

# Poster Program

Poster Session 1  
Tuesday, 18 June 2019 at 17:10-19:10

- [P1.001] **MOF-derived carbons with Cu<sub>2</sub>O: An efficient adsorbent for the removal of nitrogen-containing compounds from liquid fuel**  
N. Khan\*, M. Sarker, S. Jhung, *Kyungpook National University, Republic of Korea*
- [P1.002] **Catalytic oxidation of dichloromethane over Pt/TiO<sub>2</sub>-ZrO<sub>2</sub> catalysts**  
L. Matejova<sup>1</sup>, S. Pitkääho<sup>2</sup>, E. Kinnertova\*<sup>1</sup>, R.L. Keiski<sup>2</sup>, <sup>1</sup>VŠB-Technical University of Ostrava, Czech Republic, <sup>2</sup>University of Oulu, Finland
- [P1.003] **Investigating the optimum plasma surface modification on polystyrene for cardiac tissue engineering**  
M. Kitsara\*<sup>1,3</sup>, D. Kontziampasis<sup>2</sup>, V. Humblot<sup>3</sup>, E. Bolomiti<sup>4</sup>, A. Simon<sup>1,3</sup>, Y. Hovhannisyanyan<sup>1,3</sup>, P. Dimitrakakis<sup>4</sup>, O. Agbulut<sup>1,3</sup>, <sup>1</sup>Institut Biologie Paris Seine, France, <sup>2</sup>University of Leeds, UK, <sup>3</sup>Sorbonne Université, France, <sup>4</sup>NCSR Demokritos, Greece
- [P1.004] **Development of a new superhydrophobic coating for automotive and railway applications**  
D. Portet<sup>2</sup>, V. Delhorbe<sup>2</sup>, O. Favrat<sup>2</sup>, C. Delaite<sup>1</sup>, S. Bistac\*<sup>1</sup>, G. Garreffa<sup>1</sup>, <sup>1</sup>UHA, France, <sup>2</sup>Surfactis, France
- [P1.005] **Characteristics of functional coating according to annealing treatment times and thickness synthesized on cover glass of photovoltaic module**  
C.Y. Lee, S.C. Yoo, S.H. Kwon\*, W.S. Choi, *Hanbat National University, Republic of Korea*
- [P1.006] **Growth of carbon nanowall on the interlayer coated substrate**  
H.J. Choi, S.H. Kwon\*, H.I. Kang, J.H. Kim, W.S. Choi, *Hanbat National University, Republic of Korea*
- [P1.007] **Study of functional group on modified-CNW materials according to organic compounds based surface treatment**  
S.H. Kwon\*, H.J. Choi, V.H. Tran, W.S. Choi, H.I. Kang, *Hanbat National University, Republic of Korea*
- [P1.008] **Enhanced osseointegration of Ti6Al4V ELI screws built-up by electron beam additive manufacturing: An experimental study in rabbits**  
B.S. Lee\*<sup>1</sup>, H.J. Lee<sup>1</sup>, K.S. Lee<sup>2</sup>, H.G. Kim<sup>1</sup>, G.H. Kim<sup>1</sup>, C.W. Lee<sup>1</sup>, <sup>1</sup>Korea Institute of Industrial Technology, Republic of Korea, <sup>2</sup>University of Ulsan College of Medicine, Republic of Korea
- [P1.009] **Thermal stability and electrochemical corrosion of Au/Pd/Ni(P)/Cu and Au/Pd(P)/Ni(P)/Cu multilayers**  
C.Y. Lee\*<sup>1</sup>, W.Z. Hsieh<sup>1,2</sup>, C.H. Yang<sup>1</sup>, P.T. Lee<sup>1,3</sup>, Y.S. Wu<sup>1</sup>, T.T. Kuo<sup>1,4</sup>, C.E. Ho<sup>1</sup>, <sup>1</sup>Yuan Ze University, Taiwan, <sup>2</sup>National Synchrotron Radiation Research Center, Taiwan, <sup>3</sup>National Taiwan University, Taiwan, <sup>4</sup>Taiwan Uyemura Limited Company, Taiwan
- [P1.010] **Investigation on the high-temperature oxidation behaviour for short-term reaction of AlCrN coating on WC substrate using FIB, XPS, and GI-XRD techniques**  
S.H. Lee\*, I.H. Ko, S.Y. Ha, J.S. Ryu, *Korea Institute of Ceramic Engineering and Technology, Republic of Korea*
- [P1.011] **Interfacial fracture investigation of patterned active matrix OLED driven by amorphous-Si TFTs under film-type packaging technology**  
C.C. Lee\*<sup>1</sup>, P.C. Huang<sup>1</sup>, C.P. Hsieh<sup>2</sup>, <sup>1</sup>National Tsing Hua University, Taiwan, <sup>2</sup>National Taiwan University, Taiwan
- [P1.012] **Substrate pre-heating effect on the residual stress evaluation of WC-based high entropy superalloy during SLM additive manufacturing process**  
C.C. Lee\*, P.C. Huang, Y.H. Chang, *National Tsing Hua University, Taiwan*
- [P1.013] **Nano controlled dual release of bone morphogenic protein-2 and insulin-like growth factor-1 and titanium surface microgrooves enhance osteoblastic differentiation of human mesenchymal stem cells**  
S.W. Lee\*, K.M. Park, *Kyung Hee University, Republic of Korea*
- [P1.014] **Simulated and experimental demonstrations of interfacial adhesive strength for de-bonded layer applied on flexible electronics**

C.C. Lee\*<sup>1</sup>, Y.F. Lin<sup>2</sup>, Y.Y. Liou<sup>1</sup>, C.C. Liang<sup>2</sup>, S.T. Yeh<sup>3</sup>, H.Y. Chen<sup>3</sup>, <sup>1</sup>National Tsing Hua University, Taiwan, <sup>2</sup>Chung Yuan Christian University, Taiwan, <sup>3</sup>Industrial Technology Research Institute (ITRI), Taiwan

- [P1.015] **Interstitial diffusion study of silver into magnesium oxide in multilayer structure with XPS technique**  
Z.R. Lee\*, M. Warren, B. Hendricks, J. Terry, *Illinois Institute of Technology, USA*
- [P1.016] **Synthesis and characterization of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub> films for catalytic application prepared by plasma electrolytic oxidation**  
J.H. Lee\*, K.H. Jung, S.K. Kim, *Mokpo Maritime University, Republic of Korea*
- [P1.017] **Citrus sinensis peel extract mediated green synthesis of SnO<sub>2</sub> nanoparticles**  
E. Leo-Alcantar\*<sup>1</sup>, O. Nava<sup>1</sup>, C.A. Soto-Robles<sup>1</sup>, A. Castro-Beltran<sup>2</sup>, A.R. Vilchis-Nestor<sup>3</sup>, A. Olivas-Sarabia<sup>4</sup>, P.A. Luque<sup>1</sup>, <sup>1</sup>Universidad Autónoma de Baja California, Mexico, <sup>2</sup>Universidad Autónoma de Sinaloa, Mexico, <sup>3</sup>Universidad Autónoma del Estado de México, Mexico, <sup>4</sup>Universidad Nacional Autónoma de México, Mexico
- [P1.018] **Effect of Cr ion implantation on surface morphology, lattice deformation, nano-mechanical and fatigue behavior of TC18 titanium alloy**  
D.B. Wei, F.K. Li\*, P.Z. Zhang, S.Q. Li, F. Ding, H.X. Liang, S.Y. Wang, Z.J. Yao, *Nanjing University of Aeronautics and Astronautics, China*
- [P1.019] **Constructing self-supplying Al<sub>2</sub>O<sub>3</sub>-Y<sub>2</sub>O<sub>3</sub>/Al-Y coating for  $\gamma$ -TiAl alloy with enhanced oxidation protective ability**  
H. Lin\*, W.P. Liang, Q. Miao, Z. Ding, J.W. Yi, Y. Qi, *Nanjing University of Aeronautics and Astronautics, China*
- [P1.020] **The fabrication and characterization of Ag/Fe nano-dot arrays**  
D. Marko<sup>1</sup>, W.C. Chuang<sup>2</sup>, J.C. Wu<sup>3</sup>, B. Alkadour<sup>4</sup>, J. van Lierop<sup>4</sup>, K.W. Lin\*<sup>2</sup>, D. Schmool<sup>1</sup>, <sup>1</sup>University of Versailles, France, <sup>2</sup>National Chung Hsing University, Taiwan, <sup>3</sup>National Chunghua University of Education, Taiwan, <sup>4</sup>University of Manitoba, Canada
- [P1.021] **In-situ photo-induced change of the amorphous thin chalcogenide films structure studied by EXAFS method**  
B. Miljevic<sup>1</sup>, D.D. Štrbac<sup>1</sup>, K. Cajko<sup>1</sup>, J. Göttlicher<sup>2</sup>, T. Baumbach<sup>2</sup>, D.M. Petrovic<sup>1</sup>, S.R. Lukic-Petrovic\*<sup>1</sup>, <sup>1</sup>University of Novi Sad, Faculty of Sciences, Serbia, <sup>2</sup>Karlsruhe Institute of Technology, Germany
- [P1.022] **Determination atomic percentage of metal in chalcogenide Ag-As<sub>2</sub>Ch<sub>3</sub> thin layers by rutherford backscattering spectrometry and energy dispersive spectroscopy**  
K. Cajko<sup>1</sup>, S.R. Lukic-Petrovic\*<sup>1</sup>, N. Celic<sup>1</sup>, P. Noga<sup>2</sup>, D. Vana<sup>2</sup>, <sup>1</sup>University of Novi Sad, Faculty of Sciences, Serbia, <sup>2</sup>Slovak University of Technology in Bratislava, Faculty of Materials Science and Technology in Trnava, Slovakia
- [P1.023] **Characterisation of plasma spray parameters to optimise the properties of abrasion coating used in axial flow compressors of aero-engines to maintain blade tip clearance**  
P. Mallick\*<sup>1</sup>, B. Swain<sup>2</sup>, A. Behera<sup>2</sup>, <sup>1</sup>Thermal Spray Division, Hindustan Aeronautics Limited, Koraput- 763002, India, <sup>2</sup>Department of Metallurgical and Materials Engineering, National Institute of Technology, Rourkela-769008, India
- [P1.024] **The effect of RbF post-deposition treatment on the surface of Cu(In,Ga)Se<sub>2</sub>**  
N. Maticiu\*, T. Kodalle, T. Bertram, J. Lauche, R. Wenisch, C.A. Kaufmann, I. Laueremann, R. Schlatmann, *Helmholtz Zentrum Berlin, Germany*
- [P1.025] **Electrochemical performance of supercapacitor based on LiAl-LDH-CNT electrode**  
T. Matusos Daniels\*<sup>1</sup>, A. Wisitsoraat<sup>1</sup>, P. Opaprakasit<sup>1</sup>, P. Sreearunothai<sup>1</sup>, <sup>1</sup>Thammasat University, Thailand, <sup>2</sup>National Electronics and Computer technology Center, Thailand
- [P1.026] **Optical and electrical properties of PAN/PANI electrospun composite nanofibers**  
W. Matysiak\*, P. Jarka, T. Tański, *Silesian University of Technology, Poland*
- [P1.027] **Synthesis of novel type hybrid SnO<sub>2</sub>/Bi<sub>2</sub>O<sub>3</sub> 1D nanostructures - investigation of morphology, structures, optical and electrical properties**  
W. Matysiak\*, T. Tański, W. Smok, *Silesian University of Technology, Poland*
- [P1.028] **Atomistic simulation of pico- nanosecond laser ablation of Al target in a vacuum**  
V.I. Mazhukin\*<sup>1,2</sup>, A.V. Mazhukin<sup>1,2</sup>, A.V. Shapranov<sup>1,2</sup>, M.M. Demin<sup>1</sup>, O.N. Koroleva<sup>1,2</sup>, <sup>1</sup>Keldysh Institute of Applied Mathematics of RAS, Russia, <sup>2</sup>National Research Nuclear University MEPhI, Russia
- [P1.029] **Degradation of toxic chemicals by the reactive membrane filter**  
S.Y. Moon, *Korea Research Institute of Chemical Technology, Republic of Korea*

