6226. Campus de Beaulieu. Bat 10C. 35042 Rennes, France.*

**P21- ELECTROCATALYSIS AT PEDOT/PT NANOPARTICLES COMPOSITES.**

M.A. Heras<sup>a</sup>, A.C. Fernandez<sup>a</sup>, E. Ventosa<sup>a</sup>, A. Colina<sup>a</sup>, V. Ruiz<sup>b</sup>, J. López-Palacios<sup>a</sup>

*a. Department of Chemistry, University of Burgos, Pza. Misael Bañuelos s/n. E-09001, Burgos (Spain). \*espino@ubu.es*

*b. Nanomaterials Group, Dept. of Engineering Physics, Helsinki University of Technology, PO Box 5100, FI-02150 Espoo (Finland)*



**P22- METHYLATED MESOPOROUS SILICA THIN FILMS WITH VERTICALLY ALIGNED NANOCHANNELS: ELECTRO-ASSISTED SYNTHESIS AND ELECTROCHEMICAL MONITORING OF MASS TRANSPORT**

Y. Guillemin, M. Etienne, A. Walcarius

*Laboratoire de Chimie Physique et Microbiologie pour l'Environnement*

*UMR 7564 CNRS-Nancy Université*

*405 rue de Vandoeuvre, 54600 Villers-les-Nancy, France*

**P23- REDOX PROCESSES IN PHOTOCROMIC COMPOUNDS: TOWARD DUAL CONTROLLED (LIGHT AND ELECTRON) SINGLE-MOLECULE OPERATING DEVICE**

C. Coudret,<sup>a</sup> I. Gallardo<sup>b</sup>, G. Guirado<sup>b</sup>

*a. IMRCP-Université Paul Sabatier, 118 Route de Narbonne, 31062-Toulouse, France*

*b. Departament de Química, Univeritat Autònoma de Barcelona (UAB) 08193-Bellaterra (Barcelona), Spain*

**P24- ELABORATION OF NANOSTRUCTURED ELECTRODES FROM CARBON NANOTUBES, NICKEL PHTHALOCYANINE AND ELECTROPOLYMERIZED FILMS FOR THE ELECTROCHEMICAL DETECTION OF NITRIC OXIDE**

A.P.s Gutierrez<sup>a,b</sup>, S. Griveau<sup>a</sup>, C. Richard<sup>a</sup>, A. Pailleret<sup>c</sup>, F. Bedioui<sup>a</sup>

*a. Unité de Pharmacologie Chimique et Génétique, CNRS 8151, INSERM 640, Université Paris Descartes, ENSCP Chimie Paris ParisTech, 11 rue Pierre et Marie Curie, 75231 Paris cedex 05, France*

*b. Universidad de Guanajuato, Instituto de Investigaciones Científicas, Cerro de la Venada S/N, Guanajuato, Gto., 36070, Mexico*

*c. Laboratoire Interfaces et Systèmes Electrochimiques CNRS UPR 15, Université Pierre et Marie CURIE (PARIS VI), 4 Place Jussieu 75252 Paris, Cedex 05, France*

**P25- ELECTRONIC SWITCHING IN ADSORBED MOLECULAR NANO-OBJECTS**

P. Fortgang, C. Amatore, E. Maisonhaute, B. Schollhorn

*Ecole Normale Supérieure, Département de Chimie, UMR CNRS 8640 « PASTEUR », Université Pierre et Marie Curie-Paris 6, 24 rue Lhomond, 75231 Paris cedex 05, France*

**P26- MODIFICATION OF ELECTRODE IN IONIC LIQUID THROUGH THE REDUCTION OF PHENYL DIAZONIUM SALT. ELECTROCHEMICAL EVIDENCE IN IONIC LIQUID.**

O. Fontaine, J. Ghilane, P. Martin, J. C. Lacroix, H. Randrimahazaka

*ITODYS, CNRS UMR 7086, Université Denis Diderot Paris 7 Bâtiment LAVOISIER 15, rue Jean Antoine de Baïf, 75205 Paris Cexde 13, France*

