

Poster Program

[P1.01] 2D transition metal dichalcogenide heterostructures grown on metallic substrates: Morphology, structure and vibrational properties

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[P1.02] Self-assembly of Pd-cyclometallated complex on Ag(110)

Marija Stojkowska*^{1,2}, Jose Eduardo Barcelon^{1,3}, Hien Dinh Thuy², Roberto Costantini⁴, Daniele Perilli⁵, Luca Vaghi⁵, Giovanni Carraro^{2,1}, Marco Smerieri¹, Martina Dell'Angela⁴, Albano Cossaro^{6,4}, ¹MEM-CNR, UOS Genova, Italy, ²University of Genova, Italy, ³University of Parma, Italy, ⁴IOM-CNR, Trieste, Italy, ⁵University of Milano-Bicocca, Italy, ⁶University of Trieste, Italy

[P1.03] Microbubble jetting visualization and mechanisms of membrane poration at biointerfaces

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[P1.04] Tracking the intracellular uptake of the free labelled nanoclay laponite by Raman imaging technique through its chemical fingerprint

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[P1.05] Electrochemical determination with surface modification based on molecularly imprinted polymers combined with superparamagnetic iron oxide nanoparticles for gluten detection

Dalawan Limthin*¹, Piyawan Leepheng¹, Korakot Onlaor¹, Benchapol Tunhoo¹, Annap Klamchuen², Thutiyaporn Thiwawong¹, Darinee Phromyothin¹, ¹King Mongkut's Institute of Technology Ladkrabang, Thailand, ²National Science and Technology Development Agency, Thailand

[P1.06] Electrografting of 4-nitrobenzenediazonium salts on Al-7075 alloy surfaces - the role of intermetallic particles

Jiangling Su*¹, Juan Carlos Calderón Gómez¹, Alejandro González Orive^{1,2}, Guido Grundmeier¹, ¹University of Paderborn, Germany, ²University of La Laguna, Spain

[P1.07] Impulse generated by laser ablation of poly(vinyl chloride) doped with carbon nanoparticles and poly(styrene sulfonate)

Pietro Battocchio*, Jacopo Terragni, Nicola Bazzanella, Michele Orlandi, Antonio Miotello, *university of Trento, Italy*

[P1.08] Generation and erasure of dual LIPSS in germanium with FS and NS pulses

Noemi Casquero*, Yasser Fuentes-Edfuf, Raul Zazo, Javier Solis, Jan Siegel, *Laser Processing Group, Spain*

[P1.09] Different process designs, one goal – comparing characteristic surface properties of thermally oxidized titanium alloys

Daniel Dickes*, Rainer Völkl, Uwe Glatzel, *University of Bayreuth, Germany*

[P1.10] Surface functionalisation and grafting of a preceramic polymer onto zirconium carbide particles: Towards new hybrid core-shell structures

Romain Lucas*, Sylvie Foucaud¹, Eric Osei-Agyemang², Jean-François Paul², Arish Dasan³, Sylvain Cristol³, Etienne Laborde³, ¹*Institute of Research for Ceramics (IRCER), France,*²*Univ. Limoges, France,*³*Université de Lille, France*

[P1.11] Metal electrodeposition on gas diffusion electrodes for the catalysed CO₂ electroreduction reaction

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[P1.12] Perspectives of nanosized ITO/ZnO bilayers after post-annealing at various gas ambient toward ultraviolet photodetectors

Tamara Potlog*^{1,2}, Dumitru Rusnac¹, Ion Lungu¹, Gleb Colbaba¹, Dumitru Luca², Marius Dobromir², Lidia Ghimpu³, ¹*Moldova State University, Moldova, Republic of,*²*Alexandru Ioan Cuza University, Romania,*³*Ghitu Institute of Electronic Engineering and Nanotechnologies, Moldova, Republic of*