- [P1.030] Surface plasma treatment of composite TiO<sub>2</sub>/PVP fibers in different atmospheres**  
E. Mudra\*<sup>1</sup>, I. Shepa<sup>1</sup>, D. Pavlinak<sup>2</sup>, M. Stupavska<sup>2</sup>, V. Antal<sup>3</sup>, M. Vojtko<sup>1</sup>, J. Duszka<sup>1</sup>,  
<sup>1</sup>Institute of Materials Research of SAS, Slovakia, <sup>2</sup>Masaryk University, Czech Republic,  
<sup>3</sup>Institute of Experimental Physics of SAS, Slovakia
- [P1.031] Platinum free counter-electrode for dye-sensitized solar cells made of food-waste derived carbon on cobalt sulfide**  
B. Baphtayev, D. Mustazheb\*, D. Kalpakov, M. Balanay, Nazarbayev University, Kazakhstan
- [P1.032] Work function and electronic structure measurements on nitrogen-doped lanthanum hexaboride (LaB<sub>6</sub>) thin film by STM**  
K. Nagaoka\*<sup>1</sup>, S. Ohmi<sup>1</sup>, <sup>1</sup>National Institute for Materials Science, Japan, <sup>2</sup>Tokyo Institute of Technology, Japan
- [P1.033] Green synthesis of tin oxide nanoparticle using natural peel extract**  
O. Nava\*<sup>1</sup>, C.A. Soto<sup>1</sup>, E. Leon<sup>1</sup>, H.E. Garrafa<sup>2</sup>, A. Castro<sup>2</sup>, A.R. Vilchis<sup>3</sup>, P.A. Luque<sup>1</sup>,  
<sup>1</sup>Universidad Autónoma de Baja California, Mexico, <sup>2</sup>Universidad Autónoma de Sinaloa, Mexico, <sup>3</sup>Universidad Autónoma del Estado de México, Mexico
- [P1.034] Band-gap modulation of 2D semiconductors for photoelectrochemical biosensing**  
E. Nguyen\*, S. Cinti, A. Merkoçi, ICN2, Spain
- [P1.035] Quantum oscillations in topological insulator Bi<sub>0.83</sub>Sb<sub>0.17</sub> nanowires**  
L. Konopko<sup>1</sup>, A. Nikolaeva\*<sup>1</sup>, T. Huber<sup>2</sup>, K. Rogacki<sup>3</sup>, <sup>1</sup>Ghitu Institute of Electronic Engineering and Nanotechnologies, Republic of Moldova, <sup>2</sup>Howard University, USA, <sup>3</sup>Institute of Low Temperature and Structure Research, Poland
- [P1.036] The effect of interaction of ZnO-SnO<sub>2</sub> nanoparticles with glass surface on their structure, orientation, and properties**  
N. Nikonorov\*, S. Evstropiev, K. Oreshkina, L. Lesnykh, ITMO University, Russia
- [P1.037] Investigation of vapor cryodeposited glasses and glass transition of tetrachloromethane films**  
A. Nurmukan\*<sup>1,2</sup>, A. Aldiyarov<sup>1,2</sup>, A. Drobyshev<sup>1,2</sup>, D. Sokolov<sup>1,2</sup>, <sup>1</sup>Al-Farabi Kazakh National University, Kazakhstan, <sup>2</sup>Institute of experimental and theoretical Physics, Kazakhstan
- [P1.038] Study of polimeric household waste to determine the temperature regimes of cryogenic processing**  
D. Sokolov, A. Aldiyarov, A. Nurmukan\*, A. Drobyshev, Al-Farabi Kazakh National University, Kazakhstan
- [P1.039] Investigation of vapor cryodeposited glasses and glass transition of tetrachloromethane films**  
A. Nurmukan\*<sup>1,2</sup>, A. Aldiyarov<sup>1,2</sup>, A. Drobyshev<sup>1,2</sup>, D. Sokolov<sup>1,2</sup>, <sup>1</sup>Al-Farabi Kazakh National University, Kazakhstan, <sup>2</sup>Institute of Experimental and Theoretical Physics, Kazakhstan
- [P1.040] Surface characteristics, Ni ion release, and antibacterial efficacy of anodized NiTi alloy using HNO<sub>3</sub> electrolyte of various concentrations**  
N. Ohtsu\*, Y. Hirano, K. Yamaguchi, K. Yamasaki, Kitami Institute of Technology, Japan
- [P1.041] Development of TiOx-based thin films for glucose detection**  
J. Olarte Villamizar\*, M. Zapata Torres, Centro de Investigación en Ciencia Aplicadas y Tecnología Avanzada (CICATA)-Instituto Politécnico Nacional (IPN), Mexico
- [P1.042] Influence of albumin interaction on corrosion resistance of open cell iron foams with polyethylene Imine coating**  
A. Orinak\*<sup>1</sup>, R. Orinakova<sup>1</sup>, R. Gorejova<sup>1</sup>, M. Kupkova<sup>2</sup>, M. Hrubovcakova<sup>2</sup>, <sup>1</sup>P. J. Šafárik University in Košice, Slovakia, <sup>2</sup>Slovak Academy of Sciences, Slovakia
- [P1.043] Mechanical properties of open cell iron foams with polyethylene glycol coating**  
R. Orinakova\*<sup>1</sup>, R. Gorejova<sup>1</sup>, L. Haverova<sup>1</sup>, M. Kupkova<sup>2</sup>, M. Dzupon<sup>2</sup>, M. Hrubovcakova<sup>2</sup>, A. Orinak<sup>1</sup>, <sup>1</sup>P. J. Šafárik University in Košice, Slovakia, <sup>2</sup>Slovak Academy of Sciences, Slovakia
- [P1.044] Growth and characterization of iron doped WO<sub>3</sub> film for gas sensing**  
M. Osiac\*, N. Cioatera, M. Jigau, University of Craiova, Romania
- [P1.045] Surface Properties of new and in Vivo exposed SMA NiTi Archwires**  
M. Jenko<sup>1</sup>, M. Ovsenik\*<sup>2</sup>, J. Kovac<sup>3</sup>, T. Kosec<sup>4</sup>, D. Dolinar<sup>5</sup>, R. Ovsenik<sup>2</sup>, C. Oblak<sup>2</sup>, K. Avsec<sup>5</sup>, <sup>1</sup>Institute of Metals and Technology, Slovenia, <sup>2</sup>University of Ljubljana, Slovenia, <sup>3</sup>Jozef Stefan Institute, Slovenia, <sup>4</sup>Slovenian National Building and Civil

- [P1.046] **Novel hydrogels based on functionalized graphene oxide and polypropylene fumarate**  
A.M. Pandele\*<sup>1</sup>, M. Raicopol<sup>1</sup>, C. Andronescu<sup>2</sup>, <sup>1</sup>University Politehnica of Bucharest, Romania, <sup>2</sup>University Duisburg Essen, Germany
- [P1.047] **Ordered adsorption and demetallation of zinc-phthalocyanine on aluminum**  
G. Di Filippo, D. Paoloni\*, A. Ruocco, *Università degli Studi Roma Tre, Italy*
- [P1.048] **Degradation of gallium arsenide based solar cells exposed to gamma radiation**  
N. Papež\*, A. Gajdoš, R. Dallaev, D. Sobola, P. Sedlák, R. Motúz, L. Grmela, *Brno University Of Technology, Czech Republic*
- [P1.049] **Dual enzyme sensitive nanoparticle for T1/T2 MRI imaging and chemo-gene therapy in drug resistant cells**  
I.K. Park\*, S.K. Rajendrakumar, *Chonnam National University, Republic of Korea*
- [P1.050] **Effect of electrical stimulation on adipose-derived mesenchymal stem cell bone differentiation in ITO glass electrode**  
H.K. Park\*, S.H. Baek, H.K. Park, A. Abdullah, D.H. Lee, *Chung-Ang university, Republic of Korea*
- [P1.051] **Dual monitoring of cracking and healing in self-healing coatings using microcapsules loaded with two fluorescent dyes**  
Y.K. Song, T.H. Lee, K.C. Lee, S.H. Lee, S.M. Noh, Y.I. Park\*, *Korea Research Institute of Chemical Technology, Republic of Korea*
- [P1.052] **Fabrication of core@shell nanoparticles using atomic layer deposition method and their applications to biotechnology and catalysis**  
I-S. Park\*, S. Seong, T. Lee, S.Y. Kim, Y.C. Jung, J. Ahn, *Hanyang university, Republic of Korea*
- [P1.053] **Effect of surface roughness and electrical stimulation on induction of osteogenic differentiation of adipose-derived mesenchymal stem cells**  
H.K. Park\*, S.H. Baek, H.K. Park, A. Abdullah, D.H. Lee, *ChungAng University, Republic of Korea*
- [P1.054] **Effects of a Se-interlayer on the formation of titanium silicide**  
S. Park\*, H. Shin, E. Ko, J. Choi, H. Cho, D-H. Ko, *Yonsei University, Republic of Korea*
- [P1.055] **Surface functionalization of hydroxyapatite-coated nanofiber for controlled multiple growth factor delivery in bone tissue regeneration**  
N. Udomluck, H. Lee, H. Park\*, *Chung-Ang University, Republic of Korea*
- [P1.056] **Growth, structure and thermal stability of quasicrystalline Al-Pd-Mn-Ga thin films**  
M. Bohra<sup>1</sup>, T.M. Pavan\*<sup>1</sup>, V. Fournée<sup>2</sup>, R.K. Mandal<sup>3</sup>, <sup>1</sup>Mahindra Ecole Centrale College of Engineering, India, <sup>2</sup>Institut Jean Lamour, France, <sup>3</sup>Indian Institute of Technology (Banaras Hindu University), India
- [P1.057] **High photocatalytic performance and stability of silver-based hybrids for the degradation of Rhodamine B**  
W. Pereira\*, C. Gozzo, E. Longo, J.C. Sczancoski, *Federal University of São Carlos, Brazil*
- [P1.058] **Ultra-fast laser-based surface engineering of conductive thin films**  
J. Mur<sup>1</sup>, J. Petelin<sup>1</sup>, J. Schille<sup>2</sup>, U. Loeschner<sup>2</sup>, R. Petkovšek\*<sup>1</sup>, <sup>1</sup>University of Ljubljana, Slovenia, <sup>2</sup>University of Applied Sciences Mittweida, Germany
- [P1.059] **A new nanocatalyst for isoindolinone synthesis in an optimized flow microreactor**  
M. Sarno, E. Ponticorvo\*, *University of Salerno, Italy*
- [P1.060] **Selective methane electrochemical oxidation at room temperature on metallic inclusions supported NiO and V<sub>2</sub>O<sub>5</sub>.**  
M. Sarno, E. Ponticorvo\*, *University of Salerno, Italy*
- [P1.061] **Superior electrochemical activity of PLD deposited CoFeOx coatings in OER: the role of boron in enhancing the electrochemical response**  
Y. Popat\*<sup>1</sup>, M. Orlandi<sup>1</sup>, N. Bazzanella<sup>1</sup>, N. Patel<sup>2</sup>, A. Miotello<sup>1</sup>, <sup>1</sup>University of TRENTO, Italy, <sup>2</sup>University of Mumbai, India
- [P1.062] **Polymer based micro-patterns prepared on flexible substrate using cold plasma**  
A. Popelka\*, J. Bhadra, A. Abdulkareem, S. Jang, P. Kasak, N. Al-Thani, *Qatar University, Qatar*
- [P1.063] **A new ZnPc:Bis-3-Pentyl-PTCBI supramolecular system in solution for multifunctional applications**

T. Potlog\*<sup>1</sup>, V. Furtuna<sup>1</sup>, H. Mimura<sup>2</sup>, <sup>1</sup>Moldova State University, Republic of Moldova, <sup>2</sup>Shizuoka University, Japan

- [P1.065] **Influence of viscoelasticity on oscillatory rayleigh-bénard-marangoni instabilities in an evaporating polymer solution of a maxwell fluid**  
R. Rabani\*, H. Machrafi, P. Dauby, *University of Liege, Belgium*
- [P1.066] **Performance evaluation of dye sensitized solar cells based on ionic liquid crystal electrolytes**  
M. Raicopol\*, C. Devan, M. Pandele, C. Dascalu, A-L. Alexe-Ionescu, *University POLITEHNICA of Bucharest, Romania*
- [P1.067] **Development of two-dimensional mica nanosheets on substrates analysed by scanning Auger electron spectroscopy and atomic force microscopy**  
I.M. Razzakul\*, M. Tomitori, *Japan Advanced Institute of Science and Technology, Japan*
- [P1.068] **Secondary electron emission from graphene based materials**  
P. Riccardi, *Università della Calabria, Italy*
- [P1.069] **Surface termination, crystal size, and bonding-site density effects on diamond biosensing surfaces**  
A. Rogien\*<sup>1,2</sup>, G. Jansen<sup>1,2</sup>, T. Zimmermann<sup>1,2</sup>, <sup>1</sup>Michigan State University, USA, <sup>2</sup>Fraunhofer USA, CCD, USA
- [P1.070] **X-ray radiolytic synthesis of supported gold and silver nanoparticles onto Graphene Oxide and Graphene Oxide Monoliths**  
M. Molina Higgins, S. Ghobadi, C.E. Castano, J. Rojas\*, *Virginia Commonwealth University, USA*
- [P1.071] **The growth of graphene on stainless steel by chemical vapor deposition using waste vegetable oil as a carbon source.**  
A. Ruammaitree, *Thammasat, Thailand*
- [P1.072] **Encapsulation of environmentally-friendly biocides in silica nanosystems for multifunctional coatings**  
L. Ruggiero\*<sup>1</sup>, F. Bartoli<sup>1</sup>, M.R. Fidanza<sup>1</sup>, F. Zurlo<sup>2</sup>, G. Caneva<sup>1</sup>, E. Di Bartolomeo<sup>2</sup>, T. Gasperi<sup>1</sup>, M.A. Ricci<sup>1</sup>, A. Sodo<sup>1</sup>, <sup>1</sup>Università degli Studi "Roma Tre", Italy, <sup>2</sup>Università di Roma Tor Vergata, Italy
- [P1.073] **Green silica-coated magnetic nanoparticles for biomedical applications**  
L. Ruggiero\*<sup>1</sup>, A. Talone<sup>1,3</sup>, F. Zurlo<sup>2</sup>, E. Di Bartolomeo<sup>2</sup>, D. Peddis<sup>3</sup>, M.A. Ricci<sup>1</sup>, A. Sodo<sup>1</sup>, <sup>1</sup>Università degli Studi "Roma Tre", Italy, <sup>2</sup>Università di Roma Tor Vergata, Italy, <sup>3</sup>Istituto di Struttura della Materia, Consiglio Nazionale della Ricerca, Pianabella di Montelibretti, Italy
- [P1.074] **Study on work function and corresponding electron emission during NEA activation of GaAs surfaces**  
Y. Sada\*, T. Meguro, *Tokyo university of science, Japan*
- [P1.075] **Catalytic reduction of 4-nitrophenol by Fe<sub>x</sub>S<sub>y</sub>/ Fe<sub>x</sub>S<sub>y</sub>@carbon dots nanoparticles**  
B. Akhetova, Z. Salkenova\*, M. Balanay, *Nazarbayev University, Kazakhstan*
- [P1.076] **Acetone adsorption sensitivity on doped and functionalized silicon nanowires: a DFT study**  
J.E. Santana\*<sup>1</sup>, F. de-Santiago<sup>1</sup>, A. Miranda<sup>1</sup>, L.A. Perez<sup>2</sup>, M. Cruz-Irisson<sup>1</sup>, <sup>1</sup>Instituto Politécnico Nacional, ESIME-Culhuacán, Mexico, <sup>2</sup>Instituto de Física, Universidad Nacional Autónoma de México, Mexico
- [P1.077] **B, Al and Ga-doped [111] diamond nanowires for monoxide carbon gas sensing**  
A.D. de la Merced, J.E. Santana\*, F. de Santiago, A. Miranda, M. Crisóstomo, F. Salazar, M. Cruz-Irisson, *Instituto Politécnico Nacional, Mexico*
- [P1.078] **Electronic and mechanical properties of dichalcogenides focused on the storage of electrical energy.**  
J.E. Antonio Pallares, J.E. Santana\*, A. Trejo Baños, M. Cruz-Irisson, *Instituto Politecnico Nacional, Mexico*
- [P1.079] **CO oxidation catalysed by silicon nanowires: a DFT investigation**  
J.E. Santana\*<sup>1</sup>, F. de Santiago<sup>1</sup>, A. Miranda<sup>1</sup>, L.A. Pérez<sup>2</sup>, M. Cruz-Irisson<sup>1</sup>, <sup>1</sup>ESIME-Culhuacán, Mexico, <sup>2</sup>Universidad Nacional Autónoma de México, Mexico
- [P1.080] **Cellulose supported Pd-nanoparticles for Heck and Addition reactions**  
M.S. Sarkar\*<sup>1</sup>, E.J. O'Reilly<sup>1</sup>, M.L. Rahman<sup>2</sup>, M.M. Yusoff<sup>3</sup>, <sup>1</sup>University of Limerick, Ireland, <sup>2</sup>Universiti Malaysia Sabah, Malaysia, <sup>3</sup>Universiti Malaysia Pahang, Malaysia
- [P1.081] **Enhanced tensile strength of defluorinated multi-walled carbon nanotube fibers: Suppression of interfacial slip between nanotubes by cross-linking via defluorination**