**P27- DIRECT MONITORING OF POLLUTANTS BASED ON AN ELECTROCHEMICAL BIOSENSOR WITH NOVEL PEROXIDASE (POX1B)**

S. El Ichi<sup>a,b</sup>, M.N. Marzouki<sup>a</sup>, H. Korri-Yousoufi<sup>b</sup>

*a. Bioengineering Unit 99 UR 09-26, National Institute of Applied Sciences and Technology, Centre Urbain Nord BP 676-1080 Tunis Cedex, Tunisia*

*b. Equipe de Chimie Bioorganique et Bioinorganique, Institut de Chimie Moléculaire et Matériaux d'Orsay, Université Paris-sud, 91405 Orsay, France*

**P28- QUANTITATIVE SECM CHARACTERIZATION OF SURFACE SOURCE SPOT**

R. Cornut, C. Lefrou,

*Laboratoire d'Electrochimie et de Physico-chimie des Matériaux et des Interfaces, UMR 5631 CNRS-INPG-UJF, ENSEEG, 1130 rue de la piscine, B.P. 75, Domaine Universitaire, 38402 Saint Martin d'Hères, France.*

**P29- LOW RESOLUTION RAMAN SPECTROELECTROCHEMISTRY OF SINGLE WALL CARBON NANOTUBES ELECTRODES**

A. Colina<sup>a</sup>, V. Ruiz<sup>b</sup>, A. Heras<sup>a</sup>, E. Kauppinen<sup>b</sup>, J. López-Palacios<sup>a</sup>

*a. Department of Chemistry, University of Burgos, Pza. Misael Bañuelos s/n, E-09001 Burgos, Spain.*

*b. Nanomaterials Group, Dept. of Engineering Physics, Helsinki University of Technology, P.O.Box 5100, FI-02150 Espoo, Finland.*

**P30- IMAGING OF REDOX-TAGGED MACROMOLECULES BY MEANS OF MOLECULAR MOTION-BASED AFM-SECM. FIRST DEMONSTRATION WITH A MONOLAYER OF FC-PEG CHAINS GRAFTED ON GOLD**

A. Anne, A. Chovin, C. Goyer, C. Demaille.

*Laboratoire d'Electrochimie Moléculaire, Université Paris Diderot, UMR CNRS 7591, 15 rue Jean-Antoine de Baïf, 75205 Paris Cedex 13, France*

**P31- NANOMATERIALS FOR ELECTROCHEMICAL SENSING OF DEEP VEIN THROMBOSIS ON IDEs**

S. Chebil<sup>a</sup>, H. Sauriat-Dorizon<sup>a</sup>, M. Kuphal<sup>b</sup>, A. Errachid<sup>b</sup>, H. Korri-Youssoufi<sup>a</sup>

*a. Equipe de Chimie Bioorganique et Bioinorganique, ICMMO, UMR-CNRS 8182, Université Paris-Sud, Bât 420, 91405 Orsay, France*

*b. Laboratori de Recerca en Nanobioenginyeria (CREBEC), Parc Científic de Barcelona, Josep Samitier 1-5, 08028 Barcelona, Spain*

**P32- MOLECULAR DYNAMICS AND ELECTROCHEMICAL INVESTIGATIONS OF A PH RESPONSIVE PEPTIDE MONOLAYER**

L. Bouffier<sup>a</sup>, T. Doneux<sup>a</sup>, L. V. Mello<sup>b</sup>, D. J. Rigden<sup>b</sup>, D. G. Fernig<sup>b</sup>, S. J. Higgins<sup>a</sup>, R. J. Nichols<sup>a</sup>

*a. Department of Chemistry, University of Liverpool, Liverpool L69 7ZD, United Kingdom*

*b. School of Biological Sciences, University of Liverpool, Liverpool L69 7ZB, United Kingdom*