[P1.13] Effect of inflammation on the surface properties of modern binary and quaternary Ti β-phased alloys for long-lasting implantable devices

Agata Sotniczuk*, Halina Garbacz, *Warsaw University of Technology, Poland*

[P1.14] Absolute radiation tolerance of amorphous alumina coatings at room temperature

Agata Zaborowska*, Łukasz Kurpaska¹, Melanie Clozel¹, Jaco Olivier², Jacques O'connell², Matteo Vanazzi³, Fabio Di Fonzo³, Alexander Azarov^{4,1}, Iwona Józwick^{1,5}, Małgorzata Frelek-Kozak¹, ¹*National Center for Nuclear Research, Poland,*²*Nelson Mandela University, South Africa,*³*Istituto Italiano di Tecnologia, Italy,*⁴*University of Oslo, Norway,*⁵*Institute of Electronic Materials Technology, Poland*

[P1.15] Biocompatibility of polymeric surfaces: experimental and molecular dynamics simulations approach

Monika Golda-Cepa*¹, Paulina Chytrosz¹, Kamila Riedlova^{2,3}, Waldemar Kulig⁴, Lukasz Cwiklik², Andrzej Kotarba¹, ¹*Jagiellonian University, Poland,*²*Czech Academy of Sciences, Czech Republic,*³*Charles University in Prague, Czech Republic,*⁴*University of Helsinki, Finland*

[P1.16] Electrospun In₂O₃ 1D nanostructures and their optical properties

Weronika Smok*, Tomasz Tański, *Silesian University of Technology, Poland*

[P1.17] Correlating hydrophobicity to surface chemistry of microstructured aluminium surfaces

Giovanni Carraro*^{1,2}, Letizia Savio², K.B. Bhavitha¹, Gianangelo Bracco^{1,2}, Giorgio Luciano³, Dario Cavallo¹, Giulio Paolini¹, Simone Passaglia², Roberto Masini², Marco Smerieri², ¹*Università di Genova, Italy,*²*IMEM-CNR, Italy,*³*ISTC-CNR, Italy*

[P1.18] Anodizing Al alloy castings: Influence of alloying elements, microstructure and process parameters on the anodized surface

Giulia Scampone*, Giulio Timelli, *University of Padova, Italy*

[P1.19] Tailored approach for hierarchization of all-silica zeolites

Karolina Tarach*, Susana Valencia², Grzegorz Słowik³, Kinga Góra-Marek¹, Fernando Rey²,
¹Jagiellonian University in Kraków, Poland,²Universitat Politècnica de València - Consejo Superior de Investigaciones Científicas, Spain,³Maria Curie-Skłodowska University in Lublin, Poland

[P1.20] Predicting the outcomes of focused electron-beam nanoprinting by means of multiscale computer simulations

Pablo de Vera*¹, Martina Azzolini¹, Gennady Sushko², Isabel Abril³, Rafael Garcia-Molina⁴, Maurizio Dapor¹, Ilia A. Solov'yov⁵, Andrey V. Solov'yov², ¹European Centre for Theoretical Studies in Nuclear Physics and Related Areas (ECT*), Italy,²MBN Research Center, Germany,³Departament de Física Aplicada, Universitat d'Alacant, Spain,⁴Departamento de Física, Universidad de Murcia, Spain,⁵Department of Physics, Carl von Ossietzky University, Germany

[P1.21] Dye sensitised solar cells (DSSC) based on hybrid nanostructural photoanodes

Paweł Jarka*, Tomasz Tański, Wiktor Matysiak, Aleksandra Drygała, *Silesian University of Technology, Poland*

[P1.22] Graphene growth on Ni(111) by Near Ambient Pressure Exposure to CO

Rocco Davi*^{1,2}, Giovanni Carraro^{1,2}, Marija Stojkowska^{1,2}, Marco Smerieri², Letizia Savio², Mikolaj Lewandowski³, Jean-Jacques Gallet^{4,5}, Fabrice Bournel^{4,5}, Mario Rocca^{1,2}, Luca Vattuone^{1,2},
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[P1.23] Ce and Ca/Nb doped Pd-mesocellular foam catalysts for gas-phase conversion of acetone to methyl isobutyl ketone.

