

Poster Programme

Poster Session 1

Monday 11th March 2019 - 16:00–17:00 & 19:00–20:30

Room - Tramuntana 1&2

- [P1.001] Temperature-responsive bending studies of a PP-g-PNIPAAm mesh for hernia repair**
S. Lanzalaco^{*1,2}, P. Turón^{1,3}, C. Weis³, C. Aleman^{1,2}, E. Armelin^{1,2}, ¹Universitat Politècnica de Catalunya, Spain, ²Barcelona Research Center in Multiscale Science and Engineering, Spain, ³B. Braun Surgical, Spain
- [P1.002] Molecular doping in conjugated polymers for high performance organic thin-film transistors and non-volatile memory**
K.-J. Baeg, *Pukyong National University, Republic of Korea*
- [P1.003] Synthesis and characterization of poly (styrene-co-acrylonitrile) nanofibers for potential development of artificial muscles**
R. Caro-Briones*, M. Corea-Télez, L. Ruíz-Virgen, H. Martínez-Gutiérrez, *Instituto Politécnico Nacional, Mexico*
- [P1.004] Development of a method for measuring the flexural rigidity of nanofibres**
R. Fortini^{*1}, H. Sturm¹, D. Kehren², A. Meyer-Plath², ¹Federal Institute for Materials Research and Testing, Germany, ²Federal Institute for Occupational Safety and Health, Germany
- [P1.005] Effect of acoustic waves on heat transfer and hydrodynamics characteristics of fluidized bed for binary mixture of ultrafine powder**
M. Gabhane^{*1,3}, S. Chakrabarti¹, U. Wankhede², ¹OP Jindal University, India, ²Government College of Engineering, India, ³G H Raison College of Engineering Nagpur, India
- [P1.006] Smart composites with shape memory effect and piezoelectric effect for energy harvesting**
X. Guan*, H. Chen, Q. Ni, *Shinshu University, Japan*
- [P1.007] Fluorinated ethylene-propylene/graphite composite with preferred structural optimization by well-dispersed master batch**
M.H. Lee*, S.M. Oh, B.C. Kim, K.S. Park, J.S. Woo, *Morgan, Republic of Korea*
- [P1.008] Determination of the binding affinity of ZnO binding peptides via an indicator displacement assay and single molecule force spectroscopy**
M. Michaelis^{*1,2}, D. Rothenstein³, L. Colombi Ciacchi², C.C. Perry¹, ¹Nottingham Trent University, UK, ²University of Bremen, Germany, ³University of Stuttgart, Germany
- [P1.009] Microstructure and densification behaviour of tungsten fabricated by spark plasma sintering**
S.-T. Oh^{*1}, H. Kang¹, J.-Y. Han¹, Y.-K. Jeong², ¹Seoul National University of Science and Technology, Republic of Korea, ²Pusan National University, Republic of Korea
- [P1.010] Measuring spatially resolved viscosity and viscosity gradients at solid/liquid interfaces of aqueous solutions with a small sample volume by atomic force microscopy**
D. Silbernagl^{*1}, R. Breitenbach¹, C. Crasselt¹, A.A. Gorbushina^{1,3}, H. Sturm^{1,2}, ¹Bundesanstalt für Materialforschung und -prüfung, Germany, ²TU Berlin, Germany, ³FU Berlin, Germany
- [P1.011] Developments of TiO₂/porphyrin hybrid compounds and photocatalytic investigation on degradation of stains**
Y.A. Son*, G. Heo, H. Kim, R.S. Kumar, R. Manivannan, *Chungnam National University, Republic of Korea*
- [P1.012] Interfacial adhesion properties of two-dimensional materials**
J.W. Suk, *Sungkyunkwan University, Republic of Korea*
- [P1.013] Optimization on the deposition method of CZTS nanoparticles thin film for hole transport layer application in solar cell**
U. Syafiq^{*1,2}, N. Ataollahi¹, P. Scardi¹, R. Di Maggio¹, C. Malerba³, A. Mittiga³, ¹University of Trento, Italy, ²Solar Energy Research Institute-The National University of Malaysia (SERI-UKM), Malaysia, ³Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), Italy
- [P1.014] SAXS and WAXS study of cellulose nanocrystals**
P.M. Worsch^{*1}, H.M.A. Ehmann¹, S. Spirk², ¹Anton Paar GmbH, Austria, ²Graz University of Technology, Austria
- [P1.015] The aza-Michael reaction as a method of modifying unsaturated polymers**
M. Wrzeczaniec*, M. Wieclaw, P. Ruskowski, A. Gadomska-Gajadhur, *Warsaw University of Technology, Faculty of Chemistry, Warsaw, Poland, Poland*

- [P1.016] **SEM, EDX, X-ray and VIS-IR optical investigations of layered InSe and GaSe crystals intercalated with KNO₃ and RbNO₃ ferroelectric salts and their application**
Y.I. Zhirko*, V.M. Grekhov, Z.D. Kovalyuk, V.M. Vodopjanov, *Institute of Physics NAS of Ukraine, Ukraine*
- [P1.017] **Low dark current inverted organic photodiodes employing a new uracil-substituted material**
S. Lee*, Y. Eom, S.W. Hong, *Korea Institute of Industrial Technology, Republic of Korea*
- [P1.018] **Glucose-induced gelation of silk fibroin by the serial enzyme reaction**
K.H. Jeon*, J.S. Kim, H.J. Lee, K.H. Lee, *Seoul National University, Republic of Korea*
- [P1.019] **Selective enzyme immobilization techniques using magnetic nanostructures**
E. Sánta-Bell¹, D. Balogh-Weiser¹, Z. Molnár^{1,2}, G. Hornyánszky¹, L. Poppe¹, ¹Budapest University of Technology and Economics, Hungary, ²Fermentia Ltd., Hungary
- [P1.020] **Disclosing the structure of hybrid Au-CuO bimetallic nanoparticles and their role in selective alcohol oxidation**
M. Marelli¹, A. Jouve^{1,2}, A. Villa^{1,2}, R. Psaro¹, A. Balerna³, L. Prati^{1,2}, C. Evangelisti¹, ¹Istituto di Scienze e Tecnologie Molecolari (ISTM-CNR), Italy, ²Università degli Studi di Milano, Italy, ³Laboratori Nazionali di Frascati INFN IT, Italy
- [P1.021] **Inverting the swelling trends in modular self-oscillating gels crosslinked by redox-active metal bipyridine complexes**
M. Aizenberg*, K. Okeyoshi, J. Aizenberg, *Harvard University, USA*
- [P1.022] **Chitosan-POSS hybrid scaffolds for bone tissue engineering**
M.A. Chiacchio^{1,2}, F. Bottino¹, I. Blanco¹, L. Legnani^{1,2}, A. Pistone³, C. Celesti³, D. Iannazzo³, ¹University of Catania, Italy, ²University of Pavia, Italy, ³University of Messina, Italy
- [P1.023] **Antimicrobial ceramic hybrid polyethylene films with natural extracts for food packaging application**
J.H. Chang*, J.K. Park, H.S. Lee, *Korea Institute of Ceramic Engineering and Technology, Republic of Korea*
- [P1.024] **Multifunctional metalloporphyrins/enzyme based SiO₂@LDH core-shell nanomaterials for sequential catalytic reactions**
C. FORANO^{1,2}, C. MOUSTY^{2,1}, V. PREVOT^{2,1}, K. MANTOVANI³, B. BRITO³, F. WYPYCH³, S. NAKAGAKI³, ¹Université Clermont Auvergne, France, ²CNRS, France, ³Federal University of Paraná, Brazil
- [P1.025] **Characteristics of fibrils obtained from β -amyloid peptides: A β (1-40), A β (1-42) and A β (33-42)**
M. Grelich¹, V. Bauer², E. Naudin², V. Torbeev², J. Olesiak-Banska¹, ¹Wroclaw University of Science and Technology, Poland, ²Université de Strasbourg, France
- [P1.026] **Bile acids - natural building blocks for coordination self-assemblies**
O. Jurcek¹, N. Nonappa², P. Jurcek¹, K. Rissanen³, R. Marek¹, ¹Masaryk University, Czech Republic, ²Aalto University, Finland, ³University of Jyväskylä, Finland
- [P1.027] **DNA-based data storage**
M. Kim, *KRIBB, Republic of Korea*
- [P1.028] **Using peptides for bioinspired synthesis of metal oxides films and modulation of their work function**
N. Kramer^{1,2}, O. Friedman^{1,2}, H. Peled^{1,2}, Y. Golan^{1,2}, N. Ashkenasy^{1,2}, ¹Ben-Gurion university of the Negev, Israel, ²Ilse Katz Institute for Nanoscale Science & Technology, Israel
- [P1.029] **Miniaturized high-throughput cell screening of transfection enhancers using droplet microarrays**
Y. Liu*, T. Tronser, P. Levkin, *Karlsruhe Institute of Technology, Germany*
- [P1.030] **Microengineering biomimetic models from mechanically active nanocomposite materials**
R. Parreira*, M.S. Sakar, *EPFL, Switzerland*
- [P1.031] **High-throughput combinatorial synthesis of cell-friendly smart materials using nanoliter compartments**
A. Rosenfeld*, P. Wadwhani, P.A. Levkin, *Karlsruhe Institute of Technology, Germany*
- [P1.032] **Mitochondria localization-induced (supramolecular-) polymerization for new cancer therapy**
J-H. Ryu, *Ulsan National Institute of Science and Technology, Republic of Korea*
- [P1.033] **Analytical comparison of orientation behaviour in poly (lactic acid) billet and β -tricalcium phosphate/poly (lactic acid) composite billet in extrusion**
M. Sakaguchi¹, M. Otsu¹, S. Kobayashi², ¹Salesian Polytechnic, Japan, ²Tokyo Metropolitan University, Japan
- [P1.034] **Biocompatibility of nickel free duplex stainless steel in simulated body fluid solution**
I.H. Toor*, F.M. Abdallah, *King Fahd University of Petroleum & Minerals, Saudi Arabia*
- [P1.035] **Formation processes of silk-inspired proteins investigated by in-situ x-ray scattering**
W. Wagermaier¹, F. Zemke¹, P. Mohammadi², M. Linder², ¹Max Planck Institute of Colloids and Interfaces Potsdam, Germany, ²Aalto University Espoo, Finland
- [P1.036] **Superwettability of Colloidal Photonic Crystals**
J. Wang*, L. Jiang, *Chinese Academy of Sciences, China*

- [P1.037] **Bacterial cellulose nanofiber reinforced hydrogels**
K. Yu*, E. Spiesz, A.S. Meyer, M.E. Aubin-Tam, *Delft University of Technology, The Netherlands*
- [P1.038] **Large scale synthesis and controlled release formulation of submicron sized highly ordered mesoporous silica particles in neutral condition**
J.H. Chang*, J.K. Park, H.S. Lee, *Korea Institute of Ceramic Engineering and Technology, Republic of Korea*
- [P1.039] **Metal ion interactions in bioinspired materials**
A. Andersen*, H. Birkedal, *Aarhus University, Denmark*
- [P1.040] **Formation of robust biomaterials via the self-assembly and biomineralization of protein scaffolds with precisely controlled morphologies**
J. Benson*, M. Quin, C. Schmidt-Dannertt, A. Aksan, *University of Minnesota, USA*
- [P1.041] **Functionalization of cellulose paper: Synthesis and grafting of hydrophobic and photochromic molecules**
G. Bretel*, J. Rull-Barrull, M.C. Nongbe, J-P. Terrier, E. Le Grogneq, F-X. Felpin, *Université de Nantes, France*
- [P1.042] **Iron (II/III) complexes of schiff-base ligands as novel biomimetic oxidation models**
D. Brykczynska*, A. Januchowska, A. Bocian, M. Kubicki, A. Gorczynski, V. Patroniak, *Adam Mickiewicz University, Poland*
- [P1.043] **The riddle of silica biocompatibility: Clues from free energy landscapes at the bio - silica interface**
M. Delle Piane*¹, N. Hildebrand¹, M. Michaelis^{1,2}, S. Potthoff¹, L. Colombi Ciacchi¹, ¹University of Bremen, Germany, ²Nottingham Trent University, UK
- [P1.044] **Selective toxicity of block copolymers nanopatterns to bacterial versus mammalian cells**
R. Fontelo*^{1,2}, D. Soares da Costa^{1,2}, R.L. Reis^{1,2}, R. Novoa-Carballal^{1,2}, I. Pashkuleva^{1,2}, ¹University of Minho, Portugal, ²ICVS/3B's-PT Government Associate Laboratory, Portugal
- [P1.045] **Wood derived nanofibrillar cellulose as a cell carrier for wound treatment**
J. Kiiskinen*¹, J. Niklander¹, C. Escopedo-Lucea¹, S. Miettinen², M. Yliperttula¹, R. Koivuniemi¹, ¹University of Helsinki, Finland, ²University of Tampere, Finland
- [P1.046] **Biomimetic light harvesting complexes based on self-assembled Dye-DNA nanostructures**
S. Lin*¹, X. Zhou¹, S. Mandal¹, S. Jiang¹, J. Yang², Y. Liu¹, D. Whitten², N. Woodbury¹, H. Yan¹, ¹Arizona State University, USA, ²University of New Mexico, USA
- [P1.047] **Artificial synapses based on methylammonium bismuth iodides**
P. Zawal*, T. Mazur, K. Szaciłowski, *AGH University of Science and Technology, Poland*
- [P1.048] **Influence of bacterial nanocellulose surface modification in the biomimetic mineralization process for bone tissue regeneration**
A. Cañas*¹, E. Martínez¹, M. Osorio¹, D. Arboleda², C. Castro¹, ¹Universidad Pontificia Bolivariana, Colombia, ²Universidad de Antioquia, Colombia
- [P1.049] **Study of calcium phosphates impact on matter transport and free volume evolution in hybrid intraocular implants**
K. Chamerski*¹, J. Filipecki¹, M. Stopa^{2,3}, P. Jelen⁴, M. Sitarz⁴, ¹Jan Długosz University in Czestochowa, Poland, ²Poznan University of Medical Sciences, Poland, ³Heliodor Swiecicki University Hospital in Poznan, Poland, ⁴AGH University of Science and Technology, Poland
- [P1.050] **Achievement of intrafibrillar collagen mineralization using phospholipid-mineral complexes: An insight into the bone formation**
M. Cruz*, P. Ciancaglini, A. Ramos, *University of São Paulo, Brazil*
- [P1.051] **Optimization and modeling the synthesis of biphasic apatites containing sodium**
R. Iatrach*¹, B. sallek¹, O. britel², ¹Laboratory of Agro resources and Process Engineering, Morocco, ²FSTM of Mohammedia, Morocco
- [P1.052] **Electrospun of aligned and random PCL fibers on in vitro electrocrystallization of calcium-carbonate and oxalate crystals**
A. Neira-Carrillo*, M. Sanchez, R. Gozalvo, F. Sepulveda, C. Rodriguez F, L. Farias, N. Butto, *Universidad de Chile, Chile*
- [P1.053] **Fabrication of biodegradable polymer Zein/P(3HB-co-3HH) multilayer composite**
N. Aim-*¹, Y. Sakamoto, T. Tanaka, *Shinshu University, Japan*
- [P1.054] **Spatiotemporal activation of molecular shuttle by visible light**
A. Ammathnadu S.*¹, S.K. Kanthyappa Rajanna, T. Kikukawa, N. Tamaoki, *Hokkaido University, Japan*
- [P1.055] **Luminescence properties of the hybrid material proline-kaolinite**
D.T. De Araujo*¹, K.J. Ciuffi¹, E.J. Nassar¹, R. Trujillano², M.E. Perez Bernal², M.A. Vicente², V. Rives², E.H. De Faria¹, ¹Universidade de Franca, Brazil, ²Universidad de Salamanca, Spain