H. Nishizaka<sup>1</sup>, Y. Sato<sup>2</sup>, M. Yamamoto<sup>2</sup>, T. Nishida<sup>2</sup>, Y. Sato\*<sup>1</sup>, <sup>1</sup>Tohoku University, Japan, <sup>2</sup>Stella Chemifa Co., Japan

- [P1.082] **Synaptic Learning Behavior of Multiple-Connected Au Nanogaps Using Electromigration**  
T. Sato\*<sup>1</sup>, K. Sakai<sup>1</sup>, K. Minami<sup>1</sup>, S. Tani<sup>1</sup>, M. Ito<sup>1</sup>, M. Yagi<sup>2</sup>, J. Shirakashi<sup>1</sup>, <sup>1</sup>Tokyo University of Agriculture & Technology, Japan, <sup>2</sup>National Institute of Technology, Ichinoseki College, Japan
- [P1.083] **Surface chemistry of TiAlN HPPMS hard coatings under conditions of polymer processing**  
S. Schwiderek\*<sup>1</sup>, M. Wiesing<sup>2</sup>, C. Theile Rasche<sup>1</sup>, S. Aghaie<sup>3</sup>, J.M. Schneider<sup>3</sup>, G. Grundmeier<sup>1</sup>, <sup>1</sup>University of Paderborn, Germany, <sup>2</sup>IFAM, Germany, <sup>3</sup>RWTH Aachen, Germany
- [P1.084] **Effects of different electrolyte and electrical parameters on micro arc oxidation coatings' on high temperature properties**  
E. Selvi\*<sup>1,2</sup>, M. Baydogan<sup>1</sup>, F. Muhaffel<sup>1</sup>, Y. Yurekturk<sup>1</sup>, <sup>1</sup>Istanbul Technical University, Turkey, <sup>2</sup>Yalova University, Turkey
- [P1.085] **Graphene oxide band gap with a variation of oxidation: Experimental and theoretical conclusion**  
N. Sharma\*, A. Singh, *Jamia Millia Islamia, India*
- [P1.086] **Preparation and heat protection properties of NiCrAlYSi coatings by AIP technology at higher temperature**  
Q. Shi\*, M.J. Dai, S.S. Lin, C.B. Wei, H. Li, C.Q. Guo, Y.F. Su, P. Tang, L.P. Xu, *Guangdong Institute of New Materials, China*
- [P1.087] **Ultrasonic nano-crystal surface modification to high-speed tool steel deposited using direct energy deposition**  
M.S. KIM<sup>1</sup>, W.J. Oh<sup>1</sup>, S.H. Park<sup>2</sup>, D.S. Shim\*<sup>1</sup>, <sup>1</sup>Korea Maritime and Ocean University, Republic of Korea, <sup>2</sup>Pusan National University, Republic of Korea
- [P1.088] **Phosphorus surface pile-up using multi-pulse nanosecond laser annealing**  
H.S. Shin\*, H-Y. Ryu, D.H. Shin, H.L. Cho, D-H. Ko, *Yonsei university, Republic of Korea*
- [P1.089] **Electrical properties of a P3HT thin-film transistor under light absorption**  
H. Shin\*<sup>1</sup>, D. Kim<sup>1</sup>, H. Lee<sup>2</sup>, J. Park<sup>2</sup>, J-S. Choi<sup>1</sup>, <sup>1</sup>Hongik University, Republic of Korea, <sup>2</sup>Hallym University, Republic of Korea
- [P1.090] **A DFT study of metal support interaction between Pt<sub>n</sub> and titania surface**  
A. Sihag\*<sup>1</sup>, T. Ssu-Han<sup>1</sup>, M. Dyer<sup>2</sup>, H.Y.T. Chen<sup>1</sup>, <sup>1</sup>National Tsing Hua University, Taiwan, <sup>2</sup>University of Liverpool, UK
- [P1.091] **The study of first-principles calculation of ZnO/N-doped ZnO heterojunction**  
P. Sikam\*<sup>1</sup>, P. Moontragoon<sup>1,2</sup>, T. Kaewmaraya<sup>1,2</sup>, Z. Ikonik<sup>4</sup>, <sup>1</sup>Khon Kaen University, Thailand, <sup>2</sup>Institute of Nanomaterials Research and Innovation for Energy (IN-RIE), Research Network of NANOTEC- KKU (RNN), Thailand, <sup>3</sup>Thailand Center of Excellence in Physics, Commission on Higher Education, Thailand, <sup>4</sup>University of Leeds, UK
- [P1.092] **Electromagnetic response of graphene nanoribbons in planar array configuration: a time-dependent density functional approach**  
A. Sindona\*<sup>1</sup>, M. Pisarra<sup>2</sup>, P. Riccardi<sup>1</sup>, <sup>1</sup>Università della Calabria, Italy, <sup>2</sup>Univ. Autonoma de Madrid, Spain
- [P1.093] **Effect of substrate surface conditions on the properties of AlCrN coatings deposited by arc enhanced HiPIMS technique**  
A. Singh\*, S. Ghosh, S. Aravindan, *Indian Institute of Technology Delhi, India*
- [P1.094] **Investigation of oxidation behaviour of AlCrN and AlTiN coatings deposited by arc enhanced HIPIMS technique**  
A. Singh\*, S. Ghosh, S. Aravindan, *Indian Institute of Technology Delhi, India*
- [P1.095] **Osteoblast differentiation using reduced-graphene oxide on anodized titanium and graphene oxide nanomaterials**  
S. Sirivisoot, *King Mongkut's University of Technology Thonburi, Thailand*
- [P1.096] **Estimation of exchange current density for hydrogen evolution reaction of copper electrode by using the differentiating polarization method**  
R.S. Situmorang\*, O. Seri, H. Kawai, *Muroran Institute of Technology, Japan*
- [P1.097] **Effect of Al on the microstructure and nano-mechanical properties of TaNbHfZr high entropy metallic glass films**  
B.R. Song\*<sup>1</sup>, Y.H. Li<sup>1</sup>, Z.H. Cong<sup>1</sup>, Y.X. Li<sup>1</sup>, Z.X. Song<sup>1</sup>, J. Chen<sup>2</sup>, <sup>1</sup>Xi'an Jiaotong University, China, <sup>2</sup>Southeast University, China
- [P1.098] **Influence of production parameters on hydrophobic sol-gel silica-based coatings**

I. Stafecka\*, L. Pluduma, K.A. Gross, *Riga Technical University, Latvia*

- [P1.099] **Evaluation of tungsten surface damage following helium plasma heating**  
F. Stokker-Cheregi\*<sup>1</sup>, C. Stancu<sup>1</sup>, A. Moldovan<sup>1</sup>, A. Matei<sup>1</sup>, R. Birjega<sup>1</sup>, D. Colceag<sup>1</sup>, M. Dinescu<sup>1</sup>, V. Marascu<sup>1</sup>, G. Dinescu<sup>1</sup>, C. Grisolia<sup>2</sup>, <sup>1</sup>National Institute for Lasers, Plasma and Radiation Physics, Romania, <sup>2</sup>IRFM, CEA, France
- [P1.100] **Modulation of Fluorescence Radiation for ZnCdS/CdSe Quantum dots by Graphene at room temperature**  
D.W. Gao, L. Wang, X.Q. Su\*, Y. Pan, S.F. Li, X.H. Han, *Beijing University of Technology, China*
- [P1.101] **The thermal Evolution mechanisms of chalcogenide glasses films with large electron binding energy by in-situ measurements**  
X.Q. Su\*<sup>1</sup>, D.W. Gao<sup>1</sup>, S.F. Li<sup>1</sup>, Y. Pan<sup>1</sup>, X.W. Han<sup>1</sup>, R.P. Wang<sup>2</sup>, L. Wang<sup>1</sup>, <sup>1</sup>Beijing University of technology, China, <sup>2</sup>Australian National University, Australia
- [P1.102] **Printing of shape and size versatile electrodes on paper/ fabric substrates for thin and flexible battery-supercapacitor hybrid energy storage systems**  
P. Sundriyal\*, S. Bhattacharya, *IIT Kanpur, India*
- [P1.103] **Comparison of crystalline V<sub>2</sub>O<sub>5</sub> and low-temperature V-oxide pigmented films**  
A.K. Surca\*, G. Dražić, M. Mihelčič, *National Institute of Chemistry, Slovenia*
- [P1.104] **Protective coatings against corrosion for bronze surfaces**  
A.K. Surca\*<sup>1</sup>, G. Di Carlo<sup>2</sup>, C. Giuliani<sup>2</sup>, M. Salzano de Luna<sup>3</sup>, M. Lavorgna<sup>3</sup>, I. Jerman<sup>1</sup>, M. Gaberšček<sup>1</sup>, M. Mihelčič<sup>1</sup>, <sup>1</sup>National Institute of Chemistry, Slovenia, <sup>2</sup>Institute for the Study of Nanostructured Materials, CNR, Italy, <sup>3</sup>Institute of Polymers, Composites and Biomaterials, CNR, Italy
- [P1.105] **KPFM and XPS Metrology of Self-Assembled Monolayer Barrier for Copper Metallization**  
R. Ofek Almog<sup>1</sup>, K. Kadan<sup>2</sup>, Y. Sverdlov\*<sup>2</sup>, L. Burstein<sup>3</sup>, R. Dagan<sup>2</sup>, Y. Shacham-Diamand<sup>2</sup>, <sup>1</sup>Azrieli College of Engineering, Israel, <sup>2</sup>School of Electrical Engineering, Israel, <sup>3</sup>Tel Aviv University, Israel
- [P1.106] **Investigation of the enhanced wettability and thermal stability of surface functionalized graphene oxide in phase change materials**  
J.Y. Sze\*, A. Romagnoli, B.K. Tay, *Nanyang Technological University, Singapore*
- [P1.107] **Pulsed laser deposition of Mo thin films on AlN for heat sink applications in high power electronics**  
Z. Harajli<sup>1,2</sup>, M. Kazan<sup>3</sup>, M. Soueidan<sup>4</sup>, D. Fabregue<sup>1</sup>, Z. Herro<sup>2</sup>, M. Tabbal\*<sup>3</sup>, <sup>1</sup>INSA Lyon, France, <sup>2</sup>Lebanese university, Lebanon, <sup>3</sup>American University of Beirut, Lebanon, <sup>4</sup>Lebanese Atomic Energy Commission, Lebanon
- [P1.108] **A Diode with Au/HfO<sub>2</sub>/FTO Structure**  
C.F. Liu, X.G. Tang\*, X.B. Guo, Q.X. Liu, Y.P. Jiang, *Guangdong University of Technology, China*
- [P1.109] **Application of nanostructured photoanodes in dye photovoltaic cells (DSSC)**  
P. Jarka, T. Tanski\*, W. Matysiak, M. Szindler, *Silesian University of Technology, Poland*
- [P1.110] **Applying Sn as growth catalyst of SiSn islands with Si pedestal and their structural and optical properties**  
V. Timofeev\*<sup>1</sup>, V. Mashanov<sup>1</sup>, A. Nikiforov<sup>1,2</sup>, T. Gavrilova<sup>1</sup>, D. Gulyaev<sup>1</sup>, S. Teys<sup>1</sup>, I. Chetyrin<sup>3</sup>, <sup>1</sup>A.V. Rzhanov Institute of Semiconductor Physics SB RAS, Russia, <sup>2</sup>National Research Tomsk State University, Russia, <sup>3</sup>Boreskov Institute of Catalysis SB RAS, Russia
- [P1.111] **Enhancing photovoltaic performance of HIT silicon solar cells by broadband light scattering of plasmonics indium nanoparticles**  
P.Y. Ting\*, W.J. Ho, H.C. Huang, J.J. Liu, P.J. Lin, C.H. Ho, *National Taipei University of Technology, Taiwan*
- [P1.112] **Photodegradation activities of MCM41-P25(TiO<sub>2</sub>)-metal based ternary composites towards organic contaminants**  
D. Tiwary\*, A. Ojha, T. Nair, S.K. Pandey, *Indian Institute of Technology Banaras Hindu University, India*
- [P1.113] **Selenium interaction with platinum and the thermal stability of PtSe<sub>2</sub> nanolayer grown on Pt(111)**  
Y. Tong\*<sup>1</sup>, F. Nicolas<sup>2</sup>, S. Kubsky<sup>2</sup>, H. Oughaddou<sup>1</sup>, H. Enriquez<sup>1</sup>, V. Esaulov<sup>1</sup>, A. Bendounan<sup>2</sup>, <sup>1</sup>CNRS-ISMO, France, <sup>2</sup>Soleil Synchrotron, France
- [P1.114] **Advanced characterization of various nanoparticles types with complementary apertureless near-field optical microscopy techniques**

S.G. Stanciu<sup>1</sup>, D.E. Tranca<sup>\*1</sup>, F. Yang<sup>1,2</sup>, C.A. Charitidis<sup>1,3</sup>, A. Wu<sup>1,2</sup>, L. Latterini<sup>1,4</sup>, S. Ishii<sup>1,5</sup>, R. Hristu<sup>1</sup>, G.A. Stanciu<sup>1</sup>, <sup>1</sup>University Politehnica of Bucharest, Romania, <sup>2</sup>Chinese Academy of Sciences, China, <sup>3</sup>National Technical University of Athens, Greece, <sup>4</sup>University of Perugia, Italy, <sup>5</sup>National Institute for Materials Science, Japan