Kalina Grzelak*¹, Rouzana Pulikkal Thumbayil², Søren Kegnæs², Anders Riisager², Maciej Trejda¹,
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[P1.24] Modification of ZnO nanofibers with europium and ytterbium ions and their photocatalytic properties

Marta Zaborowska*, Tomasz Tański, Wiktor Matysiak, Weronika Smok, *Silesian University of Technology, Poland*

[P1.25] Optical and thermal characterization of complex interaction between sodium dodecyl sulfate surfactant and gold nanoparticles

Luis Mendez Montes-de-Oca*¹, Miguel Ceja-Morales¹, Miguel Angel Zambrano-Arjona², Rubén Medina-Esquivel², Pablo Martínez-Torres¹, ¹Universidad Michoacana de San Nicolás de Hidalgo, Mexico,²Universidad Autónoma de Yucatán, Mexico

[P1.26] Computational study of the surface effects of hexagonal and cubic porous silicon carbide

Marbella Calvino Gallardo*, Alejandro Trejo Baños, Margarita Crisóstomo Santos, Miguel Cruz Irisson, *Instituto Politécnico Nacional, Mexico*

[P1.27] Water-gated transistor using ion exchange resin for potentiometric fluoride sensing

Zahrah Alqahtani^{*1,2}, Nawal Alghamdi^{1,3}, Thomas Robshaw¹, Robert Dawson¹, Mark D. Ogden¹, Alastair Buckley¹, Martin Grell¹, ¹University of Sheffield, UK, ²University of Taif, Saudi Arabia, ³University of Tabuk, Saudi Arabia

[P1.28] Evolution of steady-state surface properties during catalysis: Oxidative coupling of methanol over nanoporous $Ag_{0.03}Au_{0.97}$

Matthijs A. van Spronsen^{*1,2}, Branko Zugic¹, Miquel B. Salmeron^{2,3}, Cynthia M. Friend^{1,4,5}, ¹Harvard University, USA, ²Lawrence Berkeley National Laboratory, USA, ³University of California, USA, ⁴Diamond Light Source, UK, ⁵Deep Science Ventures, UK

[P1.29] Dual-frequency PECVD SiN_x dry passivation process for GaAs and III-V devices

Olivier Richard^{*}, Vincent Aimez, Abdelatif Jaouad, *3IT - Université de Sherbrooke, Canada*

[P1.30] Surface passivation effects on the electronic, optical and vibrational properties of GaSb nanowires.

Alejandro Trejo Baños^{*}, Isabel Iturrios Santos, Eliel Carvajal Quiroz, Miguel Cruz Irisson, *Instituto Politécnico Nacional, Mexico*

[P1.31] Physicochemical understanding of nanoscale friction: Dissipation and coupling mechanisms.

Carlos Figueroa^{*}, *Universidade de Caxias do Sul, Brazil*

[P1.32] Synthesis and characterization of polymeric materials based on styrene (Sty), divinylbenzene (DVB) and magnetite

Mariana Reis^{*}, Adriana Batista, Ricardo Sousa, *Universidade Federal de Minas Gerais, Brazil*

[P1.33] A highly effective method for electroless gold coating of 3D printed microstructures.