**P33- DNA AFFINITY BIOSENSORS BASED ON POLYPYRROLIC FILMS**

J. Baur, M. Holzinger, C. Gondran, S. Cosnier

*Département de Chimie moléculaire, UMR-5250, ICMG FR-2607, CNRS, Université Joseph Fourier, Grenoble, France*

**P34- ELECTROGENERATED CHEMILUMINESCENCE FOR INVESTIGATION OF LANGMUIR-BLODGETT FILMS CONTAINING ORGANIC LUMINOPHORS**

Y. Zholudov, A. Kukoba, O. Bilash, M. Rozhitskii

*Kharkiv National University of Radio Electronics, 14 Lenin Ave., 61166, Kharkiv, Ukraine*

**P35- SILVER ELECTRODEPOSITION ASSISTED BY SELF ORGANIZED GOLD NANOPARTICLES TEMPLATE.**

A. Taleb

*LECIME, ENSCP, CNRS/UMR7575, UPMC, 11, Rue P. et M. Curie, 75231 Paris, France*

**P36- *IN SITU* STM STUDIES OF ELECTROCHEMICAL PROCESSES ON BIMETALLIC SURFACES**

A. Damian, F. Maroun, P. Allongue

*Physique de la Matière Condensée, Ecole Polytechnique, CNRS, 91128 Palaiseau, France*

**P37- COPPER ELECTRODEPOSITION IN PRESENCE OF THIOUREA LAYER ON PLATINUM SURFACE**

M. Quinet, F. Lallemand, L. Ricq, J.-Y. Hihn

*Institut UTINAM -UMR CNRS 6213- Université de Franche-Comté - 16 route de Gray, 25030 Besançon, France*

**P38- EVIDENCE OF SUBSTRATE EFFECT IN HYDROGEN ELECTROINSERTION INTO PALLADIUM ATOMIC LAYERS VIA *IN SITU* SURFACE X-RAY DIFFRACTION**

E. Sibert<sup>a</sup>, M. De Santis<sup>b</sup>, C. Lebouin<sup>a</sup>, Y. Soldo-Olivier<sup>a</sup>,

*a. Laboratoire d'Electrochimie et de Physicochimie des Matériaux et des Interfaces, CNRS-Grenoble INP-UJF, 1130 rue de la Piscine, 38402 Saint Martin d'Hères, France*

*b. Institut Néel, CNRS-UJF, 25 avenue des Martyrs, BP 166, 38042 Grenoble cedex 9, France*

**P39- PROBING THE NANOSCALE INHOMOGENEITY IN AMORPHOUS CARBON NITRIDE BASED ELECTRODE MATERIALS USING ATOMIC FORCE MICROSCOPY AND ITS COUPLINGS**

P. Tamiasso-Martinhon, S. Jribi, C. Hodebourg, C. Deslouis, H. Cachet, A. Pailleret

*LISE (CNRS, UPR 15), UPMC Paris VI, 4, place Jussieu, F75252, Paris, France*

**P40- MOLECULAR ELECTROGRAFTING OF OXIDE ELECTRODE MATERIAL, ENHANCING THE CYCLE LIFE OF LI BATTERIES**

F. Tanguy<sup>a</sup>, J. Gaubicher<sup>a</sup>, A.C. Gaillot<sup>a</sup> and D. Guyomard<sup>a</sup>, J. Pinson<sup>b</sup>

*a. Institut des Matériaux Jean Rouxel, 2 rue de la Houssinière, BP32229, 44322 Nantes, France*

*b. Laboratoire Environnement et Chimie Analytique, ESPCI, 10 rue Vauquelin, 75231 Paris, France*