- [P1.115] **Surface optical characterization at nanoscale using quantitative scattering scanning near-field optical microscopy**  
D.E. Tranca<sup>\*</sup>, R. Hristu, S.G. Stanciu, G.A. Stanciu, University Politehnica of Bucharest, Romania
- [P1.116] **Surface modification of FePt(Ag,C) granular film by ultrathin B<sub>4</sub>C capping layer**  
J.L. Tsai<sup>\*</sup>, S.M. Weng, C. Dai, L.C. Huang, J.Y. Chen, T.W. Hsu, National Chung Hsing University, Taiwan
- [P1.117] **Tuning coercive force for Co/Si(100) via reduced defect density by rubrene as a surfactant**  
Y.W. Jhou<sup>1</sup>, S.Y. Sie<sup>1</sup>, C.K. Yang<sup>1</sup>, C.H.T. Chang<sup>2</sup>, C.Y. Hsieh<sup>1</sup>, C.M. Lin<sup>3</sup>, J.S. Tsay<sup>\*1</sup>, <sup>1</sup>National Taiwan Normal University, Taiwan, <sup>2</sup>Minghsin University of Science and Technology, Taiwan, <sup>3</sup>National Taitung University, Taiwan
- [P1.118] **Surface modification of graphite rod electrodes by cetyltrimethylammonium bromide for microbial fuel cells**  
K.W. Tung<sup>\*</sup>, B.Y. Chen, S.H. Chang, National I-Lan University, Taiwan
- [P1.119] **Microstructure evaluation of plasma tempered aluminized IN-RAFM steels**  
R. Tunk<sup>\*1</sup>, C. Sasmal<sup>1</sup>, N. I. Jamnapara<sup>2,3</sup>, A. Zala<sup>2,3</sup>, P. Chaudhury<sup>2,3</sup>, J. Mukhopadhyay<sup>1</sup>, A. Arora<sup>1</sup>, <sup>1</sup>Indian Institute of Technology Gandhinagar, India, <sup>2</sup>Institute for Plasma Research Gandhinagar, India, <sup>3</sup>Homi Bhabha National Institute, India
- [P1.120] **Characterization of glass-like carbon coatings produced by hollow cathode plasma immersion ion implantation**  
S. Mariano, M. Ueda<sup>\*</sup>, National Institute for Space Research, Brazil
- [P1.121] **High ion implantation and low sputtering in helically wound metal wire using nitrogen plasma immersion ion implantation at high powers**  
C. Silva<sup>1</sup>, M. Ueda<sup>\*1</sup>, R. Oliveira<sup>1</sup>, L. Pichon<sup>2</sup>, G. de Souza<sup>3</sup>, <sup>1</sup>National Institute for Space Research, Brazil, <sup>2</sup>University of Poitiers, France, <sup>3</sup>Ponta Grossa State University, Brazil
- [P1.122] **Catalytic conversion of methanol to dimethyl ether (DME) over supported sulfonic acids catalysts**  
R. Viscardi<sup>\*1</sup>, V. Barbarossa<sup>1</sup>, D. Mirabile Gattia<sup>1</sup>, R. Maggi<sup>2</sup>, G. Maestri<sup>2</sup>, E. Paris<sup>2</sup>, <sup>1</sup>ENEA, Italy, <sup>2</sup>University of Parma, Italy
- [P1.123] **Investigation of single crystalline Cu<sub>2</sub>O films for chemical sensors application using near ambient pressure XPS**  
L. Volfova<sup>\*1</sup>, J. Bulir<sup>1</sup>, M. Novotny<sup>1</sup>, M. Vondracek<sup>1</sup>, P. Fitl<sup>1</sup>, J. Lancok<sup>1</sup>, M. Vorokhta<sup>2</sup>, <sup>1</sup>Institute of Physics CAS, Czech Republic, <sup>2</sup>Charles University, Czech Republic
- [P1.124] **Photo response change in adsorption of phthalocyanine complex molecules using MoS<sub>2</sub>-FET**  
H. Waizumi<sup>\*</sup>, T. Takaoka, K. Washida, M. Alam, M. Mamun, N. Trung, T. Komeda, Tohoku University, Japan
- [P1.125] **Ni-doped MoS<sub>2</sub> magnetic nanosheets as promising microwave absorbers**  
J. Wang<sup>\*</sup>, X.Y. Lin, Z.Y. Chu, Z.Y. Huang, National University of Defense Technology, China
- [P1.126] **Mechanically robust and contamination-resistant antireflective coatings for polymeric glasses via embedding of silica nanoparticles and HMDS modification**  
X. Wang<sup>\*</sup>, H. Zhao, Y. Su, J. Shen, Tongji University, China
- [P1.127] **Low frictional performance of graphene sheets embedded carbon films coated archwires in orthodontic system**  
Z.L. Pan, Q.Z. Zhou, P.F. Wang<sup>\*</sup>, D.F. Diao, Shenzhen University, China
- [P1.128] **Solven quenching to modify the surface of nanomaterials for enhancing the photocatalytic properties**  
S.H. Chen<sup>1</sup>, Y. Xiao<sup>1</sup>, Y.H. Wang<sup>\*1</sup>, Z.F. Hu<sup>1</sup>, H. Zhao<sup>1</sup>, W. Xie<sup>2</sup>, <sup>1</sup>Guaangdong University of Technology, China, <sup>2</sup>Lingnan Normal University, China
- [P1.129] **CO adsorption on Fe<sub>3</sub>O<sub>4</sub>(111) surfaces with regular and biphasic terminations**  
J. Wojas<sup>\*1</sup>, K. Freindl<sup>1</sup>, N. Kwiatek<sup>1</sup>, E. Madej<sup>1</sup>, D. Wilgocka-Ślęzak<sup>1</sup>, J. Korecki<sup>1,2</sup>, N. Spiridis<sup>1</sup>, <sup>1</sup>Polish Academy of Sciences, Poland, <sup>2</sup>AGH University of Science and Technology, Poland
- [P1.130] **Reactivity of tin with the electroless Ni-P and Ni-P-Re coatings plated on copper**



J. Wojewoda-Budka<sup>\*1</sup>, M. Janusz<sup>1</sup>, H. Kazimierczak<sup>1</sup>, I. Kwiecien<sup>1</sup>, A. Korneva<sup>1</sup>, L. Litynska-Dobrzynska<sup>1</sup>, J. Morgiel<sup>1</sup>, M. Szczerba<sup>1</sup>, A. Wierzbicka-Miernik<sup>1</sup>, F. Valenza<sup>1</sup>, <sup>1</sup>Polish Academy of Sciences, Poland, <sup>2</sup>National Research Council, Italy

- [P1.131] **Controlled Structure and Growth Mechanism Behind Hydrothermal Growth of TiO<sub>2</sub> Nanorods**  
D. Wongratanaphisan<sup>1,2</sup>, <sup>1</sup>Chiang Mai University, Thailand, <sup>2</sup>Thailand Center of Excellence in Physics, Thailand
- [P1.132] **Multivariate optimization of the synthesis of rGO/g-C<sub>3</sub>N<sub>4</sub> composites aiming at the photodegradation of bisphenol A as a model-pollutant**  
C. Xavier<sup>\*1,2</sup>, C. Ribeiro<sup>2</sup>, E.B. Azevedo<sup>1</sup>, <sup>1</sup>São Paulo University, Brazil, <sup>2</sup>Embrapa Instrumentação, Brazil
- [P1.133] **Improvement in the high temperature oxidation resistance of HVOF WC coating by adding a Fe-based amorphous alloy**  
L.P. Xu<sup>\*</sup>, J.B. Song, C.G. Deng, Guangdong Institute of New Materials, China
- [P1.134] **Shape change of nickel powder under hydrogen and nickel chloride vapor**  
S.M. Yang<sup>\*</sup>, Y.S. Cho, Korea Institute of Industrial Technology, Republic of Korea
- [P1.135] **Synergetic effects of doping and surface plasmon on photocatalytic activity of Bi<sub>4</sub>O<sub>5</sub>Br<sub>2</sub> nanosheets for pollutants removal**  
G.Q. Zhu<sup>1</sup>, M-D. Kim<sup>2</sup>, W.C. Yang<sup>\*1</sup>, <sup>1</sup>Dongguk University, Republic of Korea, <sup>2</sup>Chungnam National University, Republic of Korea
- [P1.136] **Synthesis of carbon nanowalls in the plasma of a radio-frequency discharge**  
Y. Yerlanuly<sup>\*1,2</sup>, D. Batryshev<sup>2</sup>, M. Gabdullin<sup>1</sup>, T. Ramazanov<sup>2</sup>, <sup>1</sup>Kazakh British Technical University, Kazakhstan, <sup>2</sup>Al-Farabi Kazakh National University, Kazakhstan
- [P1.137] **Obtaining of hydrophobic surfaces in the radio-frequency discharge**  
Y. Yerlanuly<sup>\*</sup>, S. Orazbayev, A. Zhunisbekov, R. Zhumadilov, M. Gabdullin, T. Ramazanov, Al-Farabi Kazakh National University, Kazakhstan
- [P1.138] **Removal of capping agent and oxide on copper nanowire surfaces in aqueous citric acid solution for high-performance transparent conducting films**  
S. Yokoyama<sup>\*1</sup>, H. Kimura<sup>1</sup>, H. Oikawa<sup>1</sup>, K. Motomiya<sup>1</sup>, H. Takahashi<sup>1</sup>, B. Jeyadevan<sup>2</sup>, K. Tohji<sup>1</sup>, <sup>1</sup>Tohoku University, Japan, <sup>2</sup>The University of Shiga prefecture, Japan
- [P1.139] **Temperature-dependent photoluminescence properties of carbon-assisted ZnO nanorod arrays on(100) Si substrate**  
I. Yoon<sup>\*1</sup>, H. Cho<sup>1</sup>, M. Li<sup>2</sup>, N. Hang<sup>1</sup>, W. Yang<sup>1</sup>, <sup>1</sup>Dongguk University, Republic of Korea, <sup>2</sup>Hubei University, China
- [P1.140] **Joining of power device and ceramic substrate using Sn-coated Cu micro paste for high-temperature applications**  
J.W. Yoon<sup>\*1</sup>, S. Bae<sup>1</sup>, J. Kim<sup>1,2</sup>, B.S. Lee<sup>1</sup>, <sup>1</sup>Korea Institute of Industrial Technology, Republic of Korea, <sup>2</sup>Sungkyunkwan University, Republic of Korea
- [P1.141] **Synthesis of High-Crystalline Hexagonal Boron Nitride Nanosheets on Cu Foil Using Physical Vapor Deposition**  
M. Yoshizato<sup>\*</sup>, Y. Hirata, H. Akasaka, N. Ohtake, Tokyo Institute of Technology, Japan
- [P1.142] **Micro-arc oxidation coated magnesium alloys as biomaterials: a review**  
H.J. Yu<sup>\*</sup>, Q.Y. You, J.H. Dou, C.Z. Chen, Shandong University, China
- [P1.143] **Structure and performance of 8 wt. Y<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub> coating processed by air plasma spray**  
H.J. Yu<sup>\*</sup>, L. Zong, Y.M. Chi, C.Z. Chen, Shandong University, China
- [P1.144] **The phase structures and morphology of air plasma sprayed NiCrAlY coatings**  
H.J. Yu<sup>\*</sup>, C.Z. Chen, L. Zong, B. Qi, Y.S. Tian, Shandong University, China
- [P1.145] **Preparation and properties of PEG modified keratin film based on thiol-ene click chemistry**  
J.G. Yuan<sup>\*</sup>, C. Lu, X.P. Ye, Jiangnan University, China
- [P1.146] **Interphase Effects of HAP Particles on the Stability of EPDM Hybrids**  
T. Zaharescu<sup>\*1</sup>, C. Tardei<sup>1</sup>, M. Rapa<sup>2</sup>, V. Marinescu<sup>1</sup>, M. Iordoc<sup>1</sup>, <sup>1</sup>INCDIE ICPE CA, Romania, <sup>2</sup>Polytechnica University of Bucharest, Romania
- [P1.147] **Surface Antioxidant Activity of Modified Particles in POSS/EPDM Hybrids**  
T. Zaharescu<sup>\*1</sup>, I. Blanco<sup>2,3</sup>, F.A. Bottino<sup>2</sup>, <sup>1</sup>INCDIE ICPE CA, Romania, <sup>2</sup>University of Catania, Italy, <sup>3</sup>UdR-Catania Consorzio INSTM, Italy
- [P1.148] **Living cell micropatterns, a combination of scaffold technology and laser printing**  
M. Chatzipetrou<sup>1</sup>, V. Leva<sup>1</sup>, L. Alexopoulos<sup>1</sup>, D.S. Tzaranis<sup>1,2</sup>, I. Zergioti<sup>\*1</sup>, <sup>1</sup>National Technical University of Athens, Greece, <sup>2</sup>Foundation for Research and Technology-Hellas, Greece

- [P1.149] **Antimicrobial and antioxidant cotton formulated via layer-by-layer self-assembly of chitosan and hyaluronic acid**  
Y. Zhang\*, Q. Wang, X. Fan, *Jiangnan University, China*
- [P1.150] **Anticoagulant properties of the 316L stainless steel coated with plasma-modified diethoxydimethylsilane/chitosan composite films**  
Y.J. Zhang\*, S.H. Chang, *National I-lan University, Taiwan*
- [P1.151] **A free-standing interfacial-grown graphene-sulfur-Ni(OH)<sub>2</sub> sandwich foam composite for high-performance Li-S batteries**  
C.F. Zhao\*, L.W. Shi, H. Wang, J.L. Liu, J.F. Zhang, C.Z. Chen, H.J. Yu, S.F. Hou, C. Hu, *Shandong University, China*
- [P1.152] **On the pitting corrosion behavior of thermal aged lean duplex stainless at 475 °C**  
R. Silva<sup>1</sup>, A.A. Mendes\*<sup>2</sup>, G.S. Vachi<sup>1</sup>, I.G. Santos<sup>1</sup>, C.L. Kugelmeier<sup>1</sup>, C.A. Della Rovere<sup>1</sup>, <sup>1</sup>UFSCar, Brazil, <sup>2</sup>UFABC, Brazil
- [P1.153] **Effect of equal-channel angular pressing on pitting corrosion behavior of commercially pure aluminum alloy: polarization and XPS measurements**  
A.A. Mendes Filho\*<sup>1</sup>, R. Silva<sup>2</sup>, D.C.C. Magalhães<sup>2</sup>, G.S. Vacchi<sup>2</sup>, C.L. Kugelmeier<sup>2</sup>, V.L. Sordi<sup>2</sup>, A.M. Kliauga<sup>2</sup>, C.A.D. Rovere<sup>2</sup>, <sup>1</sup>Federal University of ABC, Brazil, <sup>2</sup>Federal University of São Carlos, Brazil
- [P1.154] **Solvent-Free Mechanochemically Synthesized Zn Layered Hydroxyl Salts for the Adsorption of Naphtholate AS Dye**  
S.J. Santosa\*, S. Sudiono, R.S. Wibawani, *Universitas Gadjah Mada, Indonesia*
- [P2.032] **Crystallization of PE-b-PEO copolymer thin films : structural changes evidenced by FTIR surface spectroscopy and atomic force microscopy**  
M. Brogly\*, D. Fischer, S. Bistac, *Université de Haute Alsace, France*
- [P2.036] **CVD graphene/Ni interface evolution in acidic media**  
G. Bussetti\*<sup>1</sup>, R. Yivlialin<sup>1</sup>, F. Yu<sup>2</sup>, M. Galbiati<sup>2</sup>, P. Boggild<sup>2</sup>, L. Duò<sup>1</sup>, L. Camilli<sup>2</sup>, <sup>1</sup>Politecnico di Milano, Italy, <sup>2</sup>Technical University of Denmark, Denmark