Keyvan Jodeiri^{*}, Aleksandra Foerster, Jisun Im, Christopher Tuck, *University of Nottingham, UK*

[P1.34] Extinction coefficient modulation of MoO_3 films doped with plasmonic nanoparticles: From an effective medium theory description

Michael Morales-Luna^{*}, Gesuri Morales-Luna², ¹Universidad de Monterrey, Mexico, ²Universidad Iberoamericana, Mexico

[P1.35] Influence of the synthesis method on the activity and selectivity of Pt and PtNi bimetallic catalysts for the aqueous phase reforming of glycerol

Jonatan Duran-Martin^{*1,2}, Timothy Johnson¹, Stephen Bennet¹, Simon Beaumont², Philip Dyer², Stephen Poulston¹, ¹Johnson Matthey Technology Centre, UK, ²Durham University, UK

[P2.01] The humidity micro-sensors prepared by ion beam lithography in graphene oxide and polymer foil

Petr Malinsky^{*1,2}, Oleksandr Romanenko¹, Vladimir Havranek¹, Mariapompea Cutroneo¹, Eva Stepanovska^{1,2}, Petr Slepicka³, Katerina Szokolova³, Petr Marvan³, Zdenek Sofer³, Anna Mackova^{1,2},
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[P2.02] Design and optimization of a re-usable anti-fouling microgel coating by QCM-D

Marta Santi^{*1,2}, Pabitra Saha^{1,2}, Jacek Walkowiak³, Jens Rubner^{1,2}, Matthias Wessling^{1,2}, Andrij Pich^{1,3},
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[P2.03] Graphene oxide/hydroxyethyl cellulose nanohybrids crosslinked by citric acid for electrochemical detection of heavy metals

Jaroslav Filip^{*}, Jitka Sotolarova, Tomas Bata University in Zlin, Czech Republic

[P2.04] How controlled oxidation at ultra-low pressure can lead to improved corrosion protection of stainless steels: a combined XPS, ToF-SIMS and electrochemical approach

Benjamin Lynch^{*}, Shova Neupane, Frédéric Wiame, Antoine Seyeux, Vincent Maurice, Philippe Marcus, PSL Research University, France

[P2.05] Patterns for solar cells metallization using phosphonic acid self- assembled monolayers

Gaëlle Andreatta^{*}, Nicolas Blondiaux, Julien Gay, Agata Lachowicz, Antonin Faes, Christophe Allebé, Centre Suisse d'Electronique et de Microtechnique, Switzerland

[P2.06] Analysis of the adhesive properties and microstructure of epoxy resin coatings modified with waste feldspar-quartz powder

Agnieszka Chowaniec^{*}, Sławomir Czarnecki, Łukasz Sadowski, Wrocław University of Science and Technology, Poland

[P2.07] Multi-wavelength Raman investigation of metal doped diamond-like carbon films

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[P2.08] Radiation damage evolution in pure W and W-Cr-Hf alloys caused by 5MeV Au ions in a broad range of dpa

Anna Macková^{*1,2}, Vladimír Havránek¹, Václav Holý^{3,4}, Sandrina Fernandes¹, Matiej O. Liedke⁵, Jiří Matějček⁶, Michal Potoček⁷, Petr Bátor⁷, Monika Vilémová⁶, Jiří Martan⁸,
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[P2.09] Inverse gas chromatography as a screening tool to determine the quality of a material

Xochitli L. Osorio Barajas^{*1}, Marc Thibaut², Eva-Maria Frühauf¹,
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[P2.10] Atmospheric pressure plasma jet direct printing of silver-containing thin films on the surface of polymers

Yerbolat Usenov^{*1,2}, Moldir Toktamyssova^{1,2}, Merlan Dosbolayev¹, Maratbek Gabdullin¹, Tlekkabul Ramazanov¹, ¹*Al-Farabi Kazakh National University, Kazakhstan*,²*Institute of Applied Science and Information Technologies, Kazakhstan*

[P2.11] The nature of self-assembled octadecylphosphonic acid (ODPA) layers on copper substrates

Weijie Zhao^{*1}, Mats Göthelid¹, Saman Hosseinpour², Malin B. Johansson³, Gen Li¹, Christofer Leygraf¹, C. Magnus Johnson¹, ¹*KTH Royal Institute of Technology, Sweden*,²*Friedrich-Alexander-Universität-Erlangen-Nürnberg (FAU), Germany*,³*Uppsala University, Sweden*