- [P1.056] **Multifunctional nano- and macroporous bioactive glass-composites for bone regeneration**
N. Ehler^{1*}, M. Lietzow¹, J. Schaeske², N. Stumpp², M. Stiesch², L. Burmeister², A. Hoffmann², S. Gniesmer², A. Kampmann², ¹Leibniz Universität Hannover, Germany, ²Medizinische Hochschule Hannover, Germany
- [P1.057] **Laser process of creation of nanomaterials from carbon nanotubes in protein medium**
A.Y. Gerasimenko^{*1, 2}, O.E. Glukhova³, M.S. Savelyev^{1, 2}, ¹National Research University of Electronic Technology, Russia, ²I.M. Sechenov First Moscow State Medical University, Russia, ³Saratov National Research State University, Russia
- [P1.058] **Preparation and characterization of absorbent nonwoven fabrics containing microporous layer**
Y.J. Kim^{*}, C.H. Kim, J.N. Im, T.H. Kim, Korea Institute of Industrial Technology, Republic of Korea
- [P1.059] **3D porous scaffold filled with micro filaments for tissue regeneration**
C.H. Kim^{*}, J.H. Ko, S.H. Park, T.H. Kim, Korea Institute of Industrial Technology, Republic of Korea
- [P1.060] **The characterization and determination of zinc oxide, silver and silver-zinc oxide nanoparticles exposed to extracts of *Cotyledon Orbiculata* and their antimicrobial activity in wastewater**
M.J. Klink^{*1}, G. Kgobe², U. Terblanche², L. Laloo², F. Mtunzi¹, V. Pakade¹, ¹Vaal University of Technology, South Africa, ²Vaal University of Technology, South Africa
- [P1.061] **Chitosan coated magnetite nanoparticles as support for cellulase enzymes**
G.N. Lucena^{*}, C.O. Rocha, A.V. Paula, G.C. Pinto, M. Jafelici Jr, R.F.C. Marques, São Paulo State University (Unesp), Brazil
- [P1.062] **Layer-by-layer deposition of reduced graphene oxide on hydrolyzed PCL nanofibrils for cultivation and electrical stimulation of neural cells**
W. Mao^{*}, Y.J. Son, H.S. Yoo, Kangwon National University, Republic of Korea
- [P1.063] **Decellularized extracellular matrix sequestration on poly(glycidyl methacrylate)-grafted hydrolysed PCL nanofibrils for cartilage regeneration**
W. Mao^{*}, H.S. Kim, H.S. Yoo, Kangwon National University, Republic of Korea
- [P1.064] **Antioxidant effect of a flavonoid labeled biopolymer in the structure of lipid membranes as a platform for improvement of nanovesicles applicability**
P.D. Mathews¹, G.S. Gama¹, R.R.M. Martinez¹, H.M. Megiati¹, I.T.S. Garcia², O. Mertins^{*1}, ¹Federal University of Sao Paulo, Brazil, ²Federal University of Rio Grande do Sul, Brazil
- [P1.065] **Nanocomposite hydrogels for chirality-dependent cell adhesion and migration**
A. Motealleh^{*}, N.S. Kehr, Physikalisches Institut and SoN, Germany
- [P1.066] **Hybrid modifiers for antimicrobial functionalization of textile materials**
J. Sójka-Ledakowicz^{*1}, J.J. Chrusciel¹, M.H. Kudzin¹, M. Kiwala¹, T. Jesionowski², ¹Textile Research Institute, Poland, ²Poznan University of Technology, Poland
- [P1.067] **Neuromuscular junction regeneration by graphene-incorporated hybrid bilayers composed of nanofiber matrices and hydrogels**
S.J. Song^{*1}, Y.B. Lee¹, M.S. Kang¹, Y.C. Shin², J.W. Oh¹, S.W. Hong¹, D.W. Han¹, ¹Pusan National University, Republic of Korea, ²Yonsei University, Republic of Korea
- [P1.068] **Naked eye biosensing of a food toxin using gold nanoparticles-antibodies bioconjugates**
S. Boujday^{*1}, L. Zhang^{1, 3}, M. Salmain^{1, 2}, B. Liedberg³, ¹Sorbonne Université, France, ²CNRS, France, ³Nanyang Technological University, Singapore
- [P1.069] **Exploration of peroxidase-mimicking platinum cluster nanoparticles for enhanced lateral flow detection**
Y. Chen^{*}, M.R. Thomas, J. Kim, M.M. Stevens, Imperial College London, UK
- [P1.070] **Detection of cholera toxin using electroactive marker-encapsulated lipid nanovesicles**
D.J. Chung^{*}, S.J. Kim, M.J. Choi, W. Chung, Y.B. Shin, BioNano Health Guard Research Center, Republic of Korea
- [P1.071] **Graphene quantum dot-concanavalin A@Fe₃O₄ nanocomposites for multifunctional drug delivery and cancer cells detection application**
A. Dutta Chowdhury², A.B. Ganganboina¹, R.A. Doong^{*1, 2}, ¹National Tsing Hua University, Taiwan, ²National Chiao Tung University, Taiwan
- [P1.072] **Nanoplasmonic bacterial cellulose as a 3D scaffold for refractometric biosensing**
O. Eskilsson^{*}, E. Martinsson, D. Aili, Linköping University, Sweden
- [P1.073] **Detection of horseradish peroxidase activity using fluorescent carbon dots**
S. Arali, M. Gandhi^{*}, S. Mukherji, Indian Institute of Technology Bombay, India
- [P1.074] **Characterization of glucose oxidase biosensor based on nanostructure TiO₂ doped with Ni**
M.G. Garnica-Romo^{*1}, D. Herrera García¹, L. Garcia Gonzalez², H.E. Martinez-Flores¹, C. Bartolome Camacho¹, ¹Universidad Michoacana de San Nicolas de Hidalgo, Mexico, ²Universidad Veracruzana,

Mexico

- [P1.075] **Multi-channel microfluidics system based on graphene field-effect transistor (GFET) biosensor for real-time bacteria discrimination**
K.H. Kim*, O.S. Kwon, *KRIBB, Republic of Korea*
- [P1.076] **Metal oxide semiconductor with well-defined facets as nonenzymatic glucose sensors**
K. Michalec, J. Mazurkow, P. Zubrzycka, A. Kusior*, *AGH University of Science and Technology, Poland*
- [P1.077] **Nanomaterials for human mimicking**
S.J. Park, O.S. Kwon*, *Korea Research Institute of Bioscience and Biotechnology, Republic of Korea*
- [P1.078] **Bioelectric nose for apple odor detection**
J. Lee*^{1,2}, O.S. Kwon¹, ¹*Korea Research Institute of Bioscience & Biotechnology (KRIBB), Republic of Korea*, ²*Kyung Hee University, Republic of Korea*
- [P1.079] **Novel nonenzymatic glucose sensors based on hierarchically porous and anisotropic nanostructures based on copper sulfides**
J. Mazurkow*, K. Michalec, P. Zubrzycka, A. Kusior, *AGH University of Science and Technology, Poland*
- [P1.080] **Mesoporous SnO₂ nanostructures for biological sensing**
K. Michalec*, A. Kusior, J. Mazurków, P. Zubrzycka, *AGH University of Science and Technology, Krakow, Poland*
- [P1.081] **Biosensor application based on gold nanoparticles prepared by solution plasma process modified screen-printed carbon electrode**
P. Moonsan*¹, P. Ekabutr¹, A. Watthanaphanit², P. Supaphol¹, ¹*Chulalongkorn University, Thailand*, ²*Mahidol University, Thailand*
- [P1.082] **Development of a microfluidic organ-on-a-chip to study skeletal muscle tissue metabolism**
M.A. Ortega*, X. Fernández-Garibay, A. Hernández-Albors, A. García-Castaño, F. Velasco, J. Ramón-Azcón, *Institute for bioengineering of catalonia (IBEC), Spain*
- [P1.083] **Highly sensitive non-enzymatic lactate biosensor based on nickel oxide derivatives**
S. Kim^{1,2}, H-N. Kim¹, H-J. Kim¹, T.J. Park², Y.M. Park*¹, ¹*Korea Institute of Industrial Technology, Republic of Korea*, ²*Hanyang University, Republic of Korea*
- [P1.084] **Application of nanoparticles in neuroscience**
M.G. Soliman*, H.A. Davies, R. Levy, J. Madine, *University of Liverpool, UK*
- [P1.085] **Proton sensitive organic thin film transistors for biomedical sensing**
S.D. Yambem², J. Timm*¹, M. Weiß¹, A.K. Pandey², R. Marschall¹, ¹*University of Bayreuth, Germany*, ²*Queensland University of Technology, Australia*
- [P1.086] **Controlling droplet motion on an organogel surface by tuning the chain length of DNA and its biosensing application**
Z.F. Gao^{1,2}, R. Liu^{1,2}, J.H. Wang*¹, F. Xia^{1,4}, L. Jiang³, ¹*China University of Geosciences, China*, ²*Linyi University, China*, ³*Beihang University, China*, ⁴*Huazhong University of Science and Technology, China*
- [P1.087] **Fabrication of nanostructured screen-printed electrodes with "lego" design, new approach to clinical and food analysis**
D. Wilson*, G. Ibáñez-Redín, O. N. de Oliveira Jr., *University of Sao Paulo, Brazil*
- [P1.088] **Design of working electrode for non-enzymatic glucose sensors based on Cu_{2-x}O/TiO₂ hybrid composition**
P. Zubrzycka*, K. Michalec, J. Mazurków, A. Kusior, *AGH University of Science and Technology, Krakow, Poland*
- [P1.089] **Copper and silver helical Schiff base complexes - structure and properties**
A. Kurkiewicz*¹, M. Fik¹, A. Belter¹, Z. Hnatejko¹, M. Kubicki¹, V. Patroniak¹, ¹*Adam Mickiewicz University, Poland*, ²*Polish Academy of Sciences, Poland*
- [P1.090] **Development of biomorphic hydroxyapatite using eggshell membrane as bio-template**
U. Sabu*, M. Balasubramanian, *Indian Institute of Technology Madras, India*
- [P1.091] **CNT-PVDF - hybrid materials for membrane-based separation**
S. Al-Gharabli*¹, J. Kujawa², W. Kujawski², E. Hamad¹, Z. Abu El-Rub¹, ¹*German Jordanian University, Jordan*, ²*Nicolaus Copernicus University in Torun, Poland*
- [P1.092] **3D Self-assembly graphene-polymer composites for CO₂ capture**
I. Barbarin*, T. Cordero-Lanzac, N. Politakos, R. Tomovoska, *University of the Basque Country (UPV/EHU), Spain*
- [P1.093] **Development of protective layer coating on carbon-based composite with a ultra-high temperature ceramic**
B.G. Hong, *Chonbuk National University, Republic of Korea*