Poster Session 2  
Wednesday, 19 June 2019 at 16:20-18:20

- [P2.001] **Thermal regeneration and decoking optimization of platinum/alumina catalysts for the isomerization process**

H. Abbasi, *Chemistry and Chemical Engineering Research Center of Iran, Iran*

- [P2.002] **Charge transfer investigation between gold nanoparticlues and other types of nanoparticles (Fe, Ni, Cu)**  
A. Achour\*<sup>1</sup>, S. Boakye-Yiadom<sup>2</sup>, M. Islam<sup>3</sup>, J.J. Pireaux<sup>1</sup>, <sup>1</sup>University of Namur, Belgium, <sup>2</sup>University of North York, Canada, <sup>3</sup>King Saud University, Saudi Arabia
- [P2.003] **UV-shielding nanopowder and organic UV-additives incorporated weather resistance polyurethane nanocomposite films**  
B. Adak\*, M. Joshi, B.S. Butola, *Indian Institute of Technology Delhi, India*
- [P2.004] **Preparation of AZO thin films by DC and pulsed magnetron techniques**  
D.G. Ageychenkov\*<sup>1</sup>, A.V. Kaziev<sup>2,1</sup>, D.V. Kolodko<sup>1</sup>, A.V. Tumarkin<sup>1</sup>, M.M. Kharkov<sup>1</sup>, K.A. Leonova<sup>1</sup>, A.A. Pisarev<sup>1</sup>, <sup>1</sup>National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Russia, <sup>2</sup>Russian Academy of Sciences, Russia
- [P2.005] **Layer-by-layer surface properties and interfaces analysis in monolithic perovskite solar cells**  
Z. Ahmad\*, I. Gunawan, A.A. El-Samak, *Qatar University, Qatar*
- [P2.006] **Wettability investigation of micro-grid surface manufactured using a 3D-UEVT method**  
R. Kurniawan, S. Ali\*, T.J. Ko, *Yeungnam University, Republic of Korea*
- [P2.007] **Synergy between mesoporous silica and activated carbon in the dyes adsorption from water**  
B.M. Al-shehri\*<sup>1,2</sup>, M.S. Hamdy<sup>1</sup>, A.S. Khder<sup>1</sup>, <sup>1</sup>King Khalid University, Saudi Arabia, <sup>2</sup>Umm Al-Qura University, Saudi Arabia
- [P2.008] **Atomic force microscopy of live endothelial cell on plasma-nitrided titanium: an approach for evaluating biocompatibility**  
J. Braz<sup>1</sup>, N. Morales<sup>2</sup>, P. Naulin<sup>2</sup>, C. Fuentes<sup>2</sup>, N.P. Barrera<sup>2</sup>, H. Rocha<sup>3</sup>, M. Oliveira<sup>1</sup>, C. Alves Jr.\*<sup>1</sup>, C. Moura<sup>1</sup>, <sup>1</sup>Universidade Federal Rural do Semi-Árido, Brazil, <sup>2</sup>Pontificia Universidad Católica de Chile, Chile, <sup>3</sup>Universidade Federal do Rio Grande do Norte, Brazil
- [P2.009] **Ceramic coatings phase evolution in aluminum samples produced by pulsed plasma eletrolytic oxidation process**  
C. Alves-Junior\*<sup>1,2</sup>, R. N. Lima<sup>1</sup>, J. O. Vitoriano<sup>2</sup>, <sup>1</sup>Federal Rural University of Semiarid, Brazil, <sup>2</sup>Federal University of Rio Grande do Norte, Brazil
- [P2.010] **Exploring AFM-IR in practical polymer coating characterization**  
A. Ambarkar\*<sup>1,2</sup>, S. Edmondson<sup>1</sup>, K.J. Berg<sup>2</sup>, <sup>1</sup>The University of Manchester, UK, <sup>2</sup>AkzoNobel Coatings BV, The Netherlands
- [P2.011] **Adsorption of HCHO molecules on Fe/Co/Ni-doped graphene: the first-principles study**  
L. An\*, X. Jia, *North China University of Science and Technology, China*
- [P2.012] **Interactions between bio surfaces: Polymer layer bearing liposomes under physiological conditions**  
A. Angayarkanni\*, N. Kampf, J. Klein, *Weizmann Institute of Science, Israel*
- [P2.013] **Development of femtosecond laser engineered cell-instructive bioceramic surfaces**  
A. Daskalova<sup>1</sup>, I. Bliznakova<sup>1</sup>, L. Angelova\*<sup>1</sup>, A. Trifonov<sup>2</sup>, C. Nathala<sup>3</sup>, H. Deqlerqa<sup>4</sup>, I. Buchvarov<sup>1</sup>, <sup>1</sup>Development of femtosecond laser engineered cell-instructive bioceramic surfaces, Bulgaria, <sup>2</sup>St. Kliment Ohridski University of Sofia, Bulgaria, <sup>3</sup>High Q lasers GmbH, Spectra Physics, Austria, <sup>4</sup>Ghent University, Belgium
- [P2.014] **Surface oxidation of TiNiSn half-Heusler compound by oxygen and water vapor**  
O. Appel\*<sup>1,2</sup>, S. Cohen<sup>2</sup>, O. Beer<sup>2</sup>, N. Shamir<sup>1</sup>, Y. Gelbstein<sup>1</sup>, S. Zalkind<sup>2</sup>, <sup>1</sup>Ben-Gurion Univ. of the Negev, Israel, <sup>2</sup>Nuclear Research Centre-Negev, Israel
- [P2.015] **Surface properties of retrieved femoral hip endoprostheses component (Ti6Al7Nb)**  
K. Avsec\*<sup>1</sup>, D. Dolinar<sup>1</sup>, M. Jenko<sup>1</sup>, M. Gorenssek<sup>1</sup>, B. Kocjancic<sup>1</sup>, <sup>1</sup>University Medical Centre Ljubljana, Slovenia, <sup>2</sup>Institute of Metals and Technology, Slovenia, <sup>3</sup>MD Medicina, Slovenia
- [P2.016] **A study on TLP bonding of power semiconductors for electric vehicles using 96.5Sn3.5Ag preform with plasma surface treatments**  
S. Baek\*<sup>2,1</sup>, G.W. Jeong<sup>3,1</sup>, D.Y. Park<sup>4,1</sup>, D.Y. Yu<sup>1</sup>, H.B.R. Lee<sup>2</sup>, Y.H. Ko<sup>1</sup>, <sup>1</sup>Korea Institute of Industrial Technology, Republic of Korea, <sup>2</sup>Incheon National University, Republic of Korea, <sup>3</sup>Sungkyunkwan University, Republic of Korea, <sup>4</sup>Inha University, Republic of Korea
- [P2.017] **Method of formation of super-smooth optical surfaces using GCIB and ANAB processing**

A.D. Bakun\*, A.S. Gusev, N.I. Kargin, S.M. Ryndya, N.V. Siglovaya, *National Research Nuclear University MEPhI, Russia*

- [P2.018] **Preparation of kapok/polyacrylonitrile/copper nanocomposite for antimicrobial applications**  
M.D.L. Balela\*<sup>1</sup>, M.U. Herrera<sup>2</sup>, C.M. Futralan<sup>3</sup>, A.R. Agcaoili<sup>1</sup>, <sup>1</sup>Univeristy of the Philippines-Diliman, The Philippines, <sup>2</sup>University of the Philippines-Los Banos, The Philippines, <sup>3</sup>National Research Center for Disaster-Free and Safe Ocean City, Republic of Korea
- [P2.019] **Extraction of zeolite nanoparticles from industrial waste of coal fly ash by alkali reduction**  
T. Lakshmipriya, N. Mohamed, R. Bashiri\*, R. Pilus, A. Mustafa, *Universiti Teknologi PETRONAS, Malaysia*
- [P2.020] **Influence of hydrothermal parameters and seeded layer on charge separation and photocatalytic hydrogen production of one-dimensional rutileTiO<sub>2</sub>@Fe<sub>2</sub>O<sub>3</sub> photoelectrode**  
R. Bashiri\*, N.M. Mophamed, F. Samsudin, L. Ling, N. Amirah, S. Sufian, C. Fai Kait, *Universiti Teknologi PETRONAS, Malaysia*
- [P2.021] **Self-assembling sulfonated graphene oxide membranes for PEM fuel cells**  
S. Latorrata, A. Basso Peressut\*, P. Gallo Stampino, C. Cristiani, G. Dotelli, *Politecnico di Milano, Italy*
- [P2.022] **The role of surface multicomponent TiZrN coatings for protection of titanium alloys against hydrogen saturation**  
A.I. Lotkov<sup>1</sup>, S.D. Latushkina<sup>2</sup>, V.I. Kopylov<sup>2</sup>, A.A. Baturin\*<sup>1</sup>, V.N. Grishkov<sup>1</sup>, I.S. Rodionov<sup>1</sup>, D.Y. Zhapova<sup>1</sup>, <sup>1</sup>Institute of Strength Physics and Materials Science SB RAS, Russia, <sup>2</sup>The Physical-Technical Institute of NAS, Belarus
- [P2.023] **Development of a surface response methodology for assessing the cleanability of stainless steel in food industry**  
A. Bellucci\*, G. Carolo, D. Stocchi, S. Tiberi, *Il Sentiero International Campus, Italy*
- [P2.024] **Weight loss, electrochemical and X-ray photoelectron spectroscopy studies of the invasive brown seaweed *Sargassum muticum* extract as efficient green corrosion inhibitor for carbon steel surface in hydrochloric acid pickling environment**  
I. Nadi<sup>1</sup>, Z. Belattmania<sup>2</sup>, B. Sabour<sup>2</sup>, A. Reani<sup>2</sup>, C. Jama<sup>3</sup>, F. Bentiss\*<sup>1,3</sup>, <sup>1</sup>LCCM UCD, Morocco, <sup>2</sup>Phycology R.U. LB2VE UCD, Morocco, <sup>3</sup>UMET ENSCL, France
- [P2.025] **Kinetic growth and surface faceting of vertical micro- and nano-structures: theory and experiments**  
M. Albani<sup>1</sup>, M. Salvalaglio<sup>2</sup>, R. Bergamaschini\*<sup>1</sup>, L. Miglio<sup>1</sup>, F. Montalenti<sup>1</sup>, <sup>1</sup>University of Milano-Bicocca, Italy, <sup>2</sup>Technische Universität Dresden, Germany
- [P2.026] **MOF-74(Zn)-derived carbon as a remarkable adsorbent for the removal of a wide range of contaminants of emerging concern**  
B.N. Bhadra\*, D.K. Yoo, S.H. Jhung, *Kyungpook National University, Republic of Korea*
- [P2.027] **Dielectrophoretic particle separation on inexpensive PCB platform**  
G. Bhatti\*, S. Bhattacharya, *Indian Institute of Technology Kanpur, India*
- [P2.028] **Laser surface modification of titanium Grade 2 for biomedical application**  
D. Kuczynska-Zemla\*<sup>1</sup>, E. Kijenska-Gawronska<sup>1</sup>, P. Kwasiak<sup>1</sup>, M. Pisarek<sup>2</sup>, P. Borowicz<sup>2</sup>, H. Garbacz<sup>1</sup>, <sup>1</sup>Warsaw University of Technology, Poland, <sup>2</sup>Polish Academy of Sciences, Poland
- [P2.029] **Effect of doping concentration of hole transport material on overall performance of organic solar cell**  
S. Biswas\*<sup>1</sup>, P.K. Vincent<sup>2</sup>, J.H. Bae<sup>2</sup>, H. Kim<sup>1</sup>, <sup>1</sup>Gyeongsang National University, Republic of Korea, <sup>2</sup>Kyungpook National University, Republic of Korea
- [P2.030] **Electrodeposited organic layers containing fullerene units for the photochemical generation of singlet oxygen**  
A. Blacha-Grzechnik\*, R. Motyka, M. Pawlyta, M. Krzywiecki, *Silesian University of Technology, Poland*
- [P2.031] **Synthesis and CO<sub>2</sub> sensing properties of CoAl<sub>2</sub>O<sub>4</sub> semiconductor oxide thin films**  
O. Blanco\*, V.M. Rodriguez, J.P. Moran, J.L. Mora, *University of Guadalajara, Mexico*
- [P2.033] **XPS characterization and luminescent properties of GdNbO<sub>4</sub> and GdTao<sub>4</sub> thin films**  
H. Brunckova\*<sup>1</sup>, H. Kolev<sup>2</sup>, A. Rocha<sup>3</sup>, L. Medvecky<sup>1</sup>, <sup>1</sup>Slovak Academy of Sciences, Slovakia, <sup>2</sup>Bulgarian Academy of Sciences, Bulgaria, <sup>3</sup>Universidade de Franca, Brazil
- [P2.034] **Optical monitoring of magnetron sputtered ZrN films for plasmonic applications**

J. Bulir\*, J. More Chevalier, L. Fekete, K. Horakova, J. Drahokoupil, M. Novotny, J. Lancok, *Institute of Physics, ASCR, Czech Republic*