[P2.13] Protein-modified aluminosilicate surface: Montmorillonite colloid plates with adsorbed cytochrome c

Svetlana H. Hristova^{*1}, Alexandar M. Zhivkov², ¹*Medical University, Bulgaria*,²*Rostislav Kaishew" Institute of Physical Chemistry, Bulgaria*

[P2.14] Comparative study of the electronic structure of poly(3-hexylthiophene)/MoS₂ interfaces by photoelectron spectroscopies

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[P2.15] Unified chemical preparation method of well-ordered semiconductor surfaces

Oleg Tereshchenko^{*}, *Institute of Semiconductor Physics SB RAS, Russia*,*Novosibirsk State University, Russia*

[P2.16] DFT screening of adsorption of biofuel autoxidation precursors on aluminium and stainless steel surfaces

Claudia Cantarelli^{*1}, Benoit Darenne¹, Maira Alves Fortunato¹, Theodorus de Bruin¹, Dominique Costa², ¹*IFP Energies nouvelles, France*,²*Laboratoire de Physico-Chimie des Surfaces, France*

[P2.17] Comparative study of the picosecond laser surface texturing of YSZ and CGO on YSZ films for electrochemical cells applications

Wael Karim^{*1}, Martin Mickan¹, Agnès Petit¹, Malek Tabbal², Anne-Lise Thomann¹, Nadjib Semmar¹, ¹*GREMI-CNRS-University of Orleans, France*,²*American University of Beyrouth, Lebanon*

[P2.18] Investigation of PVD/ALD hybrid coatings as protection of ultra-light Mg-Li-Al-RE alloys against corrosion

Marcin Staszuk^{*1}, Łukasz Reimann¹, Robert Socha², Małgorzata Muszyfaga-Staszuk¹, Daniel Pakuła¹, Tomasz Tański¹, ¹*Silesian University of Technology, Poland*,²*Institute of Catalysis and Surface Chemistry PAS, Poland*

[P2.19] Nitriding of H13 tool steel during hot isostatic pressing using nitrogen gas

Yu Cao^{*1}, Hans Magnusson², Giulio Maistro³, Johannes Gårdstam⁴, Akshay Mundayadan Chandroth¹, Christos Oikonomou³, Anok Babu Nagaram¹, Lars Nyborg¹, ¹*Chalmers University of Technology, Sweden*,²*Swerim AB, Sweden*,³*Uddeholms AB, Sweden*,⁴*Quintus Technologies AB, Sweden*

[P2.20] Corrosion resistance and adhesive properties of laser surface melted Al 7075-T6 alloy

Pascal Vieth^{*}, Markus Voigt, Christoph Ebbert, Guido Grundmeier, *University of Paderborn, Germany*

[P2.21] Surface assisted synthesis, characterization and electronic properties of pristine and oxygen-exposed graphene nanoribbons on Ag(110)

Jose Eduardo Barcelon^{*1,2}, Marco Smerieri¹, Giovanni Carraro^{1,3}, Pawel Wojciechowski⁴, Silvia Nappini⁵, Igor Pis^{5,6}, Elena Magnano^{5,7}, Federica Bondino⁵, Luca Vaghi⁸, Antonio Papagni⁸, ¹IMEM-CNR, UOS Genova, Italy, ²Universita di Parma, Italy, ³Universita degli studi di Genova, Italy, ⁴Adam Mickiewicz University, Poland, ⁵IOM CNR laboratorio TASC, Italy, ⁶Elettra-Sincrotrone Trieste S.C.p.A., Italy, ⁷University of Johannesburg, South Africa, ⁸Universita di Milano-Bicocca, Italy

[P2.22] Low-energy electromagnetic processes affecting the electron emission at the separation of gold surfaces in space with LISA Pathfinder