- [P1.094] Water membrane for gas separation**
W. JUNG*, J. Lee, Y. Kim, *Seoul National University, Republic of Korea*
- [P1.095] Surface functionalization of carbon paper electrode for Zn-Br flow battery**
Y. Kim*, J-N. Lee, J-S. Yu, *Korea Electronics Technology Institute, Republic of Korea*
- [P1.096] Bio-inspired mesoporous carbon materials for gas separation**
S.A. Nicolae*, M.M. Titirici, *Queen Mary University of London, UK*
- [P1.097] Study of electrolyte dynamics under different porous carbon confinement and its contribution to performance of electro-chemical supercapacitors**
R. Pachan.Krishnan.*, S. Mavila.Chathoth., *City University of Hong Kong, Hong Kong*
- [P1.098] Uniform nanoporous graphene sponge from natural polysaccharides as a metal-free electrocatalyst for hydrogen generation**
J. Niu^{1,3}, A. Domenech-Carbo², A. Primo*³, H. García³, ¹China University of Mining and Technology, China, ²Universidad de Valencia, Spain, ³Universidad Politécnica de Valencia, Spain
- [P1.099] Metal organic framework derived carbon-based composites and their utilization in electrochemical power sources**
D. Skoda*¹, T. Kazda², L. Munster¹, B. Hanulikova¹, I. Kuritka¹, ¹Tomas Bata University in Zlin, Czech Republic, ²Brno University of Technology, Czech Republic
- [P1.100] Properties of electrochemical freestanding porous SiC for gas sensors application**
V.A. Skryshevsky*, Y.S. Milovanov, I.V. Gavrilchenko, S.V. Gryn, S.A. Alekseev, *Taras Shevchenko National University of Kyiv, Ukraine*
- [P1.101] High SF₆ uptake on hierarchical porous carbon synthesized from amorphous porous calcium citrate and magnesium citrate**
R. Sun*, D. Koivisto, M. Strømme, O. Cheung, *Uppsala University, Sweden*
- [P1.102] C₂(NO) framework carbons with defined microporosity and dual-doped functional pores**
Z. Tian*^{1,2}, S. Cao¹, M. Antonietti², ¹Zhengzhou University, China, ²Max Planck Institute of Colloids and Interfaces, Germany
- [P1.103] Macroporous copolymer beads as templates for the preparation of silica microspheres**
S. Wagner*¹, A. Karpa², J. Bredfeldt², S. Kronenberger¹, M. Brecht², H.A. Mayer¹, ¹University of Tübingen, Germany, ²Reutlingen University, Germany
- [P1.104] NH₂-pore functionalization of covalent organic frameworks in a one-pot protocol and application as stable drug delivery systems**
A. De Santana Oliverira^{1,2}, E. Rivero-Buceta¹, C. Vidaurre-Agut^{1,3}, S. Berenice Castellã Pergher², V. Moreno⁴, P. Botella*¹, ¹Instituto de Tecnología Química, Spain, ²Universidade Federal do Rio Grande do Norte, Brazil, ³Instituto de Instrumentación para Imagen Molecular, Spain, ⁴Centro Investigación Príncipe Felipe, Spain
- [P1.105] An amphiphilic polythiophene nanohybrid-based fluorescent sensor for rapid and reliable determination of TNP in the environmental water**
M.R. Elmasry*^{1,2}, S.M. Tawfik^{1,2}, Y.I. Lee¹, ¹Changwon National University, Republic of Korea, ²Egyptian Petroleum Research Institute, Egypt
- [P1.106] Imparting chemical stability in boron-containing imine COFs**
T. Langenhahn*, P. Pachfule, A. Thomas, *Technische Universität Berlin, Germany*
- [P1.107] Evaluation of a β -cyclodextrin cationic lipid conjugate carrier for a chemotherapeutic agent in melanoma model systems**
W. Mohammed-saeid^{1,2}, A.H. Karoyo¹, D. Michel¹, R.E. Verrall¹, L. Wilson¹, I. Badea*¹, ¹University of Saskatchewan, Canada, ²Taibah University, Saudi Arabia
- [P1.108] Designing inorganic nanocarriers for siRNA delivery**
K. Besecke*¹, P. Dillschneider², H. Hartwig², A. Hoffmann², M. Stiesch², P. Behrens¹, ¹Leibniz University Hannover, Germany, ²Hannover Medical School, Germany
- [P1.109] Development of antibacterial wound dressings with natural active agents for burn and infected wounds**
S. Chairawut*, P. Ekabutr, P. Supaphol, *Chulalongkorn University, Thailand*
- [P1.110] Production of mushroom β -glucan-gold nanorod biohybrids for photothermal therapy of cancer**
X. Li, P. Cheung*, *The Chinese University of Hong Kong, Hong Kong*
- [P1.111] Synthesis and optimisation of lipid-hybrid nanoparticles loaded with a mixture of two antiretroviral drugs for the treatment of HIV**
H. Elkateb*, S. Rannard, T. McDonald, *University of Liverpool, UK*
- [P1.112] Encapsulation of b-galactosidase in microgels prepared in Water-in-Water (w/w) emulsions**
Y. Beldengrün^{1,2}, J. Aragón^{1,2}, L. Corvo^{1,2}, C. Miquel^{1,2}, M. Ros^{1,2}, J. Esquena*^{1,2}, ¹Institute of Advanced Chemistry of Catalonia (IQAC), Spain, ²Consejo Superior de Investigaciones Científicas (CSIC), Spain

- [P1.113] **Scaffold mediated localized chemotherapy of oral squamous cell carcinoma**
A. Gupta*, S. Kheur, R. Badhe, R. Bhonde, Dr. DY Patil Vidyapeeth, India
- [P1.114] **Poly(aspartic acid) derivatives with thiol and protected thiol groups for *in situ* gelling drug formulations**
B. Gyarmati*¹, B. Szilágyi¹, A. Misra², M. Alavijeh², A. Szilágyi¹, ¹Budapest University of Technology and Economics, Hungary, ²Budapesti Műszaki és Gazdaságtudományi Egyetem, UK
- [P1.115] **pH responsive polyurethane (core) and cellulose acetate phthalate (shell) electrospun fibers for intravaginal drug delivery**
D. Hua*¹, Z. Liu¹, F. Wang¹, B. Gao¹, F. Chen³, Q. Zhang⁴, R. Xiong², J. Han¹, S. Samal², S. Smedt², ¹Nanjing Forestry University, China, ²Ghent University, Belgium, ³Queen's University, Canada, ⁴University of Helsinki, Finland
- [P1.116] **Biocompatible double bond-functionalized PEG-based amphiphilic block copolymer nanoparticles for drug delivery**
G. Irvine*, J. Burrows, E. Themistou, Queen's University Belfast, UK
- [P1.117] **Phospholipon® 90 H modulated bio-hybrid nanomaterial (B-hNm) of isolated sterols with enhanced antitumor efficacy**
R.P. Kalsaiti*, N.R. Rarokar, M.J. Umekar, Rashtrasant Tukadoji Maharaj Nagpur University, India
- [P1.118] **GnRH-modified chitosan electrostatically coated liposomal doxorubicin for cancer therapy improvement**
M. Khongkow*, T. Yata, K. Namdee, National Science and Technology Development Agency, Thailand
- [P1.119] **Adjustment of hydrophobicity in amphiphilic polymers for highly efficient messenger RNA delivery**
H.J. Kim*, M. Sato, K. Kataoka, K. Miyata, The University of Tokyo, Japan
- [P1.120] **siRNAsome: A self-assembled vesicular architecture formed from siRNAs and PEGylated block cationomers**
B.S. Kim*¹, S. Chuano¹, Y. Anraku¹, K. Miyata¹, A. Kishimura², K. Kataoka^{1,3}, ¹The University of Tokyo, Japan, ²Kyushu University, Japan, ³Kawasaki Institute of Industrial Promotion, Japan
- [P1.121] **Delivering positively charged anticancer peptide drug using crosslinked and pH responsive nanomedicine**
A. Maity*¹, S. Quader¹, S. Osawa^{1,2}, K. Kataoka¹, ¹Innovation Center of NanoMedicine, Japan, ²Tokyo University of Science, Japan
- [P1.122] **Biliosome nanoparticle as a novel hybrid platform for effective delivery of cordycepin to the gastrointestinal tract**
W. Kengkittipat², S. Kaewmalun¹, T. Yata¹, M. Khongkow¹, W. Phoolcharoen¹, K. Namdee*¹, ¹National Nanotechnology Center (NANOTEC), Thailand, ²Chulalongkorn University, Thailand
- [P1.123] **Breakable-Silica nanosystems**
M.C. Ortega-Liebana*¹, L. De Cola^{1,2}, ¹Université de Strasbourg, France, ²Institut für Nanotechnologie, Germany
- [P1.124] **Multifunctional Pluronic® carbon dots assisted self-assembled nanocarriers to enhance cellular internalization by targeted delivery of docetaxel**
N.R. Rarokar*¹, P.B. Khedekar¹, R.P. Kalsaiti², M.J. Umekar², ¹Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, India, ²Smt. Kishoritai Bhoyar College of Pharmacy, India
- [P1.125] **Targeted delivery of docetaxel with anti-PSMA labeled mesoporous silica nanoparticles as a new strategy for prostate cancer treatment**
E. Rivero-Buceta*¹, C. Vidaurre-Agut^{1,2}, C-D. Vera Donoso³, J-M. Benlloch², V. Moreno⁴, P. Botella¹, ¹Instituto de Tecnología Química, Spain, ²Instituto de Instrumentación para Imagen Molecular, Spain, ³Hospital Universitario y Politécnico La Fe, Spain, ⁴Centro Investigación Príncipe Felipe, Spain
- [P1.126] **Multifunctional fluorescent hybrid nanoparticles for controlled drug delivery**
M. Rubio*, Y. Alacid, A. Falcó, R. Mallavia, M-J. Martínez-Tomé, C. Reyes Mateo, Universidad Miguel Hernández, Spain
- [P1.127] **Design and synthesis of hybrid particles for the tandem release of cannabinoids and chemotherapeutic drugs**
M. Ruiz Kubli*, L. De Cola, Université de Strasbourg, France
- [P1.128] **Magnetic nanoparticles surface modified with PCL-b-PEG-Folic acid containing a disulfide bond trigger for drug delivery**
J.V. Brandt, R.D. Piazza, C.C. Santos*, B.E. Amantéa, J. Vega-Chacón, M.J. Júnior, R.F.C. Marques, Sao Paulo State University (UNESP), Brazil
- [P1.129] **Initiated chemical vapor deposited electrospun nanofibers for controlled drug delivery**
S. Sayin*¹, A. Tufani¹, G. Ozaydin Ince^{1,2}, ¹Sabancı University, Turkey, ²Sabancı University Nanotechnology Research and Application Center (SUNUM), Turkey, ³Center of Excellence for

- [P1.130] **Generation of a novel vaccination platform using surface-modified silica nanoparticles**
M. Schenck*¹, E. Korotchenko², A. Feinle¹, R. Mills-Goodlet², R. Weiss², J. Thalhamer², N. Hüsing¹, ¹Chemistry and Physics of Materials, Austria, ²Department of Molecular Biology, Austria
- [P1.131] **Cryochemical synthesis of antibiotics nanocrystals and hybrid nanoforms with bioactive metals**
T.I. Shabatina*, O.I. Vernaya, V.P. Shabatina, A.V. Nuzhdina, A.M. Semenov, M.Y. Melnikov, Lomonosov Moscow State University, Russia
- [P1.132] **Hybrid nanoforms of antibiotics with iron oxides: Cryochemical synthesis and antibacterial activity**
O.I. Vernaya, T.I. Shabatina*, D.L. Karlova, V.P. Shabatina, Lomonosov Moscow State University, Russia
- [P1.133] **Carbon quantum dot-stabilized pickering emulsions for synthesis of PLGA drug delivery systems**
T. Zhou¹, Y. Sun*¹, M. Yang², X. Che³, ¹Technical University of Denmark, Denmark, ²University of Copenhagen, Denmark, ³Shenyang Pharmaceutical University, China
- [P1.134] **Silicated hydrogels as potent new platform for biomolecules microencapsulation in microgels hybrid materials**
C. Tourné-Péteilh*, B. Robin, A. Aubert, A. Mehdi, G. Subra, J-M. Devoisselle, University of Montpellier, France
- [P1.135] **Controllable drug delivery from mesoporous nanoparticle based coatings for bone regeneration**
L. Andree, D. Barata, P. Suthavas, P. Habibovic, S. van Rijt*, Maastricht University, The Netherlands
- [P1.136] **A nanoencapsulation suspension biomimetic of milk structure for enhanced maternal and fetal absorptions of DHA to improve early brain development**
J. Zeng, Y. Wang*, Hong Kong Polytechnic University, Hong Kong
- [P1.137] **Efficient synthesis of functionalized graphene oxide based nanocarrier for gene delivery application**
N. Yadav*, N. Kumar, S. Sehrawat, B. Lochab, Shiv Nadar University, India
- [P1.138] **Site-specific oral delivery and enhanced bioactivity of black ginger (*kaempferia parviflora*) by using nanostructure lipid carrier and alginate hydrogel micorbead**
J. Yostawonkul*, K. Suktham, J. Iemsam-ang, U. Asawapirom, N. Paiboon, J. Joothamongkhon, S. Surassamo, National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA), Thailand
- [P1.139] **Multifunctional nanocapsules encapsulated with the titrated extract of centella asiatica and glycyrrhizinate dipotassium for effective skin delivery**
J. You*^{1,3}, Y. Hwang², ¹Bilico Co., Ltd., Republic of Korea, ²Intercare Co., Ltd., Republic of Korea, ³Harvard University, USA
- [P1.140] **Synthesis of uptake behavior of cyclic-RGD modified nanoparticles**
W. Zhang*, M. Samadi Moghaddam, N. Teske, V.P. Shastri, Freiburg University, Germany
- [P1.141] **Preparation of metal containing functional materials on a base of halloysite nanotubes using inside and outside surface modification**
A. Stavitskaya¹, A. Novikov¹, M. Artemova*¹, D. Logvinenko¹, R. Fakhrullin², V. Vinokurov¹, ¹Gubkin University, Russia, ²Kazan Federal University, Russia
- [P1.142] **Energy transfer in silica nanoparticles based in perylene diimides donor: Acceptor pair**
T. Ribeiro, S. Raja, J.P.S. Farinha, C. Baleizão*, Instituto Superior Técnico, Portugal
- [P1.143] **Iron oxide nanoparticle-based MRI-PET double imaging contrast agents**
J. Boudon*¹, L. Maurizi¹, G. Thomas¹, M. Moreau¹, P. Walker², A. Oudot³, C. Goze¹, F. Denat¹, F. Brunotte³, N. Millot¹, ¹Université Bourgogne Franche-Comté, France, ²CHU Dijon, France, ³Centre Georges-François Leclerc, France
- [P1.144] **Catalytic activity of porphyrin catalyts immobilized on kaolinite**
T. Cintra¹, E. Nassar¹, M. Saltarelli¹, E. deFaria¹, K. Ciuffi*¹, M. Vicente², R. Trujillano², A. Gil³, S. Korili³, V. Rives², ¹Universidade de Franca, Brazil, ²Universidad de Salamanca, Spain, ³Universidad Pública de Navarra, Spain
- [P1.145] **3D structures based on barium titanate and collagen for bone tissue engineering**
L.M. Cursaru*¹, R.M. Piticescu¹, C.F. Ciobota¹, A. Ghita¹, P. Stanciu¹, A. Filimon², G. Negroiu², ¹National R&D Institute for Non-Ferrous and Rare Metals, Romania, ²Romanian Academy – Institute of Biochemistry, Romania
- [P1.146] **mRNA/PBAE cancer vaccines efficiently targeting and transfecting antigen-presenting cells in vivo**
C. Fornaguera*¹, M. Guerra-Rebollo¹, M.A. Lázaro², C. Castells-Sala¹, O. Meca-Cortés^{3,4}, V. Ramos-Perez¹, A. Cascante^{1,2}, N. Rubio^{3,4}, J. Blanco^{3,4}, S. Borrós^{1,2}, ¹Universitat Ramon Llull, Spain, ²Sagetis Biotech, Spain, ³CIBER of Biomaterials, Bioengineering and Nanomedicine (CIBER-BBN), Spain, ⁴Institute of Advanced Chemistry of Catalonia (IQAC-CSIC), Spain