- [P2.035] **Effect of deposition parameters on morphology of gold nanostructures in SiO<sub>2</sub>/Si template**  
V. Bundyukova\*<sup>1</sup>, D. Yakimchuk<sup>1</sup>, E. Kaniukov<sup>2,3</sup>, <sup>1</sup>Scientific-Practical Materials Research Center NAS of Belarus, Belarus, <sup>2</sup>Institute of Chemistry of New Materials of National Academy of Sciences of Belarus, Belarus, <sup>3</sup>National University of Science and Technology "MISIS" South Ural State University, Russia
- [P2.037] **Hydrogen storage on carbon torusenes, a hardly explored carbon nanostructure**  
I. Cabria\*, D. Cavedes, *University of Valladolid, Spain*
- [P2.038] **Simple methodology for g-C<sub>3</sub>N<sub>4</sub>/WO<sub>3</sub> synthesis with high photocatalytic activity**  
F.M. Cadan\*<sup>1</sup>, C. Ribeiro<sup>2</sup>, E.B. Azevedo<sup>1</sup>, <sup>1</sup>Universidade de São Paulo, Brazil, <sup>2</sup>Empresa Brasileira de Pesquisa Agropecuária, Brazil
- [P2.039] **X-ray fluorescence beamline at Elettra Sincrotrone Trieste: a versatile tool for structural and chemical investigation in applied surface science**  
I. Carlomagno\*<sup>1</sup>, G. Aquilanti<sup>1</sup>, I. Bozicevic Mihalic<sup>1</sup>, M. Sibilia<sup>2</sup>, M. Czyzycki<sup>1,3</sup>, A. Migliori<sup>2,4</sup>, M. Bogovac<sup>2</sup>, <sup>1</sup>Elettra Sincrotrone Trieste, Italy, <sup>2</sup>International Atomic Energy Agency, Austria, <sup>3</sup>AGH University of Science and Technology, Poland, <sup>4</sup>Hungarian Academy of sciences, Hungary
- [P2.040] **Advanced method to measure mechanical properties of zirconium diboride at different microscale depths from surface**  
K. Shin, S. Vargas-Giraldo, J. Rojas, C.E. Castano\*, *Virginia Commonwealth University, USA*
- [P2.041] **Core-shell particles by PVD for solar energy harvesting**  
S. Vargas-Giraldo, D. Galeano-Osorio, C.E. Castano\*, *Virginia Commonwealth University, USA*
- [P2.042] **32×32 pixelated GaN micro-LED arrays having a plasma damage-free sputtered Ag reflector on p-GaN layer**  
Y.J. Cha\*, T.K. Kim, S.M. Cho, J.H. Lee, M.U. Cho, J.S. Kwak, *Sunchon National University, Republic of Korea*
- [P2.043] **Activation of transparent oxide semiconductor-based thin film transistors on polyimide by electron beam annealing**  
M.U. Cho, Y.J. Cha\*, T.K. Kim, J.S. Kwak, *sunchon national university, Republic of Korea*
- [P2.044] **Modification of Polyvinyl Chloride Ion-selective Membrane for Nitrate ISFET Sensor**  
W. Chairiratanakul\*<sup>1,2</sup>, W. Bunjongpru<sup>2</sup>, A. Pankiew<sup>2</sup>, A. Srisuwan<sup>2</sup>, W. Jeamsaksiri<sup>2</sup>, E. Chaowicharat<sup>2</sup>, M. Horprathum<sup>3</sup>, D. Phromyothin<sup>1</sup>, <sup>1</sup>King Mongkut's Institute of Technology Ladkrabang, Thailand, <sup>2</sup>Thai Microelectronics Center (TMEC), Thailand, <sup>3</sup>National Electronics and Computer Technology Center, Thailand
- [P2.045] **Surface properties of 316L stainless steel coated with plasma modified polycaprolactone/polylactic acid composite films**  
J.H. Chang\*, S.H. Chang, *National I-Lan University, Taiwan*
- [P2.046] **High temperature deformation behaviour of hot-dip 55 wt.% Al-Zn galvanized steel**  
J.K. Chang\*<sup>1</sup>, C.S. Lin<sup>1</sup>, W.R. Wang<sup>2</sup>, S.Y. Jian<sup>1,3</sup>, <sup>1</sup>National Taiwan University, Taiwan, <sup>2</sup>Industrial Technology Research Institute, Taiwan, <sup>3</sup>National Defense University, Taiwan
- [P2.047] **Passivation effect of Al<sub>2</sub>O<sub>3</sub> interlayer on plasma-enhanced atomic layer deposition of molybdenum oxide using molybdenum hexacarbonyl**  
T. LIM, Y.J. CHO, H.S. CHANG\*, *Chungnam National University, Republic of Korea*
- [P2.048] **Alternative current plasma treatment for improving hydrophilicity of alumina support surface employed for carbon nanotube synthesis**  
K. Minakanishtha, B. Paosawatyanong, K. Jannoo, C. Lawagon, T. Charinpanitkul\*, *Chulalongkorn University, Thailand*
- [P2.049] **Effect of hemin and graphene oxide on the photocatalytic performance of vanadium pentoxide**  
P.S. Chauhan\*, S. Bhattacharya, *Indian Institute of Technology Kanpur, India*
- [P2.050] **Gas transport properties and kinetics of residual solvent desorption from biopolymer nanocomposites**  
R. Checchetto\*, A. Miotello, A. Pegoretti, H. Mahamood, *University of Trento, Italy*
- [P2.051] **Photosensitizers conjugated with polymer-functionalized magnetic nanoparticles as potential drugs for Photodynamic Therapy (PDT)**

D. Chelminiak-Dudkiewicz\*, J. Gauza, M. Ziegler-Borowska, Faculty of Chemistry, Nicolaus University in Toruń, Poland

- [P2.052] **Characterization of two-dimensional materials by vertical-objective-based imaging ellipsometry**  
C. Chen\*, X. Chen, Y. Shi, H. Gu, H. Jiang, S. Liu, Huazhong University of Science and Technology, China
- [P2.053] **Discovery of topological surface states in PdTe<sub>2</sub> electronic structure**  
J.W. Chen<sup>\*1</sup>, C.N. Kuo<sup>1</sup>, W.C. Chen<sup>1,2</sup>, C.S. Lue<sup>1</sup>, C.H. Chen<sup>1,3</sup>, C.M. Cheng<sup>1,3</sup>, T.R. Chang<sup>1</sup>, <sup>1</sup>National Cheng Kung University, Taiwan, <sup>2</sup>National Tsing Hua University, Taiwan, <sup>3</sup>National Synchrotron Radiation Research Center, Taiwan
- [P2.054] **Investigations on the surface properties of 316L stainless steel coated with plasma-assisted modified polyacrylonitrile films**  
W.K. Chen\*, S.H. Chang, National I-Lan University, Taiwan
- [P2.055] **Failure Behavior of RuCo Diffusion Barrier Between Electroplating Cu and Textured Si Substrate**  
C.J. Wu, J.Y. Tseng, W.J. Chen\*, National Yunlin University of Science and Technology, Taiwan
- [P2.056] **Preparation and formation mechanism of blue coatings on 6063 Aluminum alloy by micro-arc oxidation**  
H.J. Yu, J.H. Wang, Y. Chen, Y.K. Pan, C. Hu, C.Z. Chen\*, Shandong University, China
- [P2.057] **Tribological properties of the coatings fabricated on titanium alloy by laser alloying with boron, nitrogen and carbon**  
H.J. Yu, Z. Yang, L. Lu, C.Z. Chen\*, Shandong University, China
- [P2.058] **Effects of rare earth oxide on microstructures of the coatings fabricated on titanium alloy by laser alloying with boron-nitrogen**  
H.J. Yu, Y.N. He, L. Lu, C.Z. Chen\*, Shandong University, China
- [P2.059] **Heterostructures of Ce-Ti/layered double hydroxides and derived MMOs for photoenergy applications**  
V. Chivu<sup>\*1</sup>, D. Gilead<sup>2</sup>, N. Cioatera<sup>1</sup>, G. Carja<sup>2</sup>, M. Mureseanu<sup>1</sup>, <sup>1</sup>University of Craiova, Romania, <sup>2</sup>Technical University of Iasi, Romania
- [P2.060] **Evaluation of various types of carbon nanomaterials in regulating apoptosis in human cells**  
K.C. LEE<sup>1</sup>, E.C. CHO<sup>\*1</sup>, <sup>1</sup>National Taipei University of Education, Taiwan, <sup>2</sup>Taipei Medical University, Taiwan
- [P2.061] **Carrier selective characteristics of TiO<sub>2</sub> grown by ALD for Si solar cell**  
Y.J. Cho\*, H.Y. Chang, Chungnam National University, Republic of Korea
- [P2.062] **Fabrication of re-entrant and nano-micro structure using curing properties of PUA resin.**  
S.H. Choi\*, S.J. Kim, W.Y. Kim, Y.T. Cho, Changwon National University, Republic of Korea
- [P2.063] **Surface properties of the poly (methyl methacrylate)/polylactic acid composite films modified by plasma**  
S.H. Chang, B.S. Liao, K.Y. Chu\*, National I-Lan University, Taiwan
- [P2.064] **Initial surface curing of cement granules in additive manufacturing process**  
S.Y. Chun<sup>\*1,2</sup>, M.J. Lee<sup>1,2</sup>, B.R. Jeong<sup>1</sup>, D.H. Lee<sup>1</sup>, E.S. Kim<sup>1</sup>, H.S. Lee<sup>2</sup>, H.D. Kim<sup>1</sup>, <sup>1</sup>Korea Institute of Industrial Technology, Republic of Korea, <sup>2</sup>Pusan National University, Republic of Korea
- [P2.065] **Germanium nanocrystals in oxide matrix for non-volatile memories and ionizing irradiation sensors**  
M.L. Ciurea<sup>\*1,2</sup>, I. Stavarache<sup>1</sup>, A. Slav<sup>1</sup>, C. Palade<sup>1</sup>, A-M. Lepadatu<sup>1</sup>, I. Dascalescu<sup>1</sup>, I. Lalau<sup>1</sup>, O. Cojocar<sup>1</sup>, V.S. Teodorescu<sup>1</sup>, A.V. Maraloiu<sup>1</sup>, <sup>1</sup>National Institute of Materials Physics, Romania, <sup>2</sup>Academy of Romanian Scientists, Romania
- [P2.066] **Development of conversion coatings in structural galvanized steels**  
J.H. Ramírez-Ramírez, F.A. Pérez-González, N.F. Garza-Montes-de-Oca, R. Colás\*, Universidad Autónoma de Nuevo León, Mexico
- [P2.067] **Ag Formation in CNT/graphene surface of nano-electrode sensor by optimal real-time Raman analysis**  
Y. Cui\*, S.G. Pyo, Chung Ang University, Republic of Korea
- [P2.068] **Comparison on the corrosion properties of the finished S136H tool steel surface by manual polishing and laser polishing**

W. Dai<sup>\*1,2</sup>, W.K. Zhang<sup>1,2</sup>, Z.Z. Zheng<sup>1,2</sup>, J.J. Li<sup>1,2</sup>, <sup>1</sup>State Key Laboratory of Materials Processing and Die & Mould Technology, China, <sup>2</sup>Huazhong University of Science and Technology, China

- [P2.069] **Effect of surface topography and properties on the migration at the interface**  
Q.W. Dai<sup>\*</sup>, W. Huang, J.Q. Wang, X.L. Wang, Nanjing University of Aeronautics & Astronautics, China
- [P2.070] **Fabrication of graphene/Ag/PDMS SERS substrate as a flexible sensor for insecticide residues detection on fruit peel**  
T.M. Daniels<sup>\*</sup>, D. Phokharatkul, K. Jaruwongrungssee, N. Nuntawong, A. Jomphook, National Electronics and Computer Technology Center (NECTEC), Thailand
- [P2.071] **Plasma nitriding and femtosecond pulsed laser texturing for durable antibacterial stainless steel surfaces**  
B. Dashtbozorg<sup>\*</sup>, X.Y. Li, R.L. Sammons, J.M. Romano, A. Garcia-Giron, S. Dimov, H. Dong, University of Birmingham, UK
- [P2.072] **Tribological properties of Ar ion irradiated polystyrene at the nanoscale**  
M. Davis<sup>\*1</sup>, J. McGettrick<sup>2</sup>, A. Krupski<sup>1</sup>, J. Radulovic<sup>1</sup>, J. Zekonyte<sup>1</sup>, <sup>1</sup>University of Portsmouth, UK, <sup>2</sup>Swansea University, UK
- [P2.073] **Growth of graphene nanoribbons from molecular functionalized precursors on different single crystal metal surfaces: a comparative study**  
F. De Boni<sup>\*</sup>, G. Merlin, F. Sedona, M. Sambì, University of Padova, Italy
- [P2.074] **High selective ozone gas sensor based on ZnCoO thin film obtained via spray pyrolysis**  
Y.J. Onofre<sup>1</sup>, A.C. Catto<sup>1</sup>, S. Bernardini<sup>2</sup>, T. Fiorido<sup>2</sup>, K. Aguir<sup>2</sup>, E. Longo<sup>1</sup>, V.R. Mastelaro<sup>3</sup>, L.F. da Silva<sup>1</sup>, M.P.F. de Godoy<sup>\*1</sup>, <sup>1</sup>Universidade Federal de São Carlos – UFSCar, Brazil, <sup>2</sup>Aix-Marseille University, France, <sup>3</sup>Universidade de São Paulo – USP, Brazil
- [P2.075] **Zn<sub>1-x</sub>Co<sub>x</sub>O thin films for gas sensing applications**  
Y.J. Onofre<sup>\*1</sup>, A.C. Catto<sup>1</sup>, S. Bernardini<sup>2</sup>, K. Aguir<sup>2</sup>, V.R. Mastelaro<sup>3</sup>, L.F. da Silva<sup>1</sup>, M.P.F. de Godoy<sup>1</sup>, <sup>1</sup>Federal University of São Carlos, Brazil, <sup>2</sup>Aix-Marseille University, France, <sup>3</sup>University of São Paulo, Brazil
- [P2.076] **Tuning the Mn valence states by annealing ZnMnO thin films**  
C.I.P. dos Santos, Y.J. Onofre, A.D. Rodrigues, M.P.F. de Godoy<sup>\*</sup>, Universidade Federal de São Carlos – UFSCar, Brazil
- [P2.078] **Influence of electrolyte and alloying elements on stainless steel electropolishing: an electrochemical impedance spectroscopy study**  
S. Detriche<sup>\*</sup>, P. Ntwali, J. Delhalle, Z. Mekhalif, UNamur, Belgium
- [P2.079] **Droplet Wetting Behavior and Bacterial Adhesion Mechanism on the Surface Designed via Photolithography**  
D. Dixit<sup>\*</sup>, C. Ghoroi, Indian Institute of Technology Gandhinagar, India
- [P2.080] **Bacteria on the graphenic surfaces**  
J. Duch<sup>\*</sup>, M. Golda-Cepa, A. Kotarba, Jagiellonian University, Poland
- [P2.081] **Effect of the electric field on confined donor states in laterally coupled Ga (Al) As quantum rings**  
R. Escorcia<sup>\*1</sup>, W. Gutierrez<sup>1</sup>, I. Mikhailov<sup>1</sup>, <sup>1</sup>Universidad del Magdalena, Colombia, <sup>2</sup>Universidad Industrial de Santander, Colombia
- [P2.082] **Photocatalytic and bactericidal ZnO-SnO<sub>2</sub> materials prepared by polymer salt method**  
S. Evstropiev<sup>\*1</sup>, L. Lesnykh<sup>1</sup>, A. Karavaeva<sup>2</sup>, N. Nikonorov<sup>1</sup>, K. Dukelskii<sup>1,3</sup>, M. Petrova<sup>2</sup>, <sup>1</sup>ITMO University, Russia, <sup>2</sup>Saint-Petersburg State Chemical-Pharmaceutical Academy, Russia, <sup>3</sup>The Bonch-Bruевич Saint-Petersburg State University of Telecommunications, Russia
- [P2.083] **Layer-dependent dielectric functions of few-layer topological insulator Bi<sub>2</sub>Se<sub>3</sub> films**  
M.S. Fang<sup>\*</sup>, B.K. Song, H.G. Gu, X.G. Chen, H. Jiang, S.Y. Liu, Huazhong University of Science and Technology, China
- [P2.084] **AFM anodic oxidation as a tool for production of TiO<sub>2</sub> and SnO<sub>2</sub> nanowire sensors**  
L. Fekete<sup>\*1</sup>, L. Volfova<sup>1</sup>, J. Lancok<sup>1</sup>, J. Bulir<sup>1</sup>, J. Chavelier<sup>1</sup>, M. Klementova<sup>1</sup>, A. Lancok<sup>1</sup>, M. Vrnata<sup>2</sup>, <sup>1</sup>Institute of Physics of the Czech Academy of Sciences, Czech Republic, <sup>2</sup>University of Chemistry and Technology Prague, Czech Republic
- [P2.085] **Functionalizing polyester powder coatings with nanoparticles for wear applications.**  
M. Fernández-Álvarez<sup>\*</sup>, F. Velasco, A. Bautista, Universidad Carlos III de Madrid, Spain