Mattia Villani^{*1,2}, Catia Grimani^{1,2}, Michele Fabi^{1,2}, Andrea Cesarini², ¹Urbino University, Italy, ²INFN - Firenze, Italy

[P2.23] In situ and operando IR methodology for verification of diffusion constraints erasing: The case of zeolite ZSM-5

Kinga Góra-Marek^{*1}, Karolina Tarach¹, Kamila Pyra¹, Susana Valencia², Miguel Palomino², Fernando Rey², ¹Jagiellonian University in Krakow, Poland, ²Universitat Politècnica de València – Consejo Superior de Investigaciones Científicas, Spain

[P2.24] Surface states of the potassium promotor in Co | Al₂O₃ catalysts for the (bio)ethanol reforming process

Gabriela Grzybek^{*1}, Kinga Góra-Marek¹, Piotr Patulski¹, Dagmara Potyczka¹, Magdalena Greluk², Grzegorz Słowik², Marek Roško², Andrzej Kotarba¹, ¹Jagiellonian University in Kraków, Poland, ²Maria Curie-Skłodowska University in Lublin, Poland

[P2.25] Quantitative study of optical anisotropy and its origin in tellurene nanosheet

Zhengfeng Guo^{*}, Honggang Gu, Shiyuan Liu, Huazhong University of Science and Technology, China

[P2.26] In-situ Raman measurement of the growth of low-k dielectric thin film

Dawon Ahn^{*}, Jinhyun Choi, Jinseok Kim, Jae Bin Kim, Dae Sik Kim, Sung Gyu Pyo, Chung-Ang University, Republic of Korea

[P2.27] Effect of Mg on spangle size and corrosion behavior of hot-dip Al-Zn-RE coating in NaCl solution

Changhong Cai^{*}, Renbo Song, Yongjin Wang, Jingyuan Li, University of Science and Technology Beijing, China

[P2.28] Surface engineering of graphene oxide by methionine for corrosion inhibitor application

Fatemeh Rahnemaye Rahsepar^{*}, Bita Khalili, School of Chemistry, College of Science, University of Tehran, Iran, Iran

[P2.29] Preparation of SnOx transparent conductive films and their infrared photoelectric properties

LIANGGE XU^{*}, Lei Yang, JIAQI ZHU, Harbin Institute of Technology, China

[P2.30] A novel approach to atomic layer deposited thin film analysis using resonance raman scattering

Jinseok Kim^{*}, Sung Gyu Pyo, Dawon Ahn, Jinhyun Choi, Kyung Soo Kim, Jae Bin Kim, Dae Sik Kim, Chung-Ang University, Republic of Korea

[P2.31] Prediction of mechanical properties and surface roughness of FG4095 superalloy treated by laser shock processing based on machine learning

Jiajun Wu*, Yinghao Li, Hongchao Qiao, Yuqi Yang, Jibin Zhao, Zheng Huang, *University of Chinese Academy of Sciences, China*

[P2.32] Study on glucose sensing materials based on CNT/graphene-Ag composite for nano-electrode sensor

Jinhyun Choi*, Jinseok Kim, Dawon Ahn, Dae Sik Kim, Jae Bin Kim, Sung Chul Lee, Kyung Soo Kim, Sung Gyu Pyo, *Chung-Ang University, Republic of Korea*

[P2.33] Poly-styrene sulfonate doped poly-pyrrole: A low cost hole extraction material for developing highly efficient organic solar cell

Dr. Swarup Biswas*, Professor Hyeok Kim, *University of Seoul, Republic of Korea*

[P2.34] Metal-free mesoporous Si-P catalyst for the low-temperature conversion of SO₂ to H₂S in hydrogen

Xinnan Lu*, Safa Gaber, Kyriaki Polychronopoulou, *Khalifa University of Science and Technology, United Arab Emirates*