- [P1.147] **Mesoporous metal catalysts templated on clay nanotubes for aromatics hydrogenation**
A.P. Glotov*, A.V. Stavitskaya, M.I. Artemova, A.A. Novikov, V.A. Vinokurov, Y.M. Lvov, *Gubkin Russian State University of Oil and Gas, Russia*
- [P1.148] **Extended investigations on multifunctional @SiO₂ nanocomposite particles for biotechnology and Energy applications**
F. Grasset^{1,2}, W. Chen^{1,2}, T. Aubert³, C. Neaime³, N. Dumait³, S. Cordier³, N. Ohashi^{1,2}, T. Uchikoshi^{1,2}, ¹CNRS UMI 3629, Japan, ²RCFM, NIMS, Japan, ³Univ Rennes, France
- [P1.149] **Hybrid systems based on cholesterol and its derivatives including silver nanoparticles**
Y.A. Gromova*, T.I. Shabatina, V.V. Epishev, *Lomonosov Moscow State University, Russia*
- [P1.150] **Thermophilic poly(N-acryloyl glycinamide) hybrid microgels**
S. Hietala, *University of Helsinki, Finland*
- [P1.151] **Regenerable ultrafiltration membrane using boron nitride nanotubes**
S. Jang¹, H. Lim^{1,2}, B. Kim², ¹Korea Institute of Science and Technology, Republic of Korea, ²Korea Advanced Institute of Science and Technology, Republic of Korea
- [P1.152] **Tuning plasmonic in hybrid nanostructures**
H. Joshi*, S. Annapoornis, *University of Delhi, India*
- [P1.153] **Role of monodispersed carboxylated nanodiamond in stabilizing collagen: Its implication in targeted drug delivery**
K. Rasheeda*, N. Nishad Fathima, *CSIR-Central Leather Research Institute, India*
- [P1.154] **Microstructure and property characterization of waterborne polyurethane-based nanocomposite films reinforced with hybrid carbon nanofillers**
M.S. Kim*, Y.G. Jeong, *Chungnam National University, Republic of Korea*
- [P1.155] **A way to promote exsolution in perovskite oxides**
G. Kim, *UNIST, Republic of Korea*
- [P1.156] **Novel Polyurethane-Mesoporous Silica Nanocomposites: Preparation and Characterization**
M. Pergal¹, M. Špírková², I. Kodranov², N. Knezevic³, ¹University of Belgrade, Serbia, ²Institute of Macromolecular Chemistry AS CR, v.v.i. (IMC), Czech Republic, ³University of Novi Sad, Seychelles
- [P1.157] **Growth of ultra-thin silica shells over gold nanoparticles**
V. Kumar¹, G. Gonzalez^{1,2}, J. Mosquera¹, L. Liz-Marzan¹, ¹CIC BiomaGUNE, Spain, ²Universidad Complutense de Madrid, Spain
- [P1.158] **Characterization of nanostructured films of TiO₂ and TiO₂/Ag platform for the immobilization of arcorbato oxidase, for application as a biosensor**
M.G. Garnica-Romo¹, J.I. Sanchez-Alvarez², L. Garcia-Gonzalez², M. Romero-Arcos¹, J. Torres-Hernandez², M. Villicaña-Mendez¹, ¹Universidad Michoacana de San Nicolas de Hidalgo, Mexico, ²Universidad Veracruzana, Mexico
- [P1.159] **Structure and electrical property of nanocomposite based on thermotropic liquid crystalline polymer and multiwalled carbon nanotube**
S.H. Lee*, Y.G. Jeong, *Chungman National University, Republic of Korea*
- [P1.160] **Self-assembled fluorescent gold nanocluster and glycosaminoglycan for metastatic cancer cells detection**
X. Ma*, X. Wang, F. Huang, *University of Petroleum (East China), China*
- [P1.161] **Collagen-based corneal substitutes application with the photochemical crosslinking method**
E-S. Yang¹, S. Jeon¹, S-E. Kim¹, K-M. Shim¹, S-H. Choi^{1,2}, S. Kang¹, ¹Chonnam National University, Republic of Korea, ²Chungbuk National University, Republic of Korea
- [P1.162] **Halloysite clay-hydrotrope composites for oil spill mitigation**
A.A. Novikov¹, A.P. Semenov¹, A.A. Kuchierskaya¹, K.A. Novik^{1,2}, Y.M. Lvov^{1,3}, V.A. Vinokurov¹, ¹Gubkin University, Russia, ²Dmitry Mendeleev University of Chemical Technology of Russia, Russia, ³Louisiana Tech University, USA
- [P1.163] **Candida rugosa lipase immobilized onto magnetic graphene oxide**
G. Pinto*, G. Lucena, C. Rocha, R. Marques, M. Jafelicci, A. Veloso, *São Paulo State University (Unesp), Brazil*
- [P1.164] **Core-shell silica nanoparticles functionalized with photosensitizers for photodynamic therapy**
R. Prieto*, I. Lopez, V. Martinez, *Universidad del Pais Vasco (UPV/EHU), Spain*
- [P1.165] **Thermodynamic study of the influence of amino and carboxylic groups on highly functionalized polymers**
L. Ruiz Virgen¹, R. Caro Briones¹, M.J. Valarezo Ulloa¹, M. Corea¹, J.M. Del Rio García¹, J.P. Grolier², ¹Instituto Politecnico Nacional, Mexico, ²Université Clermont Auvergne, France

- [P1.166] Chemically functionalized carbon nanotube gas sensor**
S. Saad Ali^{1,2}, A. Ndiaye^{1,2}, A. Pauly^{1,2}, C. Varenne^{1,2}, J. Brunet^{1,2}, ¹Université Clermont Auvergne, France, ²CNRS, France
- [P1.167] Liquid quantum dot white LEDs with high luminous efficiency**
S. Sadeghi¹, B. Ganesh Kumar^{1,2}, R. Melikov¹, M. Mohammadi Aria¹, H. Bahmani Jalali¹, S. Nizamoglu¹, ¹Koc University, Turkey, ²Arts and Science College, India
- [P1.168] Nonlinear optical absorbers from single-walled carbon nanotubes and phthalocyanine complexes of zinc**
M.S. Savelyev^{1,2}, A.Y. Tolbin³, P.N. Vasilevsky¹, A.Y. Gerasimenko^{1,2}, ¹National Research University of Electronic Technology, Russia, ²I.M. Sechenov First Moscow State Medical University, Russia, ³Institute of Physiologically Active Compounds, Russia
- [P1.169] Fabrication of TiNT/TiO₂ nanocomposite photoanodes and their application in natural dye sensitised solar cells**
J. Shibu¹, P. Sagayaraj¹, ¹St.Xavier's College, India, ²Loyola College, India
- [P1.170] Polyelectrolyte-nanodiamond hybrids**
T. Tiainen¹, T. Myllymäki², T. Hatanpää¹, H. Tenhu¹, S. Hietala¹, ¹University of Helsinki, Finland, ²Aalto University, Finland
- [P1.171] ZnO modified bioactive glass nanoparticles with multifunctional properties**
K. Zheng¹, M. Lu², B. Rutkowski³, N. Hüser², A. Boccaccini¹, ¹University of Erlangen-Nuremberg, Germany, ²Technische Universität München, Germany, ³AGH University of Science and Technology, Poland
- [P1.172] Synthesis of hybrid Au-In₂O₃-gC₃N₄ nanocomposites exhibiting enhanced photocatalytic activity**
B. Xu, M.B. Ahmed, J.L. Zhou^{*}, A. Altaee, M.A.H. Johir, University of Technology Sydney, Australia
- [P1.173] Comparative study of colour and turbidity removal from textile wastewater by adsorption in batch and fixed bed using graphene-based materials**
G.F.O. Nascimento¹, G.R.B. Costa¹, C.M.B. Araujo¹, T.J.M. Fraga¹, A.M.S. Baptistella¹, R.B. Assis Filho¹, E.M.P.L. Freire¹, M.G. Ghislandi², M.A. Motta Sobrinho¹, ¹Federal University of Pernambuco, Brazil, ²Federal Rural University of Pernambuco, Brazil
- [P1.174] Surface modification studied of PE filter using chemical treatment for application in metal removal from waste water**
V. Vatesoonthornthep^{*}, P. Ekabutr, P. Supaphol, The Petroleum and Petrochemical College, Thailand
- [P1.175] Single source precursor synthetic route to quaternary chalcogenide CFTS powders as potential solar energy materials**
A. Alanazi^{1,2}, F. Alam¹, D.J. Lewis¹, P. O'Brien¹, ¹University of Manchester, UK, ²Islamic University, Saudi Arabia
- [P1.176] Photocatalytic activity and antibacterial effect against MRSA of Ag₃PO₄ powders**
J. Andrés¹, C.C. Foggi², G. Botelho⁴, C.E. Vergani³, W.S. Pereira², L.S. Matos², E. Longo¹, ¹Universitat Jaume I, Spain, ²UFSCAR, Brazil, ³UNESP, Brazil, ⁴UFT, Brazil
- [P1.177] Cluster Modification of Ag₂CrO₄: Integration of experiment and simulation**
M. Assis¹, V.T. Silva¹, C.C. Foggi¹, J. Andres², E. Longo¹, ¹UFSCAR, Brazil, ²Universitat Jaume I, Spain
- [P1.178] Eco-friendly polymer foams blending with polymeric acids for reducing the toxic ammonia gas**
M.Y. Cho^{1,2}, B.H. Kim¹, Y.W. Kim³, M.S. Shin³, Y.Y. Jo³, K.T. Lee², S.J. Lee¹, ¹Korea Institute of Industrial Technology, Republic of Korea, ²Yonsei University, Republic of Korea, ³Dongjin SemichemCo., Ltd, Republic of Korea
- [P1.179] Size control of semiconductor nanoparticles by the addition of sulphur for integration into light-emitting diodes**
F. Rodríguez-Mas^{*}, S. Fernández de Ávila, J.C. Ferrer, J.L. Alonso, Miguel Hernández University, Spain

Poster Session 2
Tuesday 12th March 2019 - 10:20–11:20 & 19:15–20:45
Room - Tramuntana 1&2

- [P2.001] Design of multicolour fluorescent nanoparticles based on lipid-conjugated polymer complexes**
Y. Alacid^{*}, M. Rubio, J.D. Celdrán, A. Gea, M.J. Martínez-Tomé, R. Mallavia, C.R. Mateo, Universidad Miguel Hernández, Spain
- [P2.002] Direct synthesis of nanostructured silver antimony sulfide from single source precursors for solar cell application**
Y. Alharbi^{*}, D. Lewis B., P. O'Brien C., The University of Manchester, UK

- [P2.003] Antibacterial activity of covalently functionalized graphene sheets**
M. Assali*, M. Almasri, D. Alsouqi, *An Najah National University, Occupied Palestinian Territory*
- [P2.004] Investigation of the nanomechanical properties of 3D printed microstructures**
M. Belqat*, A. Spangenberg, J.P. Malval, K. Mougin, *Université de Haute-Alsace, France*
- [P2.005] Inorganic sol-gel synthesis and characterization of nano α -alumina**
D.F. Niero, A.M. Bernardin*, *University of the Extreme South of Santa Catarina, Brazil*
- [P2.006] Synthesis of FexO nano particles by controlled precipitation**
G.C. Bellettini, A.M. Bernardin*, *University of the Extreme South of Santa Catarina, Brazil*
- [P2.007] Influence of nano-confinement on the "pH" in functionalized silica mesopores**
R. Brilmayer*, A. Andrieu-Brunsen, *Technical University Darmstadt, Germany*
- [P2.008] Molecular dynamics simulations of hybrid polyPOSS-imide networks based on different precursors**
D. Brown*¹, S. Neyertz¹, M.J.T. Raaijmakers², N.E. Benes², ¹University Savoie Mont blanc, France, ²University Of Twente, The Netherlands
- [P2.009] Deciphering the role of dipolar interactions in magnetic layered double hydroxides**
J.A. Carrasco*¹, S. Cardona-Serra¹, J.M. Clemente-Juan¹, A. Gaita-Ariño¹, G. Abellán^{1,2}, E. Coronado¹, ¹University of Valencia, Spain, ²Department of Chemistry and Pharmacy and Joint Institute of Advanced Materials and Processes (ZMP), Germany
- [P2.010] Fabrication and electrochemical characterization of carbon nanofibers based on novel aromatic polyazomethines**
Y.C. Choi*, Y.G. Jeong, *Chungman National University, Republic of Korea*
- [P2.011] Monovalent cation selective property of the ion exchange membranes prepared by a two-step pore filling technique**
Y.W. Choi*, M.S. Lee, S.C. Yang, N.J. Jeong, *Korea Institute of Energy Research, Republic of Korea*
- [P2.012] Characterization of 1D, 2D and 3D structures of amyloids**
P. Cwynar*, A. Grzesik, K. Brach, J. Olesiak-Banska, *Wroclaw University of Science and Technology, Poland*
- [P2.013] Routes to multifunctional, dual-emissive nanodiamond particles**
A. Day*, S. Adams, I. Fallis, O. Williams, S. Pope, *Cardiff University, UK*
- [P2.014] In situ characterisation of the drying shrinkage of fibres made of cellulose nanofibrils during their extrusion**
P.J.J. Dumont*¹, F. Martoia¹, L. Orgéas², S. Rolland du Roscoat², R. Rinaldi³, M. Majkut⁴, W. Ludwig⁴, J. Biglione¹, T. Meunier¹, ¹Univ. Lyon, LaMCoS, France, ²Univ. Grenoble Alpes, France, ³Univ. Lyon, Mateis, France, ⁴ESRF, France
- [P2.015] Trapping neurotransmitter molecules in recognizing complexes on modified silver nanostructured SERS-sensors**
O. Eremina*, A. Zelenetskaya, S. Vatsadze, T. Shekhovtsova, I. Veselova, *Moscow State University, Russia*
- [P2.016] Iron (II) as a promising reducing agent in the synthesis of metal nanoparticles**
C. Fernández-Lodeiro*¹, J. Fernández-Lodeiro², C. Lodeiro-Espiño², J. Pérez-Juste¹, I. Pastoriza-Santos¹, ¹CINBIO Universidade de Vigo, Spain, ²University Nova of Lisbon, Portugal
- [P2.017] Nanopattern replication through plastic injection**
A-A. García-Granada*, J. Pina-Estany, *Universitat Ramon Llull, Spain*
- [P2.018] Engineering of hybrid graphene-Pt/TiO₂ nanostructure: Efficient photocatalytic system for the treatment of wastewater coming from textile industries**
Z. Ghouri*, K. Elasad, A. Abdala, *Texas A&M University at Qatar, Qatar*
- [P2.019] Carbon nitride and boron carbon nitride high quality thin films for optical applications**
P. Giusto*, J. Siena, M. Antonietti, *Max Planck Institute of Colloids and Interfaces, Germany*
- [P2.020] Microfluidic based chips for SERS ultrasensitive detection**
S. Gómez-Graña*, D. García-Lojo, I. Pastoriza-Santos, J. Perez-Juste, *Universidade de Vigo, Spain*
- [P2.021] Nanometer-size heterometallic polyoxometalate clusters for functional applications**
M. Ibrahim*¹, G. Guthausen¹, P. de Oliveira², V. Mereacre¹, C. E. Anson¹, W. Wernsdorfer¹, A. K. Powell¹, ¹Karlsruhe Institute of Technology (KIT), Germany, ²Université Paris-Saclay Orsay, France
- [P2.022] Multiscale prediction of high-performance surfactant molecules by machine learning and dissipative particle dynamics simulation**
T. Inokuchi*¹, N. Li², K. Morohoshi², N. Arai¹, ¹Kindai University, Japan, ²Toyota Motor Corporation, Japan
- [P2.023] Facile and cost-effective lift-off method for ZnO nanorods structures**
Z. Ishwein*, G. Zoppi, N.B. Beattie, Y. Qu, V. Barrioz, *Northumbria University, UK*
- [P2.024] Stable colloidal aqueous dispersion of up-conversion nanoparticles using pH-responsive microbial glycolipids**