- [P2.086] **Antibacterial and anti-adhesive inorganic coatings on metallic surfaces for temporary fixation devices**  
S. Ferraris<sup>\*1</sup>, S. Perero<sup>1</sup>, P. Costa<sup>2</sup>, G. Gautier di Confienigo<sup>3</sup>, E. Vernè<sup>1</sup>, M. Ferraris<sup>1</sup>, S. Spriano<sup>1</sup>, <sup>1</sup>Politecnico di Torino, Italy, <sup>2</sup>Intrauma SpA, Italy, <sup>3</sup>CNR-IMAMOTER, Italy
- [P2.087] **Gallic acid grafting to metallic surface**  
S. Ferraris<sup>\*1</sup>, M. Cazzola<sup>1</sup>, A. Cochis<sup>2</sup>, G. Ubertalli<sup>1</sup>, E. Prenesti<sup>3</sup>, L. Rimondini<sup>2</sup>, S. Spriano<sup>1</sup>, <sup>1</sup>Politecnico di Torino, Italy, <sup>2</sup>Università del Piemonte Orientale, Italy, <sup>3</sup>Università di Torino, Italy
- [P2.088] **Analysis of superficial changes of plantain fibers treated with plasma in nitrogen atmosphere**  
T. Franco Gómez<sup>\*</sup>, H.A. Estupiñan Durán, A. Hormaza Anaguano, Universidad Nacional de Colombia, Colombia
- [P2.089] **First-principles calculation of the electronic properties of the catalytic activity of CO oxidation on metal-embedded 1T-VSe<sub>2</sub>**  
H.R. Fuh<sup>\*1</sup>, K.C. Weng<sup>2</sup>, <sup>1</sup>Yuan Ze University, Taiwan, <sup>2</sup>Institute of Nuclear Energy Research, Taiwan
- [P2.090] **Degradation analysis of perovskite solar cells**  
A. Gajdos<sup>\*</sup>, N. Papez, M. Kratochvil, D. Strachala, P. Skarvada, Brno University of Technology, Czech Republic
- [P2.091] **Energies of donors in rolled-up quantum well in an electric field**  
L.F. Garcia<sup>\*</sup>, D.Y. ;Castro, I.D. Mikhailov, Universidad Industrial de Santander, Colombia
- [P2.092] **In situ study of nanoparticles production by laser fragmentation of gold microparticles in water: effect of the laser wavelength**  
F. Álvarez-Manzanos<sup>1</sup>, T. García-Fernández<sup>\*2</sup>, R. Castañeda-Guzmán<sup>1</sup>, C. Sánchez-Aké<sup>1</sup>, M. Villagrán-Muniz<sup>1</sup>, S. Soria<sup>3</sup>, <sup>1</sup>Universidad Nacional Autónoma de México, Mexico, <sup>2</sup>Universidad Autónoma de la Ciudad de México, Mexico, <sup>3</sup>National Research Council, Italy
- [P2.093] **Composite ZnO-Au films obtained by hybrid magnetron sputtering and pulsed laser ablation**  
O. Depablos-Rivera<sup>1</sup>, C. Sánchez-Aké<sup>1</sup>, R. Álvarez-Mendoza<sup>2</sup>, T. García-Fernández<sup>\*2</sup>, S. Muhl<sup>1</sup>, M. Villagrán-Muniz<sup>1</sup>, <sup>1</sup>Universidad Nacional Autónoma de México, Mexico, <sup>2</sup>Universidad Autónoma de la Ciudad de México, Mexico
- [P2.094] **Preparation and characterization of g-C<sub>3</sub>N<sub>4</sub>**  
A. Gashi<sup>\*</sup>, R. Marsalek, University of Ostrava, Czech Republic
- [P2.095] **Enhanced CO<sub>2</sub> Capture Capacity using Nano-TiO<sub>2</sub> Coated CaCO<sub>3</sub>**  
S. Maiti, C. Ghoroi<sup>\*</sup>, Indian Institute of Technology Gandhinagar, India
- [P2.096] **Toward optimized and efficient flexible organic-light emitting diodes developed in ambient conditions**  
M. Gioti<sup>\*1</sup>, K. Stavrou<sup>1</sup>, V. Kyriazopoulos<sup>2</sup>, S. Kassavetis<sup>1</sup>, <sup>1</sup>Aristotle University of Thessaloniki, Greece, <sup>2</sup>Organic Electronic Technologies, Greece
- [P2.097] **Optical, surface and interface characterization of solution-processed OLEDs by spectroscopic ellipsometry**  
M. Gioti, Aristotle University of Thessaloniki, Greece
- [P2.098] **In vivo surface degradation of stents in esophageal cancer treatment: case study**  
M. Golda-Cepa<sup>\*1</sup>, P. Chytrosz<sup>1</sup>, J. Wlodarczyk<sup>2</sup>, J. Kuzdzal<sup>2</sup>, A. Kotarba<sup>1</sup>, <sup>1</sup>Jagiellonian University, Poland, <sup>2</sup>Jagiellonian University Medical College, Poland
- [P2.099] **Titanium based composite material with anticorrosion layer of Ti-Ta-Zr system designed for use in boiling sulfuric and hydrochloric acids**  
D.D. Samoylenko<sup>1</sup>, M.G. Golkovski<sup>\*2.1</sup>, D.S. Volkov<sup>1</sup>, D.D. Pakhomov<sup>1</sup>, V.A. Bataev<sup>1</sup>, A.I. Korchagin<sup>2</sup>, <sup>1</sup>Novosibirsk State Technical University, Russia, <sup>2</sup>Budker Institute of Nuclear Physics, Russia
- [P2.100] **Thickness and temperature dependent photoluminescence from few-layer MoS<sub>2</sub>**  
S. Golovynskyi<sup>1.2</sup>, M. Bosi<sup>3</sup>, L. Seravalli<sup>3</sup>, I. Golovynska<sup>\*1</sup>, B.K. Li<sup>1</sup>, J. Qu<sup>1</sup>, <sup>1</sup>Shenzhen University, China, <sup>2</sup>Institute of Semiconductor Physics, Ukraine, <sup>3</sup>Institute of Materials for Electronics and Magnetism, Italy
- [P2.101] **An analytic method for determining optical constants of ultra-thin films by ellipsometry**  
H.G. Gu<sup>\*</sup>, S.M. Zhu, B.K. Song, X.G. Chen, H. Jiang, S.Y. Liu, Huazhong University of Science and Technology, China



- [P2.102] **Investigating optical anisotropy in large-area GeSe by spectroscopic Mueller matrix ellipsometry**  
Z. Guo\*, H. Gu, B. Song, S. Liu, *Huazhong University of Science and Technology, China*
- [P2.103] **Experimental investigations on the earth-abundant family of ternary metal borides for efficient alkaline water-splitting**  
S. Gupta\*<sup>1</sup>, A. Chunduri<sup>2</sup>, A. Miotello<sup>3</sup>, M-K. Patel<sup>1</sup>, N. Patel<sup>2</sup>, <sup>1</sup>University of Liverpool, UK, <sup>2</sup>University of Mumbai, India, <sup>3</sup>University of Trento, Italy
- [P2.104] **Preparation and gas removal performance of porous copper manganese oxide catalyst**  
Y.S. Han\*, S.H. Kim, H.S. Lee, *Seil FA, Republic of Korea*
- [P2.105] **Annealed thin Ag layer on ITO surface for durability improvement in organic solar cells**  
K. Otsuka, K. Harafuji\*, *Ritsumeikan University, Japan*
- [P2.106] **CO oxidation and surface properties of composite catalysts derived from amorphous ZrPd-based alloys**  
M. Hattori\*<sup>1</sup>, A. Masuda<sup>1</sup>, S. Yamaura<sup>2</sup>, M. Ozawa<sup>1</sup>, <sup>1</sup>Nagoya University, Japan, <sup>2</sup>Tohoku University, Japan
- [P2.107] **Porous carbon fibers for effective hydrogen evolution**  
M. Heckova\*<sup>1</sup>, M. Streckova<sup>1</sup>, R. Orinakova<sup>2</sup>, A. Gubova<sup>2</sup>, J. Hovancova<sup>2</sup>, Z. Dankova<sup>1</sup>, V. Girman<sup>2</sup>, <sup>1</sup>Slovak Academy of Science, Slovakia, <sup>2</sup>P.J.Safarik University, Slovakia
- [P2.108] **Deposition of a-C:H films on inner surface of the tube by nanopulse plasma CVD and analysis of plasma behavior**  
Y. Hirata\*, K. Takenami, R. Takamura, Y. Iwamoto, H. Akasaka, N. Ohtake, *Tokyo Institute of Technology, Japan*
- [P2.109] **Structural changes of hydrogen-loaded Pd-Mg multi-layers prepared by magnetron sputtering**  
P. Hruska\*<sup>1,2</sup>, J. Cizek<sup>2</sup>, C.A. Correa<sup>2</sup>, F. Lukac<sup>3</sup>, J. Bulir<sup>1</sup>, L. Fekete<sup>1</sup>, M.O. Liedke<sup>4</sup>, <sup>1</sup>Institute of Physics of the Czech Academy of Sciences, Czech Republic, <sup>2</sup>Charles University, Czech Republic, <sup>3</sup>Institute of Plasma Physics of the Czech Academy of Sciences, Czech Republic, <sup>4</sup>Institute of Radiation Physics, Germany
- [P2.110] **Effect of phosphate electrolyte additives on the corrosion resistance of plasma electrolytic oxidation coatings prepared on ZK60 magnesium alloy**  
H.J. Yu, H. Wang, Y. Chen, Q.Y. You, X. Yu, C. Hu\*, C.Z. Chen, *Shandong University, China*
- [P2.111] **Strain effect for electronic properties on monolayer GaSe with Ga/Se vacancy and the influence on CO adsorption: A First-Principles Calculation Study**  
H.P. Huang\*<sup>1</sup>, C.R. Chang<sup>1</sup>, H.R. Fuh<sup>1,2</sup>, <sup>1</sup>National Taiwan University, Taiwan, <sup>2</sup>Yuan Ze University, Taiwan
- [P2.112] **Modified electronic transport property on the graphene nano-ribbon by magnetic dipole moment: a Non-equilibrium Green function approach**  
T.W. Huang\*<sup>1</sup>, S.H. Chen<sup>2</sup>, W.C. Chien<sup>1</sup>, C.R. Chang<sup>1</sup>, <sup>1</sup>National Taiwan University, Taiwan, <sup>2</sup>University of Taipei, Taiwan
- [P2.113] **Composite Ni/UHMWPE coatings and their tribological performances**  
W. Huang, *Nanjing University of Aeronautics & Astronautics, China*
- [P2.114] **Effect of Co Addition to Si-Cr Solvent in Top-Seeded Solution Growth**  
K. Hyun\*<sup>1</sup>, S.J. Kim<sup>1</sup>, T. Taishi<sup>2</sup>, <sup>1</sup>Mokpo Maritime University, Republic of Korea, <sup>2</sup>Shinshu University, Japan
- [P2.115] **Electroless plating of noble metals on 3D-printed SLM AISi10Mg devices**  
A. Inberg\*<sup>1</sup>, D. Ashenazi<sup>1</sup>, N. Dresler<sup>2</sup>, D. Shani<sup>2</sup>, A. Stern<sup>3,2</sup>, Y. Shaham<sup>1</sup>, <sup>1</sup>Tel Aviv University, Israel, <sup>2</sup>Afeke Academic College of Engineering, Israel, <sup>3</sup>Ben-Gurion University of the Negev, Israel
- [P2.116] **Characterization of Double Decker Cerium Phthalocyanine on Au (111) by Scanning Tunneling Microscopy**  
S. Islam\*, T. Komeda, M. Yamashita, F. Shahed, K. Katoh, *Tohoku university, Japan*
- [P2.117] **Wax esters production by WCO with immobilized Candida rugosa Lipase**  
M. Sarno, M. Iuliano\*, *University of Salerno, Italy*
- [P2.118] **Surface pretreatment prior to PVD coating of facade glass by blasting with solid carbon dioxide**  
E. Uhlmann<sup>1</sup>, R. Jaczkowski\*<sup>1</sup>, R. Domnick<sup>2</sup>, <sup>1</sup>Technische Universität Berlin, Germany, <sup>2</sup>Ara-Coatings GmbH & Co. KG, Germany