**P41- ARYL DIAZONIUM SALTS GRAFTING ON SWCNTS FOR GAS AND VOCs SENSING**

F. LeFloch<sup>a</sup>, J. P. Simonato<sup>b</sup>, G. Bidan<sup>c</sup>, G. Delapierre<sup>a</sup>

*a. CEA, LETI, MINATEC, [DTBS/SBSC/LFCM], 38054 Grenoble, France*

*b. CEA, LITEN, [DRT/DTNM/LCRE], 38054 Grenoble, France*

*c. CEA, INAC, [DSM/INAC/DIR], 38054 Grenoble, France*

**P42- NEW MULTI-FUNCTIONAL MATERIALS: TOWARDS SINGLE MOLECULE MAGNETS WITH ELECTROSWITCHABLE SHELL**

V. Stockhausen<sup>a</sup>, C. Fave<sup>a</sup>, R. Lescouëzec<sup>b</sup>, G. Trippé<sup>a</sup>, Y. Li<sup>b</sup>, R. Clérac<sup>c</sup>, J. C. Lacroix<sup>a</sup>, Y. Journaux<sup>b</sup>

*a. ITODYS, Université Paris 7- Denis Diderot, UMR-CNRS 7086, 15 rue Jean Baïf, 75205 Paris, France*

*b. CIM2, Université Pierre et Marie Curie-Paris 6, UMR- 7071, 4 place Jussieu, 75252 Paris, France*

*c. Université Bordeaux 1, UPR-CNRS 8641, 115, Avenue du DR. A. Schweitzer, 33600 Pessac, France*

**P43- MICROELECTRODES MODIFICATION THROUGH THE REDUCTION OF ARYL DIAZONIUM AND THEIR USE IN SCANNING ELECTROCHEMICAL MICROSCOPE SECM**

M. Janin<sup>a</sup>, J. Ghilane<sup>a</sup>, H. Randriamahazaka<sup>a</sup>, J.-C. Lacroix<sup>a</sup>

*ITODYS, Université Paris 7- Denis Diderot, UMR-CNRS 7086, 15 rue Jean Baïf, 75205 Paris, France*

**P44- ELECTRICAL CHARACTERISTICS OF POLYIMIDE BASED ISFETs**

E. Eftimie-Totu

*Department of Analytical Chemistry and Instrumental Analysis, University Politehnica of Bucharest, 1 Gheorghe Polizu Street, Sector 1, RO-011061, Bucharest, Romania*

**P45- ELECTROSYNTHESIS OF WELL-ORGANIZED NANOPOROUS POLY(3,4-ETHYLENEDIOXYTHIOPHENE) MEMBRANES BY NANOSPHERE LITHOGRAPHY.**

L. Santos<sup>a,b</sup>, P. Martin<sup>a</sup>, J. Ghilane<sup>a</sup>, P-C. Lacaze<sup>a</sup>, H. Randriamahazaka<sup>a</sup>, L. M. Abrantes<sup>b</sup>, J-C. Lacroix<sup>a</sup>.

*a. ITODYS, Université Paris 7- Denis Diderot, UMR-CNRS 7086, 15 rue Jean Baïf, 75205 Paris, France.*

*b. Centro de Química e Bioquímica, Departamento de Química e Bioquímica, Faculdade de Ciências, Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Portugal.*

**P46- HOST-GUEST COMPLEXATION: ELECTROCHEMICAL AND SPECTROSCOPIC INVESTIGATIONS OF IN-SITU REDUCTION OF ARYLDIAZONIUM IN PRESENCE OF  $\beta$ -CD IN AQUEOUS SOLUTION.**

L. Santos<sup>a,b</sup>, J. Ghilane<sup>a</sup>, P. Martin<sup>a</sup>, P-C. Lacaze<sup>a</sup>, H. Randriamahazaka<sup>a</sup>, L. M. Abrantes<sup>b</sup>, J-C. Lacroix<sup>a</sup>.

*a. ITODYS, Université Paris 7- Denis Diderot, UMR-CNRS 7086, 15 rue Jean Baïf, 75205 Paris, France.*

*b. Centro de Química e Bioquímica, Departamento de Química e Bioquímica, Faculdade de Ciências, Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Portugal.*