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- [P2.025] **Photoelectrochemical performances of anisotropic single crystal BiVO₄ thin film**
C.W. Kim*, P. Oh, M. Ko, *Pukyong National University, Republic of Korea*
- [P2.026] **N-rich mesoporous carbon nitride-graphene composites with enhanced oxygen reduction activity**
I.Y. Kim*, S. Kim, A. Vinu, *The University of Newcastle, Australia*
- [P2.027] **N-rich mesoporous carbon nitride-MoS₂ composites and their application in Li and Na ion batteries**
S. Kim*, I.Y. Kim, A. Vinu, *The University of Newcastle, Australia*
- [P2.028] **Dissipative particle dynamics simulation for self-assembly and rheological properties of nanofluids**
Y. Kobayashi*, N. Arai, *Kindai University, Japan*
- [P2.029] **Self-assembly of various patchy nanoparticles in nanoslit using molecular simulation**
Y. Kobayashi*, N. Arai¹, K. Nomura², ¹Kindai University, Japan, ²RIKEN Center for Computational Science, Japan
- [P2.030] **Magnetically assembled nanochains with large radial mesopores for drug delivery**
S. Kralj^{*1}, C. Dragar², P. Kocbek², D. Makovec¹, ¹Jozef Stefan Institute, Slovenia, ²University of Ljubljana, Slovenia
- [P2.031] **Insight into rare-earth metal oxide functionalization - generation of hybrid superhydrophobic materials**
J. Kujawa*¹, S. Al-Gharabli², W. Kujawski¹, ¹Nicolaus Copernicus University in Torun, Poland, ²German Jordanian University, Jordan
- [P2.032] **Physicochemical properties and pervaporation performance of the composite membranes based on cellulose acetate propionate and containing reactive ionic liquids**
E. Rynkowska^{1,2}, K. Fatyeyeva², J. Kujawa¹, A. Wolan¹, K. Dzieszowski¹, W. Kujawski*¹, ¹Nicolaus Copernicus University in Torun, Poland, ²Normandie University, France
- [P2.033] **Inorganic/inorganic patchy particles with enhanced adsorptive capacity**
A. Kusior*, P. Jelen, *AGH University of Science and Technology, Poland*
- [P2.034] **High-performance nanofibrous LaCoO₃ perovskite cathode for solid oxide fuel cells fabricated via chemically assisted electrodeposition**
S. Rehman¹, R-H. Song^{1,2}, T-H. Lim^{1,2}, J-E. Hong^{1,2}, S-B. Lee*¹, ¹KIER, Republic of Korea, ²UST, Republic of Korea
- [P2.035] **Dome-shaped porous alumina microstructures for drug injection application**
J.S. Lee, *Sookmyung Women's University, Republic of Korea*
- [P2.036] **Cellular behaviors of mesenchymal stem cells on nanostructured surfaces**
J.S. Lee, *Sookmyung Women's University, Republic of Korea*
- [P2.037] **Colloidal Ni-Co-Sn nanoparticles as efficient electrocatalysts for the methanol oxidation reaction**
J. Li*^{1,2}, Z. Luo¹, F. He^{3,4}, Y. Zuo¹, C. Zhang¹, J. Liu¹, X. Yu¹, J. Arbiol^{5,6}, J. Llorca⁷, A. Cabot^{1,6}, ¹Catalonia institute for energy research, Spain, ²Universitat de Barcelona, Spain, ³Chinese Academy of Sciences, China, ⁴University of Chinese Academy of Sciences, China, ⁵Catalan Institute of Nanoscience and Nanotechnology, Spain, ⁶ICREA, Pg. Lluís Companys, Spain, ⁷Universitat Politècnica de Catalunya, Spain
- [P2.038] **New types of nanofibrous hybrid materials and their possible applications**
V. Máková*, B. Holubová, K. Havlíčková, M. Rezanka, *Technical University of Liberec, Czech Republic*
- [P2.039] **Effect of ZnO coating on CeO₂ porous nanorods decorated with Au nanoparticles for catalyzing the water-gas shift reaction**
C.S. Oliveira¹, D. Zanchet¹, F.A. Sigoli¹, E. Teixeira-Neto¹, M.C. Rangel², I.O. Mazali*¹, ¹University of Campinas, Brazil, ²Federal University of Rio Grande do Sul, Brazil
- [P2.040] **Dissipative particle dynamics simulation for elucidating relaxation behaviour of telechelic ionomer supramolecular network**
R. Miwatani*, N. Arai, *Kindai University, Japan*
- [P2.041] **Sn-based nanostructured materials for remediation of wastewater**
A. Mohammad*¹, M.E. Khan², M.R. Karim¹, M.H. Cho¹, ¹Yeungnam University, Republic of Korea, ²Jazan University, Saudi Arabia
- [P2.042] **Synthesis and characterization of 22-oxocholestone bis-steroids as functional solids**
D.L. Montalvo-Guerrero*, M.A. Fernandez-Herrera, *Cinvestav, Mexico*
- [P2.043] **CuSbS₂ particles from hot injection and heat-up synthesis: Candidate for a new hole transport material**
S. Moosakhani*, S-P. Hannula, *Aalto University, Finland*
- [P2.044] **Biopolymeric hybrid films for the detection of volatile organic compounds**
I. Moreira*, L. Sato, C. Alves, G. Santos, S. Palma, A. Roque, *NOVA University of Lisbon, Portugal*
- [P2.045] **Ceramic film thermistors on metal/organic and ceramic/metal hybrid nanostructural substrates**
T. Nakajima*, T. Tsuchiya, *National Institute of Advanced Industrial Science and Technology, Japan*

- [P2.046] Oxidant-amplified nanoparticle-based SERS substrates for identification of bacteria**
A. Novikov*, M. Gorbachevskii, M. Bychenko, E. Botchkova, D. Kopitsyn, *Gubkin University, Russia*
- [P2.047] Shape-dependent linear and nonlinear optical properties of elongated plasmonic gold nanoparticles**
P. Obstarczyk*, K. Nadolski, A. Żak, K. Matczyszyn, J. Olesiak-Bańska, *Wrocław University of Science and Technology, Poland*
- [P2.048] Structure and morphology of composite coating of chromium with diamond nanoparticles on sintered steels**
V. Peťkov*, N. Gidikova, R. Valov, *Institute of Metal Science, Equipment and Technologies, Bulgaria*
- [P2.049] Hybrid materials via PISA-based templates**
Y. Zhang¹, Z. Wang², K. Matyjaszewski^{1,2}, J. Pietrasik¹, ¹Lodz University of Technology, Poland, ²Carnegie Mellon University, USA
- [P2.050] Pyrene modified fullerenes and their hybrid nanomaterials with graphene for energy storage applications**
P. Piotrowski*, A. Kietczewska, A. Kaim, *University of Warsaw, Poland*
- [P2.051] Gold nanorods and nanoclusters under one-photon and two-photon excitation**
A. Pniakowska*, J. Olesiak-Bańska, M. Waszkielewicz, M. Samoć, *University of Science and Technology, Poland*
- [P2.052] Photo-enhanced memristive effects realised in nanograined chrome yellow pigment**
D. Przyczyna*, K. Pilarczyk, K. Szaciłowski, *AGH University of Science and Technology, Poland*
- [P2.053] Effect of Bi₅O₇I addition to the TiO₂/BiOI composite films on the dye-sensitized photovoltaic cells performance**
A.A. Putri^{1,2}, S. Kato¹, N. Kishi¹, T. Soga¹, ¹Nagoya Institute of Technology, Japan, ²Walisongo State Islamic University, Indonesia
- [P2.054] Multifunctional enzyme-bearing Fe₃O₄/SiO₂ composites for advanced water treatment**
I. Pylypchuk*, V. Kessler, G. Seisenbaeva, *Swedish university of agricultural sciences, Sweden*
- [P2.055] Crystal engineering of stellated NiO nano/microparticles**
A. Querejeta-Fernández¹, A. Klinkova², M. Correa-Duarte¹, ¹Universidade de Vigo, Spain, ²University of Waterloo, Canada
- [P2.056] Application of magnetite nanoparticles synthesized by low cost co-precipitation method in the degradation of chemical dyes**
A. Radon*, D. Lukowiec, R. Babilas, *Silesian University of Technology, Poland*
- [P2.057] Fabrication, structure and property characterization of thermoelectric hybrid fiber materials**
K.M. Ryu*, Y.G. Jeong, *Chungman National University, Republic of Korea*
- [P2.058] Sensitive hydrogen sulfide resistive sensor based on hydrothermally nanostructured V₂O₅-nanocarbons**
S.S. Ali*, P. Bonnet, M. Dubois, N. Batisse, A. Ndiayeb, A. Pauly, *Institut Pascal/ ICCF, France*
- [P2.059] Indium phosphide quantum dots with zinc oxide shell suppress reabsorption losses for efficient luminescent solar concentrators**
S. Sadeghi¹, H. Bahmani Jalali¹, R. Melikov¹, B. Ganesh Kumar¹, M. Mohammadi Aria¹, C. Ow-Yang², S. Nizamoglu¹, ¹Koc University, Turkey, ²Sabancı University, Turkey
- [P2.060] Electro-optical gas sensor concepts using combination of nanostructured paper coatings and ultra-thin sensing element**
J. Sarfraz^{1,2}, E. Rosqvist², P. Ihalainen², J. Peltonen², ¹Nofima, Norway, ²Åbo Akademi University, Finland
- [P2.061] Fabrication of large metal oxide nanostructures using high molecular weight block copolymers**
A. Selkirk¹, E. Giraud², E. Mullen², R. Gatensby², B. Jennings², P. Mokarian², M. Morris², ¹Trinity College Dublin, Ireland, ²CRANN, Ireland
- [P2.062] Preparation of smart membranes from block copolymers**
M. Semsarilar¹, ¹IEM, France, ²University of Montpellier, France
- [P2.063] Impact of plasmonic nanostructures on the optical characteristics of ceria nanoparticles**
N. Shehata^{1,3}, E. Samir², I. Kandas^{1,2}, ¹Kuwait College of Science and Technology, Kuwait, ²Alexandria University, Egypt, ³Utah State University, USA
- [P2.064] Multifunctional high-performance textile electrochemical capacitor electrodes with tactile sensing capabilities**
H.H. Shi*, N. Khalili, H.E. Naguib, *University of Toronto, Canada*
- [P2.065] Thermal rectification in micro-sized harpoons made of polyoxometalate hybrids**
J. Silveiras*, C. Mendonça, G. Guedes, E. Coimbra, N. Silva, F. Sousa, *University of Aveiro, Portugal*
- [P2.066] Novel strategies for the synthesis of polyglycerol dendronized polymers**
D. Abdallah Boina, F. Coumes, J-F. Stumbé*, *University of Mulhouse, France*