- [P2.119] **Accelerated Electrochemical Performance of NiFe-LDH with Ce Doping for Overall Electrochemical Water Splitting**  
H.S. Jadhav\*, J.G. Seo, Myongji university, Republic of Korea
- [P2.120] **Bagassa guianensis extract used as novel eco-friendly inhibitor for zinc corrosion in 3 wt% NaCl solution: Electrochemical and XPS studies**  
M. LEBRINI<sup>1</sup>, F. SUEDELE<sup>1</sup>, P. SALVINI<sup>1</sup>, C. JAMA\*<sup>2</sup>, A. ZARROUK<sup>3</sup>, F. BENTISS<sup>2,4</sup>, C. ROSSI<sup>1</sup>,  
<sup>1</sup>Université des Antilles, France, <sup>2</sup>ENSCL, France, <sup>3</sup>Université de Rabat, Morocco, <sup>4</sup>Université d'El Jadida, Morocco
- [P2.121] **Sunscreen for wood: thin film deposition of inorganic particles on spruce**  
J. Janesch\*<sup>1</sup>, I. Czabany<sup>2</sup>, C. Hansmann<sup>1</sup>, W. Gindl-Altmutter<sup>1,2</sup>, <sup>1</sup>Wood K plus - Competence Centre for Wood Composites and Wood Chemistry, Austria, <sup>2</sup>BOKU-University of Natural Resources and Life Sciences, Austria
- [P2.122] **Patterned sidewall ohmic contacts for AlGaN/GaN high electron mobility transistors on Si substrates**  
M. Jang\*, H.J. Mun, J.H. Hwang, J.H. Jang, Gwangju Institute of Science and Technology, Republic of Korea
- [P2.123] **Research on photovoltaic cells with a hybrid organic-inorganic structure**  
P. Jarka\*<sup>1</sup>, T. Tanski<sup>1</sup>, W. Matysiak<sup>1</sup>, G. Muleta Fanta<sup>2</sup>, <sup>1</sup>Silesian University of Technology, Poland, <sup>2</sup>Jimma University of Technology, Ethiopia
- [P2.124] **Correlative transmission electron microscopy and atom probe tomography on field evaporation mechanism of a bulk LaAlO<sub>3</sub> oxide**  
Y.K. JEONG, Korea Institute of Industrial Technology, Republic of Korea
- [P2.125] **Origin of p-type Conductivity in Hydrated Amorphous V<sub>2</sub>O<sub>5</sub> and its Enhanced Photocatalytic Performance**  
Y.K. Jeong, Korea Institute of Industrial Technology, Republic of Korea
- [P2.126] **Enhanced catalytic behavior of NH<sub>3</sub>-SCR catalyst using slurry coating**  
B.R. Jeong\*<sup>1</sup>, B.R. Ye<sup>1</sup>, J.W. Kim<sup>1,2</sup>, D.H. Lee<sup>1</sup>, J.W. Park<sup>2</sup>, H.D. Kim<sup>1</sup>, <sup>1</sup>Korea institute of industrial technology, Republic of Korea, <sup>2</sup>Pusan National University, Republic of Korea
- [P2.127] **Spin-dependent transport properties in decorating heavy adatoms graphene nanoribbons.**  
S-J. Jhan\*, T-W. Huang, C-R. Chang, National Taiwan University, Taiwan
- [P2.128] **DFT study of nedaplatin drug supported on silica surfaces**  
E. Nosedá Grau<sup>1</sup>, G. Román<sup>1</sup>, A. DíazCompañy<sup>1</sup>, G. Brizuela<sup>1</sup>, A. Juan\*<sup>1</sup>, S. Simonetti<sup>1,2</sup>,  
<sup>1</sup>Universidad Nacional del Sur, Argentina, <sup>2</sup>Universidad Tecnológica Nacional, Argentina
- [P2.129] **Effect of High-Temperature Aging on the Solid Particle Erosion of 9Cr-1Mo steel**  
K.H. Jung\*, S.J. Kim, Mokpo Maritime University, Republic of Korea
- [P2.130] **Moisture collection film surface with high porous fiber layer using the electrospun polyvinylidene-fluoride and zinc-oxide nanowire**  
N.K. Kim, D.H. Kang, H.W. Kang\*, Chonnam National University, Republic of Korea
- [P2.131] **Vertically-coated graphene oxide micropatterning platforms for highly efficient cancer spheroids formation and drug screening**  
C-H. Kim\*, Y-J. Han, I.R. Suhito, D-Y. Park, H-B. Son, T-H. Kim, Chung-Ang University, Republic of Korea
- [P2.132] **Smart nanoparticles for drug, nitric oxide, and cell delivery**  
W.J. KIM, POSTECH, Republic of Korea
- [P2.133] **Initial reactions of phosphorous contained Pd layer in the thin-ENEPIG surface finished PCB with Sn-3.0Ag-0.5Cu solder joints**  
J. Kim\*<sup>1,2</sup>, S.B. Jung<sup>1</sup>, J.W. Yoon<sup>2</sup>, <sup>1</sup>SungkyunKwan University, Republic of Korea, <sup>2</sup>Korea Institute of Industrial Technology, Republic of Korea
- [P2.134] **Influence of material properties on scratch-healing performance of polyacrylate-graft-polyurethane network that undergo thermally reversible crosslinking**  
J.C. Kim\*, Y.I. Park, S-H. Lee, S.M. Noh, Korea Research Institute of Chemical Technology, Republic of Korea
- [P2.135] **Temperature dependence of fine structure splitting in a single GaAs quantum ring**  
H. KIM\*<sup>1</sup>, J-S. KIM<sup>2</sup>, <sup>1</sup>Northeast Normal University, China, <sup>2</sup>Yeungnam University, Republic of Korea
- [P2.136] **Analysis of surface property with various pattern shapes by contact angle measurement**

S.J. Kim\*, S.H. Choi, W.Y. Kim, Y.T. Cho, *Changwon National University, Republic of Korea*

- [P2.137] **Pulsed laser ablation based synthetic route for graphene oxide quantum dots using commercial graphite**  
S. Kang<sup>1,2</sup>, K.H. Jung<sup>1</sup>, J.H. Ryu<sup>3</sup>, K.M. Kim\*<sup>1</sup>, <sup>1</sup>*Korea Institute of Industrial Technology, Republic of Korea*, <sup>2</sup>*Hanyang University, Republic of Korea*, <sup>3</sup>*Korea National University of Transportation, Republic of Korea*
- [P2.138] **Fabrication of nano-carbon electrode material using solution plasma process**  
I.C. Park, K.Y. Hyun, S.J. Kim\*, *Mokpo Maritime University, Republic of Korea*
- [P2.139] **PPy in situ polymerization in adhesive matrix for textile coating**  
M. Kirsnyte\*, P. Ragulis, A. Šukys, R. Simniškis, Z. Kancleris, K. Požela, A. Stirke, *Center for physical science and technology, Lithuania*
- [P2.140] **Tribological properties of TiCN nanosized powder reinforced aluminum**  
M. Kolev\*<sup>1</sup>, S. Valkov<sup>2,1</sup>, R. Lazarova<sup>2</sup>, P. Petrov<sup>2</sup>, R. Dimitrova<sup>1</sup>, <sup>1</sup>*Institute of Metal Science, BAS, Bulgaria*, <sup>2</sup>*Institute of Electronics, BAS, Bulgaria*
- [P2.141] **Stability of PEO-phosphonic acid layers on stainless steel nanoparticles for antifouling applications**  
F. Kousar\*, S.C. Moratti, *University of Otago, New Zealand*
- [P2.142] **Dependence of the basic surface parameters of metal on temperature**  
J. Chrzanowski, A. Kowalska\*, *Maritime University Szczecin, Poland*
- [P2.143] **Low temperature hydrothermal synthesis of cotton fabric coating with ZnO flower-like nanostructures and monitoring of antifungal activity**  
M. Küçük\*<sup>1</sup>, B. Yagci<sup>2</sup>, M.L. Öveçoğlu<sup>1</sup>, <sup>1</sup>*Istanbul Technical University, Turkey*, <sup>2</sup>*Koç University, Turkey*
- [P2.144] **Investigation on surface and subsurface analysis during grinding of silicon nitride utilizing MoS<sub>2</sub>-WS<sub>2</sub> hybrid nanofluid**  
A. Kumar\*, S. Ghosh, S. Aravindan, *IIT DELHI, India*
- [P2.146] **Electronic and atomic structure of TiO<sub>2</sub> anatase spines on sea-urchin-like microspheres by X-ray absorption spectroscopy**  
H.W. Kuo\*<sup>1</sup>, H.Y. Do<sup>2</sup>, C.J. Lin<sup>2</sup>, R.Y. Wu<sup>1</sup>, C.M. Tseng<sup>3</sup>, K. Kumar<sup>4</sup>, C.L. Dong<sup>5</sup>, C.L. Chen<sup>1</sup>, <sup>1</sup>*National Synchrotron Radiation Research Center, Taiwan*, <sup>2</sup>*National Ilan University, Taiwan*, <sup>3</sup>*Ming Chi University of Technology, Taiwan*, <sup>4</sup>*Jubail Industrial College, Saudi Arabia*, <sup>5</sup>*Tamkang University, Taiwan*
- [P2.147] **Synthesis of titanium oxide based thin film photocatalysts produced by pulsed laser deposition**  
S. Kurumi\*, K. Suzuki, *Nihon University, Japan*
- [P2.148] **The role of interfaces in tailoring magnetic anisotropy in Fe/MgO/Fe<sub>3</sub>O<sub>4</sub>(001) trilayers**  
N. Kwiatek\*<sup>1</sup>, K. Freindl<sup>1</sup>, E. Madej<sup>1</sup>, P. Mazalski<sup>1</sup>, A. Koziol-Rachwał<sup>2</sup>, J. Wojas<sup>1</sup>, D. Wilgocka-Slezak<sup>1</sup>, J. Korecki<sup>1,2</sup>, N. Spiridis<sup>1</sup>, <sup>1</sup>*Polish Academy of Sciences, Poland*, <sup>2</sup>*AGH University of Science and Technology, Poland*
- [P2.149] **Water vapor annealing of solution-processed zirconium oxide gate dielectrics for pentacene thin-film transistors**  
J. Kwon\*<sup>1</sup>, H. Lee<sup>2</sup>, B. Kim<sup>2</sup>, J. Bae<sup>1</sup>, J. Park<sup>2</sup>, <sup>1</sup>*Kyungpook University, Republic of Korea*, <sup>2</sup>*Hallym University, Republic of Korea*
- [P2.150] **Facile synthesis of silver nanoparticles on ITO surfaces: Effect of size and density dispersion on optical and electrochemical measurements**  
K. Nouneh<sup>1</sup>, S. Derbali<sup>1</sup>, A. Laazizi\*<sup>2</sup>, M. Zekriti<sup>3</sup>, K. Elmabrouk<sup>3</sup>, S. Vaudreuil<sup>3</sup>, M. Oyama<sup>4</sup>, <sup>1</sup>*University Ibn Tofail, Morocco*, <sup>2</sup>*University Moulay Ismail, Morocco*, <sup>3</sup>*Euro-Mediterranean University of Fes (UEMF), Fes, Morocco*, <sup>4</sup>*Kyoto University, Japan*
- [P2.151] **Thermoelectric properties of Sn doped Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> films**  
R. Lan\*, P-Y. Yuan, S.L. Otoo, P-F. Wang, Y-Y. Yuan, *Jiangsu University of Science and Technology, China*
- [P2.152] **Study of 2D nanomaterial, MXene solution for nonlinear saturable absorber**  
J.J. Kim, H. Kim, C.M. Koo, S.B. Lee, K. Lee\*, *KIST, Republic of Korea*
- [P2.153] **Adhesion Enhancement of Conductive Graphene Film/PI by Using an Atmospheric Plasma System**  
C.C. Lee\*<sup>1</sup>, R.C. Shih<sup>1</sup>, C.P. Hsieh<sup>2</sup>, <sup>1</sup>*National Tsing Hua University, Taiwan*, <sup>2</sup>*National Taiwan University, Taiwan*
- [P2.154] **Thin films of hierarchically aligned carbon-based nanomaterials by Langmuir-Blodgett technique**

J-H. Lee\*<sup>1</sup>, K-S. Kim<sup>1</sup>, G-H. Nam<sup>2</sup>, J-H. Kim<sup>2</sup>, <sup>1</sup>Korea Institute of Toxicology (KIT), Republic of Korea, <sup>2</sup>Ajou University, Republic of Korea

- [P2.155] **A study on methodology and standardization for rocking curve of single crystal thin film using high resolution X-ray diffraction**  
S.H. Lee\*, K.T. Park, I.H. Ko, Korea Institute of Ceramic Engineering and Technology, Republic of Korea
- [P2.156] **Realization of direct sputtering of silver reflective electrode on p-GaN for 1024 pixelated GaN micro-LED arrays using ITO nanoparticles**  
J.H. Lee\*, Y.J. Cha, T.K. Kim, J.B. So, S.M. Cho, J.M. Lee, M.U. Cho, J.S. Kwak, Suncheon National University, Republic of Korea
- [P2.157] **Single-walled carbon nanotube based Schottky transistor for highly sensitive biosensor**  
J-H. Lee\*<sup>1</sup>, K-S. Kim<sup>1</sup>, H-S. Kim<sup>2</sup>, M. Lee<sup>2</sup>, J-H. Kim<sup>2</sup>, <sup>1</sup>Korea Institute of Toxicology (KIT), Republic of Korea, <sup>2</sup>Ajou University, Republic of Korea
- [P2.158] **Large scale fabrication of plasmonic Au@AuOx core-shell nanoparticles and their application for alcohol sensing**  
B.J. Kim, G.W. Hwang, I.H. Kim, W.S. Lee, K.S. Lee\*, Korea Institute of Science and Technology, Republic of Korea
- [P2.159] **Polydopamine-coated MWCNT/graphene hybrid hydrogels for highly flexible supercapacitors based on carbon fabrics**  
V.H. Luan, W. Lee\*, Chonnam National University, Republic of Korea
- [P2.160] **V<sub>2</sub>O<sub>5</sub>-WO<sub>3</sub> decorated carbon nanotubes for selective catalytic reduction of NO<sub>x</sub> by NH<sub>3</sub>**  
D. Lee\*, H. Kim, Korea Institute of Industrial Technology, Republic of Korea
- [P2.161] **High responsivity silicon nanowire detector under low applied voltage**  
H.F. liang\*, S.J. yin, C.L. cai, J. zhang, Y.Y. zhang, Q. hu, Xian Technological University, China
- [P2.162] **Application of AFM-based single-molecule force spectroscopy for the analysis of macromolecular adsorption on nanostructured ZnO films**  
D. Meinderink\*, A.G. Orive, G. Grundmeier, University of Paderborn, Germany
- [P2.163] **Control over water adhesion: the ejection test method (ETM) applied to surfaces with various hydrophobicity**  
G. Ramos Chagas\*<sup>1,2</sup>, T. Darmanin<sup>2</sup>, F. Celestini<sup>2</sup>, C. Raufaste<sup>2</sup>, F. Guittard<sup>2</sup>, <sup>1</sup>Université de Toulon, France, <sup>2</sup>Université Côte d'Azur, France
- [P2.164] **Electron promotion in atomic collisions in solids: absence of reionization**  
P. Riccardi, Università della Calabria, Italy
- [P2.165] **Electron emission by slow He ions impact on free-electron metal surfaces**  
P. Riccardi, Università della Calabria, Italy
- [P2.166] **Influence of the surface orientation in scratching and cutting iron single crystals – an atomistic study**  
H.M. Urbassek\*, I. Alabd Alhafez, Kaiserslautern, Germany