- [P2.067] Metalized aerogels for applications in catalysis**
R. Tanner^{1*}, M. Schestakow¹, F. Muench², W. Ensinger², B. Milow¹, ¹German Aerospace Center, Germany, ²Technical University Darmstadt, Germany
- [P2.068] Novel "turn on" sensor for highly sensitive detection of triacetone triperoxide explosive based on Hg²⁺-quenching of fluorescence amphiphilic polythiophene nano hybrids**
S.M. Tawfik^{1,2}, Y. Lee¹, ¹Changwon National University, Republic of Korea, ²Egyptian Petroleum Research Institute, El Salvador
- [P2.069] Porphyrin J aggregates in nanostructured hybrid materials**
M. Trapani^{1*}, M.A. Castriciano¹, A. Mazzaglia¹, A. Romeo², L. Monsù Scolaro², ¹CNR ISMN Istituto per lo Studio dei Materiali Nanostrutturati, Italy, ²University of Messina, Italy
- [P2.070] Molecular precursor-to-material approach for complex perovskite-type oxides**
L. Andros Dubraja, M. Juric, J. Popovic, M. Vrankic*, L. Kanizaj, Rudjer Boskovic Institute, Croatia
- [P2.071] Development of degradable thermoset polymer matrix with bi-continuous phase for structural composites**
J.W. Yi*, S.W. Kim, J.W. Lee, J.S. Kim, M.K. Um, Korea Institute of Materials Science, Republic of Korea
- [P2.072] Fabrication and application of novel nano hybrids with coordination polymer framework derivatives**
H. Yoo, Hallym University, Republic of Korea
- [P2.073] On-surface molecular dilution as a reliable analytical strategy for physical-organic study in molecular electronics**
G.D. Kong, H. Song, N.Y. Cho, M. Cho, H.J. Yoon*, Korea University, Republic of Korea
- [P2.074] Synthesis, characterization and luminescent properties Mg-doped alumina ceramics**
S.V. Zvonarev¹, E.I. Frolov², N.O. Smirnov¹, ¹Ural Federal University, Russia, ²Samara State Technical University, Russia
- [P2.075] Metallic nanoparticles in aqueous nanofluid: Preparation and colloidal stability of silver nanofluids**
C. Carvalho dos Santos*, W. Renato Vialli, M. Jafelicci Junior, São Paulo State University UNESP, Brazil
- [P2.076] The role of the rare earth ions in oxyfluoride glasses for the forming of glassy composites**
L. Ignatieva*, I. Maslennikova, Y. Marchenko, N. Savchenko, Institute of Chemistry FEB RAS, Russia
- [P2.077] Composite materials based on fluoroplasts of F-4MB and PVDF and low melting oxyfluoride glass**
L.N. Ignatieva¹, A.Y. Shaulov², V.M. Lalayan², E.V. Stegno², I.G. Maslennikova¹, ¹Institute of Chemistry FEB RAS, Russia, ²Semenov Institute of Chemical Physics RAS, Russia
- [P2.078] The development of new methodology for quantitative evaluations of phosphate ion poisoning of Pt type catalyst**
Y. Kwon*, S. Yang, J. Park, Y. Chung, Seoul National University of Science and Technology, Republic of Korea
- [P2.079] Mediator and co-catalysts-free direct Z-scheme composites of Bi₂WO₆-Cu₃P for solar-water splitting**
A. Rauf, Lahore University of Management Sciences (LUMS), Pakistan
- [P2.080] Self-propelled sustainable trampolining elastic gels based thermoelectric generator energy harvesting machine**
S. Sridhar¹, Y. Li¹, S. Wang², B. Xu¹, ¹Northumbria University, UK, ²Newcastle University, UK
- [P2.081] Preparation of powder cellulose nanocrystal (CNC) from industrial waste offcut cotton textile for novel sustainable nanofiller**
T. Arita^{1,2}, H. Ikemoto³, K. Takemoto³, R. Kawaguchi³, H. Katsuno⁴, ¹Tohoku University, Japan, ²FillerBank Ltd., Japan, ³Nisshin Pharma Inc., Japan, ⁴Nisshinbo Textile Inc., Japan
- [P2.082] Synthesis and characterization of hydroxy functional compounds from natural resources**
M. Burelo^{1*}, C.M. Gómez², A. Martínez⁴, J.A. Cruz-Morales¹, M.A. Tlenkopatchev¹, S. Gutiérrez¹, ¹Universidad Nacional Autónoma de México, Mexico, ²Universidad de Valencia, Spain, ³Centro de Investigación en Química Aplicada, Mexico
- [P2.083] Synthesis and development of organic photosensitizer: New materials in field of photocatalysis**
H. Deol*, V. Bhalla, M. Kumar, Guru Nanak Dev University, India
- [P2.084] Mycelium-derived chitin nanofibres from low-cost sugarcane by-products**
M.P. Jones^{1,2}, A.C. Lawrie¹, T.T. Huynh¹, P. Morrison³, A. Mautner², A. Bismarck^{2,4}, S. John¹, ¹RMIT University, Australia, ²University of Vienna, Austria, ³Australian Centre for Research on Separation Science, Australia, ⁴Imperial College London, UK
- [P2.085] Study on aqueous organic redox flow battery using quinone and potassium iodide**
Y. Kwon*, W. Lee, A. Permatasari, Seoul National University of Science and Technology, Republic of Korea
- [P2.086] The use of glucono-delta-lactone in the preparation and characterization of silk fibroin hydrogel**
H.J. Lee*, J.S. Kim, K.H. Jeon, K.H. Lee, Seoul National University, Republic of Korea

- [P2.087] **Synthesis of nano-structured amino acid biosurfactants from coconut oil and characterization of interfacial properties for cosmetic products**
D.N. Yea, S.H. Jo, J.C. Lim*, *Dongguk Univ.-Seoul, Republic of Korea*
- [P2.088] **MOF-derived CuO clusters in large pore zeolites for C-C bond formation: A new catalyst strategy toward substituted indoles and propargylamines**
N. Martin*, M. Dusselier, D. De vos, F. Cirujano, *Kuleuven, Belgium*
- [P2.089] **Robust, green supraparticles for cargo protection and controlled release in natural environments**
B. Mattos*¹, L.G. Greca¹, B. Tardy¹, W. Magalhães², O. Rojas¹, ¹*Aalto University, Finland*, ²*Embrapa Florestas, Brazil*
- [P2.090] **Influence of reaction conditions on hydrothermal conversion of biomass**
P. Modugno*, M-M. Titirici, *Queen Mary University of London, UK*
- [P2.091] **Biosurfactant adsorption at crude oil-water interface: Effects of pH and salinity on equilibrium and dynamic interfacial tension**
S. Onaizi, *King Fahd University of Petroleum & Minerals, Saudi Arabia*
- [P2.092] **β -Chitin nanofiber preparation from squid pen by a water jet machine**
M. Osada*, S. Suenaga, I. Shimada, H. Fukunaga, N. Takahashi, *Shinshu University, Japan*
- [P2.093] **Is it possible to synthesize iron nanoparticles using catechin?**
D. Podstawczyk, *Wroclaw University of Science and Technology, Poland*
- [P2.094] **Additive of natural product into biodegradable polymer P(3HB-co-3HH) fiber**
R.A. Rebia*, T. Tanaka, *Shinshu University, Japan*
- [P2.095] **Eco-friendly nanocomposite coating on aluminium for water harvesting**
O. Rius-Ayra*, S. Fiestas-Paradela, N. Llorca-Isern, *Universitat de Barcelona, Spain*
- [P2.096] **Biogenic metallic nanoparticles. A nanometric trojan horse against cancer and antibiotic resistance**
D. Medina Cruz, T. Webster, A. Vernet Crua*, *Northeastern University, USA*
- [P2.097] **Green synthesis of a synergetic structure of tellurium nanowires and metallic nanoparticles for biomedical applications**
A. Vernet Crua*, D. Medina Cruz, B. Zhang, T. Webster, *Northeastern University, USA*
- [P2.098] **Synthesis of poly (glycerol succinate) and electrospun fibres formation**
M. Wrzeczionek*¹, O. Jeznach², D. Kolbuk-Konieczny², M. Wieclaw¹, P. Ruskowski¹, A. Gadomska-Gajadur¹, ¹*Warsaw University of Technology, Poland*, ²*Institute of Fundamental Technological Research Polish Academy of Sciences, Poland*
- [P2.099] **Hierarchical structure of catalyst on polymer electrolyte fuel cell, elucidated by transmission microscope & small-angle neutron scattering with contrast variation methods**
S. "Koizumi", *Ibaraki university, Japan*
- [P2.100] **Microwave versus conventional hydrothermal saponite synthesis: Improvement of reaction conditions in a kinetic experiment**
V.G. Peixoto¹, D.T. De Araújo¹, E.H. De Faria*¹, L.F. Bonfim¹, S.D. Sousa¹, K.J. Ciuffi¹, E.J. Nassar¹, M.A. Vicente², R. Trujillano², V. Rives², ¹*Universidade de Franca, Brazil*, ²*Universidad de Salamanca, Spain*
- [P2.101] **Iron(III) oxyhydroxide and oxide monoliths with controlled multiscale porosity: Synthesis and their adsorption performance**
Y. Hara*, K. Kanamori, K. Nakanishi, *Kyoto university, Japan*
- [P2.102] **Binder-free monolithic electrodes of hierarchically porous carbon embedded with Si nanoparticles for rechargeable Li-ion battery anodes**
G. Hasegawa*, K. Hayashi, *Kyushu University, Japan*
- [P2.103] **Surface modification of layered double hydroxides (LDHs) as a promising way to improve their properties**
S-A. Ibanescu*¹, M. Sillion¹, A. Coroaba¹, M.C. Alexandrica², M. Pinteala¹, ¹*"P. Poni" Institute of Macromolecular Chemistry, Romania*, ²*"Gheorghe Asachi" Technical University of Iasi, Romania*
- [P2.104] **Preparation of Al-containing mesoporous catalysts with MFI crystalline structure**
K-K. Kang*, C-S. Lee, *Chungnam National University, Republic of Korea*
- [P2.105] **Copper-based monoliths with three-dimensionally interconnected and hierarchical pores**
X. Lu*, K. Kanamori, K. Nakanishi, *Kyoto University, Japan*
- [P2.106] **One-pot synthesis of hybrid silica microspheres with nanostructured surface via the sol-gel route**
D.M. Meisel*, H.A. Mayer, *University of Tübingen, Germany*
- [P2.107] **Multinuclear NMR for structural study of lamellar mordenite and ZSM-5 zeolites**
M.G. Shelyapina*¹, Y. Zheleznyak¹, V. Petranovskii², R. Yocupicio-Gaxiola², J. Antunez-Garcia², S. Fuentes², ¹*Saint Petersburg State University, Russia*, ²*Universidad Nacional Autónoma de México, Russia*

- [P2.108] Fabrication of porous scaffold with controlled differential pore size distribution by novel freeze casting**
G. Singh*, S. Soundarapandain, *Indian Institute of Technology, Madras, India*
- [P2.109] Highly customizable 3D biofabrication of nanocellulose using superhydrophobic templates**
L. Greca*, J. Lehtonen, B. Tardy, B. Mattos, M. Rafiee, O. Rojas, *Aalto University, Finland*
- [P2.110] Metal-organic frameworks as immobilization matrices for living entities**
A. Permyakova*^{1,2}, M. Faustini², C. Serre³, T. Coradin², N. Steunou¹, F. Fernandes², C. Sicard¹, ¹CNRS Université Paris-Saclay, France, ²Sorbonne Université, France, ³FRE 2000 CNRS-ENS-ESPCI, France
- [P2.111] On the mechanism of crack nucleation in human dentin**
D. Zaytsev*^{1,2}, S. Grigoriev³, A. Ivashov³, P. Panfilov¹, ¹Ural Federal University, Russia, ²The Institute of High-Temperature Electrochemistry of the Ural Branch of the Russian Academy of Sciences, Russia, ³Ural State Medical University, Russia
- [P2.112] Synthetic polyethersulfone nanofiltration membrane modified by magnetic porphyrin nano hybrids in water treatment**
G. Abdi*¹, A. Alizadeh², A. Szczurek¹, W. Grochala¹, ¹Centre of New Technologies, Poland, ²Razi University, Iran
- [P2.113] Clarifying mechanism of water permeation in polymeric membranes and synthetic strategy for water-inhibiting functional polymers**
N. Arai*, Y. Araki, *Kindai University, Japan*
- [P2.114] Fabrication of sub-10 nm ultrathin C₃N₄ membrane and its application in sodium ions batteries**
L. Chen*^{1,2}, L. Jiang², M. Antonietti¹, ¹Max Planck Institute of Colloids and Interfaces, Germany, ²Beihang University, China
- [P2.115] Development and investigation of new pervaporation membranes based on PVA obtained by surface and bulk modification methods**
M.E. Dmitrenko*¹, A.V. Penkova¹, A.I. Kuzminova¹, D. Roizard², ¹St. Petersburg State University, Russia, ²Université de Lorraine, France
- [P2.116] Stimuli-responsive bio-hybrid membrane material from natural resources for multiple applications**
C. Goldhahn*^{1,2}, M. Schubert^{1,2}, I. Burgert^{1,2}, M. Chanana^{1,3}, ¹ETH Zürich, Switzerland, ²Empa Dübendorf, Switzerland, ³Swiss Wood Solutions AG, Switzerland
- [P2.117] Spectroscopic aspects of lipid bilayer-gold nanoparticle interaction as a function of surface ligand of nanoparticles and phase transition of lipid bilayer**
N. Kanwa*, S.K. De, A. Chakraborty, *IIT Indore, India, India*
- [P2.118] Modification of fluorinated PVDF porous material - from molecular grafting to upgrading transport and separation features**
J. Kujawa*¹, S. Al-Gharabli², W. Kujawski¹, ¹Nicolaus Copernicus University in Torun, Poland, ²German Jordanian University, Jordan
- [P2.119] Hybrid silica membranes for selective separation of small gasses under hydrothermal conditions**
M.W.J. Luiten-Olieman*¹, M. ten Hove¹, H.L. van Castricum², H.F. Qureshi¹, C. Huijkes¹, A. Nijmeijer¹, L. Winnubst¹, ¹University of Twente, The Netherlands, ²Van 't Hoff Institute for Molecular Sciences, The Netherlands
- [P2.120] Conductive properties of hybrid membranes based on N-phosphorylated polybenzimidazole and surface-modified silica**
A. Lysova*¹, I. Ponomarev², A. Yaroslavtsev¹, ¹Kurnakov Institute of General and Inorganic Chemistry RAS, Russia, ²Nesmeyanov Institute of Organoelement Compounds RAS, Russia
- [P2.121] Thin-film membranes based on functional porous materials for environmental applications**
C. Montoro*, M. Fang, M. Semsarilar, *CNRS-Institut Européen des Membranes, France*
- [P2.122] The ceramic microfiltration membrane with a separation layer of palygorskite nanofibers**
Y.J. Zhao*, A.L. Xue, Y. Zhang, S.Y. Zhou, M.S. Li, *Huaiyin Normal University, China*
- [P2.123] Polyvinylidene fluoride ultrafiltration membrane by incorporation of thermo-responsive palygorskite nanofibers with enhanced flux and antifouling properties**
S.Y. Zhou*, A.L. Xue, Y. Zhang, M.S. Li, Y.J. Zhao, *Huaiyin Normal University, China*
- [P2.124] Organic template aided porous silica membrane: A filter for organic solvents**
I. Maitlo*¹, S. Larik², ¹Department of Metallurgy and Materials Engineering, Dawood University of Engineering and Technology, Pakistan, ²State Key Laboratory of Chemical Resource Engineering & Beijing Laboratory of Biomedical Materials, China
- [P2.125] The formation and characterizations of cubic and dodecagonal quasicrystalline of mesoporous organosilica nanoparticles**
P. Baipaywad*¹, J.S. Wi², T. Paik¹, H. Park¹, ¹Chung-Ang University, Republic of Korea, ²Korea Research Institute of Standards and Science, Republic of Korea

- [P2.126] Palladium containing bimodal mesoporous silica nanocomposite as active catalyst in the Suzuki-Miyaura reaction: Study of the homogeneous vs. heterogeneous activity**
P. Albiñana¹, J. El Haskouri*¹, F. Estevan¹, M-D. Marcos², P. Amorós¹, M-A. Úbeda¹, F. Pérez-Pla¹, ¹Institut de Ciència dels Materials, Universitat de València, Spain, ²Universidad Politécnica de Valencia, Spain
- [P2.127] Generalized one-pot synthesis of spherical and hollow mesoporous silica based materials containing high heteroelement amounts**
J.E. Haskouri*¹, C. Garcia-Llacer¹, R. Hany¹, S. Roig¹, A. Beltran¹, J.V. Ros-Lis¹, M.D. Marcos², P. Amorós¹, ¹Universitat de València, Spain, ²Universidad Politécnica de Valencia, Spain
- [P2.128] Ability of MCM-41-based sorbents to remove and reduce hexavalent chromium from different water matrices**
P. Martin, A. Rubert, M. Rafti, N. Fellenz*, CONICET, Argentina
- [P2.129] Hollow silica cubes with customisable porosity**
S.H. Gallagher*, O. Trussardi, D. Brühwiler, Zurich University of Applied Sciences (ZHAW), Switzerland
- [P2.130] Mesoporous Nb₂O₅ films as active media for VOC sensing with Bragg reflectors**
R. Georgiev*, M. Vasileva, B. Georgieva, T. Babeva, Bulgarian Academy of Sciences, Bulgaria
- [P2.131] Lower critical solution temperature (LCST) phase behavior in PEO-PPO-PEO (F127) triblock copolymer/carbon precursor mixture**
S-Y. Jeon, K. Hur*, Korea Institute of Science and Technology, Republic of Korea
- [P2.132] Insights into the correlation between wetting and transport in ceramic mesopores**
A. Khalil*, A. Andrieu-Brunsen, Technische Universität Darmstadt, Germany
- [P2.133] Effect of differently structured porous silica nanoparticles in photocatalytic reaction: Synthesis, characterization and application in waste-water treatment**
D. Khandekar*, A. Bhattacharya, R. Bandyopadhyaya, Indian Institute of Technology Bombay, India
- [P2.134] Photoelectrochemical performance of TiO₂ aerogels-based suspensions**
G. Kreibich Pinheiro*, R-B. Serpa, D. Mueller, J-C. Bernardes, C-R. Rambo, Universidade Federal de Santa Catarina, Brazil
- [P2.135] Nanoporous molecular materials for catalysis: From efficient to reused and multi-process catalysts using titania support**
A. Lemeune*¹, A. Mitrofanov^{1,2}, M. Volostnykh^{1,3}, I. Abdulaeva^{1,3}, S. Brandès¹, K. Birin³, I. Beletskaya², ¹Institut de Chimie Moléculaire de l'Université de Bourgogne, France, ²Lomonosov Moscow State University, Russia, ³Frumkin Institute of Physical Chemistry and Electrochemistry, Russia
- [P2.136] Halloysite nanotubes as components of sulfur reduction additives for cracking catalysts**
N. Levshakov*^{1,2}, A. Glotov¹, A. Vutolkina², S. Lysenko², V. Vinokurov¹, ¹Gubkin Russian State University of Oil and Gas, Russia, ²Lomonosov Moscow State University, Russia
- [P2.137] Synthesis of metal and metal oxide doped mesoporous carbons from polysaccharides**
S. Martínez*¹, D. Amantia¹, F. Palomabrin¹, C. Aucher¹, G. Çavus¹, X. Wu², D. Macquarrie², V. Bundarin², ¹LEITAT Technological Centre, Spain, ²University of York, UK
- [P2.138] XAS time-resolved phase speciation of Cu-based LDH to ethanol dehydrogenation**
R. Santos*^{1,2}, C. Santilli², V. Briois¹, ¹SOLEIL Synchrotron, Brazil, ²UNESP Instituto de Química de Araraquara, Brazil
- [P2.139] Highly active mesoporous silica-supported base catalysts for C-C bond formation**
C. Segarra*, M.C. Hernández-Soto, A. Erigoni, U. Díaz, F. Rey, Instituto de Tecnología Química, Spain
- [P2.140] Highly porous amorphous calcium carbonate and calcium phosphate**
R. Sun*¹, F. Kleijne², M. Strømme¹, O. Cheung¹, ¹Uppsala University, Sweden, ²Fontys University of Applied Science, The Netherlands
- [P2.141] Organic hydrogels as porogenic matrices for mesoporous metal oxide films**
Z. Chen, C. Weinberger, D. Kuckling, M. Tiemann*, Paderborn University, Germany
- [P2.142] Surface grafting of mesoporous silica via CVD-type approach**
J. Timm*, R. Marschall, University of Bayreuth, Germany
- [P2.143] Adsorption of carbon dioxide on inorganic carbonate sorbents**
M. Vall*, M. Strømme, O. Cheung, Uppsala University, Sweden
- [P2.144] Mixed solvent systems for the creation of mesoporous hybrid-materials in an "all-in-one"-approach**
R. Winkler*, G. Arrachart, S. Pellet-Rostaing, Institut de Chimie Séparative de Marcoule, France
- [P2.145] Mesoporous silica nanoparticles: A direct method for controlling functionality, pore structure and particle size**
A. Phimpachanh¹, S. Harrison², M. Destarac², P. Lacroix-Desmazes¹, M. In¹, N. Marcotte¹, C. Gerardin¹, ¹University of Montpellier, France, ²University of Toulouse, France

- [P2.146] **1-Butyl-3-methylimidazolium bromide entrapped in UiO-66 for adsorption of Gd³⁺ ions in water**
W.S. Ahn*, I. Ahmed, K. Yu, *Inha University, Republic of Korea*
- [P2.147] **Theoretical study of gas adsorption/separation in nanoporous materials: Role of guest-host and guest-guest interactions**
R. Belosludov, *Tohoku University, Japan*
- [P2.148] **MOF-based composites generated by spray-drying for pollutant removal applications**
G. Boix*¹, L. Garzon-Tovar¹, C. Avci-Camur¹, I. Imaz¹, D. Maspoch^{1,2}, ¹*Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain*, ²*ICREA, Spain*
- [P2.149] **Tailor-made microporous metal-organic frameworks for the full separation of propane from propylene through selective size exclusion**
H. Wang¹, X. Dong², V. Colombo*³, Q. Wang¹, Y. Liu¹, X.L. Wang⁴, X.Y. Huang⁵, D.M. Proserpio^{3,6}, A. Sironi³, Y. Han², ¹*Rutgers University, USA*, ²*King Abdullah University of Science and Technology, Saudi Arabia*, ³*Università degli Studi di Milano, Italy*, ⁴*Northeast Normal University, China*, ⁵*Fujian Institute of Research on the Structure of Matter, China*, ⁶*Samara State Technical University, Russia*
- [P2.150] **Materials derived from MIL-125-NH₂ MOFs as adsorbents and photocatalysts for the extraction and degradation of pollutants**
N. Crespi*, C. Palomino, G. Turnes, *University of the Balearic Islands, Spain*
- [P2.151] **Application of silver-functionalized metal-organic frameworks for the extraction and preconcentration of radionuclides from aqueous solutions**
M. del Rio*, C. Palomino, L. Ferrer, G. Turnes, *Balearic Islands University, Spain*
- [P2.152] **3D printed devices with immobilized MOFs for pollutant degradation**
A. Figuerola*, C. Palomino Cabello, F. Rodriguez, G. Turnes Palomino, V. Cerdà, F. Maya, *University of the Balearic Islands, Spain*
- [P2.153] **Theoretical study of isorecticular lanthanoid organic frameworks (LOFs): Geometry and luminescence**
A. Galaco*¹, L. Jesus², R. Freire², O. Serra^{1,3}, ¹*UNIVERSITY OF SÃO PAULO, Brazil*, ²*FEDERAL UNIVERSITY OF SERGIPE, Brazil*, ³*FEDERAL UNIVERSITY OF ABC, Brazil*
- [P2.154] **Supramolecular isomerism of metal-organic frameworks built from Zn(II) and 2,5-Dioxidoterephthalate**
A. Gheorghe*¹, I. Imaz², J.I. van der Vlugt¹, D. Maspoch², S. Tanase-Grecea¹, ¹*University of Amsterdam, The Netherlands*, ²*Catalan Institute of Nanoscience and Nanotechnology, Spain*
- [P2.155] **Heads or tails: Sandwich-type metal complexes based on α -cyclodextrin ligand as possible separation media**
O. Jurcek*¹, R. Puttreddy², F. Topic³, P. Zarabadi-Poor¹, P. Jurcek¹, R. Marek¹, K. Rissanen², ¹*Masaryk University, Czech Republic*, ²*University of Jyväskylä, Finland*, ³*McGill University, Canada*
- [P2.156] **From 3D polymeric heterometallic oxalate-based complexes with magnetic ordering to the spinel oxides**
M. Juric*¹, L. Andros Dubraja¹, J. Popovic¹, L. Kanizaj¹, K. Molcanov¹, D. Pajic², ¹*Rudjer Boskovic Institute, Croatia*, ²*University of Zagreb, Croatia*
- [P2.157] **Exploring the molecular mechanism of xylenes separation in MIL-53 (Al) MOF**
A.E. Khudozhitkov*^{1,2}, D.I. Kolokolov^{1,2}, A.G. Stepanov², ¹*Novosibirsk State University, Russia*, ²*Boreskov Institute of Catalysis, Russia*
- [P2.158] **Synthesis and C₃H₆/C₃H₈ separation of ZIF-8 membranes by ZnO to ZIF-8 conversion and secondary growth**
J. Kim*¹, J.H. Lee^{1,2}, D. Kim¹, S.J. Yoo^{1,2}, ¹*Kyung Hee University, Republic of Korea*, ²*Korea Institute of Science and Technology, Republic of Korea*
- [P2.159] **Separating the wolves from the sheeps - chemoenzymatic catalytic composite based on surface-anchored MOF**
K.V. Kutonova*, K. Rabe, E.P. Valadez-Sánchez, *Karlsruhe Institute of Technology, Germany*
- [P2.160] **Ligand exchanged nano-ZIF-8 with enhanced CO₂ adsorption**
C-W. Tsai¹, J. Niemantsverdriet², E. Langner*¹, ¹*University of the Free State, South Africa*, ²*Syngaschem BV, The Netherlands*
- [P2.161] **Zr-based MOFs with 1,10-phenanthroline linkers for detection and catalysis**
A. Abel¹, A. Averin¹, I. Beletskaya¹, S. Brandès², A. Lemeune*², ¹*Lomonosov Moscow State University, Russia*, ²*Institut de Chimie Moléculaire de l'Université de Bourgogne, France*
- [P2.162] **Metal-assembled complexes based on copper(II) trimethoxybenzoates**
M. Mikuriya*¹, C. Yamakawa¹, K. Tanabe¹, R. Nukita¹, D. Yoshioka¹, R. Mitsuhashi¹, H. Tanaka², M. Handa², ¹*Kwansei Gakuin University, Japan*, ²*Shimane University, Japan*
- [P2.163] **Selective ligand removal to improve accessibility of active sites in hierarchical MOFs for heterogeneous photocatalysis**

- [P2.164] **New photoactive metal-organic frameworks assembled by mechanochemistry for energy applications**
M. Ribeiro*, A. Firmino, H. Garcia, M. Duarte, C. Baleizão, *Instituto de Tecnologia Química, Portugal*
- [P2.165] **Metal-organic frameworks as selective sensing materials using specific organic reactions**
M. Schulz, A. Gehl, N. Marquardt, S. Zimmermann, A. Schaate*, *Leibniz University Hannover, Germany*
- [P2.166] **Design of sorption sites in metal-organic frameworks - a force field approach**
M. Schäfer*, A.M. Schneider, P. Behrens, *Leibniz Universität Hannover, Germany*
- [P2.167] **Design of MOFs-graphene oxide composites for the capture of CO₂**
M. Muschi¹, S. Sene¹, F. Nouar¹, C. Sicard², N. Menguy³, C. Serre¹, N. Steunou*^{1,2}, ¹Institut des Matériaux de Paris, France, ²Institut Lavoisier de Versailles, France, ³Institut de Minéralogie, de Physique des Matériaux et de Cosmochimie, France
- [P2.168] **Co-doped lanthanide porous coordination solids as potential candidates for use in light emitting devices**
R. Frem, G. Arroyos, O.F. Verruma*, *UNESP, Brazil*
- [P2.169] **Mechanical properties of pHEMA based hydrogels with heteroporous design outperform corresponding homoporous structure in physiological water content**
N. Nasrollahzadeh, P. Karami*, D.P. Pioletti, *EPFL, Switzerland*
- [P2.170] **Tracing the biological fate of lipid-based nanoparticles used as gene delivery agents**
M. Al-Dulaymi, W. Jin, I. Badea, A. El-Aneed*, *University of Saskatchewan, Canada*
- [P2.171] **Thermal performance of multi-walled carbon nanotube cementitious composite**
H. Lee¹, S. Park², W. Chung*², ¹University of Colorado Denver, USA, ²Kyung Hee University, Republic of Korea
- [P2.172] **Multifunctional magnetic nanoparticles conjugated with chlorin e6 and folic acid for biomedical theragnostics**
B.J. Park, *Kwangwoon University, Republic of Korea*
- [P2.173] **Synthesis and characterization of porous organic polymers for gas storage and separation**
O. El-Kadri*¹, Y. Abdelmoaty², T. Tessema², H. El-Kadrei², ¹American University of Sharjah, United Arab Emirates, ²Virginia Commonwealth University, USA
- [P2.174] **Tailored lignin-based polyurethane coatings with a high biomass content**
J.C. de Haro*, C. Allegretti, P. D'Arrigo, S. Turri, G. Griffini, *Politecnico di Milano, Italy*
- [P2.175] **Lignin-based anticorrosion coatings for the protection of aluminum surfaces**
J.C. de Haro*, L. Magagnin, S. Turri, G. Griffini, *Politecnico di Milano, Italy*
- [P2.176] **Microstructural assessment of Magnetite Nanoparticles (Fe₃O₄) synthesized under different conditions**
A.M. Ferreira*, L.B. Salviano, G.C. Silva, T.M.S. Cardoso, *Centro Federal de Educação Tecnológica de Minas Gerais, Brazil*
- [P2.177] **UV-photodegradation of Quinoline by micro-mesoporous TiO₂/SiO₂ nanocomposites**
M.A.M.L. Jesus¹, G.B. Freitas², R.V. Mambri², N.D.S. Mohallem¹, A.M. Ferreira*², ¹Universidade Federal de Minas Gerais, Brazil, ²Centro Federal de Educação Tecnológica de Minas Gerais, Brazil
- [P2.178] **Generating porosity in Nb₂O₅ thin films using zeolites particles as dopants or sacrificing medium**
K. Lazarova¹, R. Georgiev*¹, S. Boycheva², D. Zgureva², T. Babeva¹, ¹Bulgarian Academy of Sciences 175905780, Bulgaria, ²Technical University of Sofia, Bulgaria
- [P2.179] **Design and synthesis of a hybrid g-C₃N₄@ZnCo₂O₄ electrode for high performance supercapacitor**
M. Sharma*, A. Gaur, *National Institute of Technology, India*

Poster Session 3

Thursday 14th March 2019 - 10:20–11:20 & 16:00–17:15

Room - Tramuntana 1&2

- [P3.001] **Study on the barrier properties of ZnO nanoparticles coated PET and PHBHHx materials using ultrasonic spray coating technique**
M. Abbas*¹, M. Buntinx¹, W. Deferme^{2,3}, N. Reddy¹, R. Peeters¹, ¹Hasselt University, Belgium, ²IMO-IMOMECE, Belgium, ³IMEC vzw - Division IMOMECE, Belgium
- [P3.002] **Characteristics of silica aerogel powders and blanket prepared by ambient pressure drying**
S-Y. Heo, H-I. Go, C-K. Hong, J-S. Lee, Y-S. Ahn*, *Korea Institute of Energy Research, Republic of Korea*
- [P3.003] **The role of membrane texture for MOF-based mixed matrix membrane in improving permselectivity**
B. Al-Maythalony, *King Fahd University of Petroleum and Minerals, Saudi Arabia*

- [P3.004] Temperature and near-infrared light-induced shape memory 3D printed polylactic acid/molybdenum disulphide composites**
P. Arriagada*, H. Palza, *Universidad de Chile, Chile*
- [P3.005] Influence of the metallic phase content on the AC properties of the nanocomposite (FeCoZr)_x(SiO₂)_(100-x)**
V. Bondariev*¹, P. Zukowski¹, T. Koltunowicz¹, A. Fedotov², ¹Lublin University of Technology, Poland, ²Belarusian State University, Belarus
- [P3.006] Polymer nanocomposites from polypropylene, carbon nanotubes and carbon nanofibers as potential materials for bipolar plates**
C.A. Ramírez-Herrera¹, O. Solorza-Feria¹, J.G. Cabañas-Moreno*¹, J. Pérez-González², A. Flores-Vela², ¹CINVESTAV-IPN, Mexico, ²Instituto Politécnico Nacional, Mexico
- [P3.007] Comparison of the effect of dispersion of fly ash, silica & alumina nanoparticles on electrical transport in PEO-PEG-MgClO₄ solid polymer electrolyte**
B. Choudhury*¹, B. Nayak², A. Sarit², A. Dalvi², ¹Indian Institute of Technology Kharagpur, India, ²Birla Institute of Technology and Science Pilani, India
- [P3.008] Synthesis of biomimetic nanocontainers with an antifouling polymer brush system via new microwave-accelerated simplified electrochemically mediated ATRP**
I. Zaborniak, P. Chmielarz*, *Rzeszow University of Technology, Poland*
- [P3.009] Silver loaded alumina (Ag-Al₂O₃): An effective visible light active photo catalyst for aqueous phase degradation of methylene blue dye**
M. Saeed*, A. Haq, N. Afzal, *Government College University Faisalabad Pakistan, Pakistan*
- [P3.010] Boehmite microcrystal growth**
M. Dudziak*, D. Silbernagl, H. Sturm, *Federal Institute for Materials Research and Testing (BAM), Germany*
- [P3.011] Thermal stability of PMMA/Fe-clay nanocomposites: in situ XAS/Raman study**
C.R. Ferreira*^{1,3}, C.V. Santilli¹, S.H. Pulcinelli¹, P.D. Borges², V. Briois³, ¹Unesp - Institute of Chemistry, Brazil, ²UFV - Universidade Federal de Viçosa, Brazil, ³SOLEIL Synchrotron, France
- [P3.012] 3D damage mapping topography via impedance spectroscopy on carbon nanotube (CNT) and carbon black (CB)-modified fiber reinforced composites**
G. Foteinidis*, L. Koutsotolis, A.S. Paipetis, *University of Ioannina, Greece*
- [P3.013] Mechanical and chemical alteration of polymer matrix induced by nanoparticles in epoxy-boehmite nanocomposites**
M. Ghasem Zadeh khorasani*^{1,2}, D. Silbernagl¹, H. Sturm^{1,2}, ¹Bundesanstalt für Materialforschung (BAM), Germany, ²Technical University Berlin, Germany
- [P3.014] Bimetallic tungsten-cobalt sulfide on heteroatom-doped carbon nanocomposite derived from POM@ZIF-67 as highly efficient electrocatalysts for hydrogen and oxygen evolution**
Z. Huang*, Z. Hussain, Z. Yang, Y. Zhu, Y. Xia, *University of Exeter, UK*
- [P3.015] Enhancement of thermal conductivity in epoxy composites through the addition of expanded graphite and boron nitride fillers**
I. Isarn*¹, L. Bonnaud², L. Massagués¹, A. Serra¹, F. Ferrando¹, ¹Universitat Rovira i Virgili, Spain, ²Materia Nova, Belgium
- [P3.016] Characteristics of various mixed nitride nanopowders in the system gallium nitride GaN/aluminium nitride AlN for sintering towards composite semiconducting nitride nanoceramics**
J.F. Janik*, M. Drygas, K. Kapusta, *AGH University of Science and Technology in Krakow, Poland*
- [P3.017] Thermogravimetric behavior of cubic pre-kesterite Cu₂ZnSnS₄ nanopowders prepared by the mechanochemical synthesis via high energy ball milling of the elements**
J.F. Janik*, K. Kapusta, M. Drygas, M.M. Bucko, *AGH University of Science and Technology in Krakow, Poland*
- [P3.018] Development of multifunctional materials based on the addition of conductive nanoparticles to polymer matrices for 3D-printing technologies**
A. Jiménez-Suárez*¹, A. Cortés¹, X.X.F. Sánchez-Romate¹, M. Campo¹, A. Ureña¹, ¹Universidad Rey Juan Carlos, Spain, ²Universidad Politécnica de Madrid, Spain
- [P3.019] Addition of carbon nanotubes and/or graphene nanoplatelets to allow self-heating capabilities in epoxy/PCL blends with self-healing purposes**
A. Jiménez-Suárez*¹, X.X.F. Sánchez-Romate^{1,2}, G. del Rosario¹, S.G. Prolongo¹, A. Ureña¹, ¹Universidad Rey Juan Carlos, Spain, ²Universidad Politécnica de Madrid, Spain
- [P3.020] Multi-layered, bipolar all-solid-state battery enabled by a perovskite-based hybrid solid electrolyte**
K.N. Jung*¹, H.S. Shin¹, J.W. Lee², ¹Korea Institute of Energy Research, Republic of Korea, ²Chosun University, Republic of Korea

- [P3.021] Fusion of 3D inorganic nanowire networks and their improving mechanical strength**
M.C. Kang*¹, X.H. Pan¹, S.H. Park¹, S.S. Kim², H.Y. Jung², ¹Pusan national University, Republic of Korea, ²Gyeongnam National University of Science and Technology, Republic of Korea
- [P3.022] Facile synthesis of Fe₃O₄-SnO₂@rGO nanocomposites and its application as supercapacitor electrode and non-precious metal cathode catalyst for microbial fuel cells**
M.R. Karim*, M.H. Cho, Yeungnam University, Republic of Korea
- [P3.023] Deep-red emitting nanocomposite for integrated broadband 1D-sources**
S. Khelifi*¹, J. Bignon¹, M. Amela-Cortes¹, S. Cordier¹, D. Funes-Hernando³, G. Loas¹, J-L. Duvail³, Y. Molard¹, ¹Université de Rennes 1, France, ²Université de Nantes, France
- [P3.024] Comparative study of Li₄Ti₅O₁₂ hybrids prepared with pristine, oxidized, and surfactant treated multi-walled carbon nanotubes for high-power energy storage devices**
K.B. Kim*, K.W. Lee, H.K. Roh, Yonsei University, Republic of Korea
- [P3.025] All solid state batteries using sulfide solid electrolyte**
K. Kim*, G. Jeong, J. Yu, W. Cho, Korea Electronics Technology Institute, Republic of Korea
- [P3.026] Comparison of two types of elastomer functionalized multi-walled carbon nanotube (MWNT) nanocomposites for the detection of oil spills**
T.Y. Kim*¹, G. Yun¹, D.Y. Lee¹, K.M. Koo¹, Y. Kim^{1,2}, ¹Inje University, Republic of Korea, ²High Safety Vehicle Core Technology Research Center, Republic of Korea
- [P3.027] The synthesis and characterization cobalt nanoparticles and their anti-microbial activity against selected waterborne pathogens**
M.J. Klink*, P.G. Moukangoe, N. Laloo, F. Mtunzi, V. Pakade, Vaal University of Technology, South Africa
- [P3.028] Determining the chemical composition and measurement of the electrical properties of nanocomposites based on SiO₂**
T. Koltunowicz*¹, P. Zukowski¹, V. Bondariev¹, A. Fedotov¹, ¹Lublin University of Technology, Poland, ²Belarusian State University, Belarus
- [P3.029] Synthesis and characterization of polymeric multi-functional anion exchange materials with TEMPO as a radical scavenging group**
J.Y. Lee*¹, M. Cha^{1,2}, Y.T. Hong¹, ¹Korea Research Institute of Chemical Technology, Republic of Korea, ²Han Yang University, Republic of Korea
- [P3.030] Inkjet printing of gold nanoparticles ink on modified cellulose paper for the production of SERS substrates**
N.V. Godoy¹, D. Garcia-Lopes², J. Pérez-Juste², I. Pastoriza-Santos², I.O. Mazali*¹, ¹University of Campinas, Brazil, ²University of Vigo, Spain
- [P3.031] Graphene nanomaterials into hydrogels: their role and applications**
A. Martín-Pacheco*^{1,2}, C. Martín^{1,2}, S. Merino^{1,2}, E. Díez-Barra^{1,2}, M.A. Herrero^{1,2}, E. Vázquez^{1,2}, ¹Universidad de Castilla- La Mancha, Spain, ²Instituto Regional de Investigación Científica Aplicada, Spain
- [P3.032] Impregnation of copper nanoparticle on base modified activated carbon for its application in the disinfection of microorganisms from drinking water**
M. Mukherjee*, R. Bandyopadhyaya, Indian Institute of Technology Bombay, India
- [P3.033] Synthesis of Ag₃PO₄-Halloysite nanoclay photocatalyst-adsorbent composite for the removal of pharmaceuticals**
E. Nyankson*^{1,2}, R.V. Kumar¹, ¹University of Cambridge, UK, ²University of Ghana, Ghana
- [P3.034] Crucial role of precursors and interactions in the doping of nanoparticles**
F. Pertont*, G. Cotin, C. Kieffer, D. Nguyen, D. Felder-Flesch, B. Pichon, D. Mertz, S. Bégin-Colin, Institut de physique et chimie des matériaux de Strasbourg (IPCMS), France
- [P3.035] Functional stimuli-responsive hydrogels for 3D printing**
D. Podstawczyk*^{1,2}, M. Nizioł¹, J.R. Aggas², J. Phipps², M.J. Florer², A. Guiseppi-Elie^{2,3}, ¹Wroclaw University of Science and Technology, Poland, ²Texas A&M University, USA, ³ABTECH Scientific, Inc., Biotechnology Research Park, USA
- [P3.036] Application of TiO₂/Bi_xO_yz composite for photoanode in the photoelectric cell**
A.A. Putri*^{1,2}, S. Kato¹, N. Kishi¹, T. Soga¹, ¹Nagoya Institute of Technology, Japan, ²Walisongo State Islamic University, Indonesia
- [P3.037] Effect of nanoparticles on gel strength and gelation time of crosslinked biopolymer gels**
R. Rafati*, A. Yudhowijoyo, A. Sharifi, University of Aberdeen, UK
- [P3.038] Composite formation in InF₃- and BiF₃-containing oxyfluoroniobate glasses**
N.N. Savchenko*¹, L.N. Ignatieva¹, Y.V. Marchenko¹, V.M. Bouznic², ¹Institute of Chemistry FEB RAS, Russia, ²All-Russian Scientific Research Institute of Aviation Materials, Russia

- [P3.039] Glass and ceramic formation in the REE doped fluorozirconate-phosphate systems**
N.N. Savchenko¹, V.K. Goncharuk^{1,2}, V.Y. Kavun¹, A.G. Mirochnik¹, I.G. Maslennikova¹, ¹Institute of Chemistry FEB RAS, Russia, ²Pacific S.O. Makarov Higher Naval School, Russia
- [P3.040] Tuning electrical conductivity in nanogranular thin films, based on hematite and Cu nanoparticles**
A. Szkudlarek¹, K. Kollbek¹, D. S. Chauhan², M. Chrobak¹, A. Rydosz¹, C. Kapusta¹, ¹AGH University of Science and Technology, Poland, ²Indian Institute of Technology Bombay, India
- [P3.041] Synthesis of ultra-small (r<2 nm), digestively ripened copper oxide quantum dots and hybrid composites for energy storage**
B. Talluri^{*}, E. Prasad, T. Thomas, *Indian Institute of Technology Madras, India*
- [P3.042] Selective extraction from polymer-wrapped single-wall carbon nanotubes for large-diameter semiconducting tubes using low-speed centrifugation**
M. Tange^{*}, T. Okazaki, *National Institute of Advanced Industrial Science and Technology (AIST), Japan*
- [P3.043] Graphene based polymeric composite films with enhanced mechanical properties and ultra-high in-plane thermal conductivity**
A.A. Tarhini^{*}, A.R. Tehrani-Bagha, *American University of Beirut, Lebanon*
- [P3.044] Fumed silica as support for copper, silver, and copper hydroxy salt particles and their antibacterial behaviour**
D. Videira-Quintela¹, O. Martin², F. Guillen¹, G. Montalvo¹, ¹University of Alcalá, Spain, ²Carlos III University of Madrid, Spain
- [P3.045] New focus on boehmite in epoxy-based nanocomposite: Investigation of chemical structure at the particle/resin-interphase with advanced IR-spectroscopy**
T.A. Waniek^{*}, U. Braun, D. Silbernagl, H. Sturm, *Bundesanstalt für Materialforschung und -prüfung (BAM), Germany*
- [P3.046] Improved electrical performance by controlling selective distribution of MWCNT in PVDF/POK composites with a double percolation structure**
Y. Y.^{*}, Y. W., *Sichuan University, China*
- [P3.047] Development of mesoporous silica nanocomposite networks for bone regeneration applications**
A. Zengin^{*}, P. Habibovic, S. van Rijt, *Maastricht University-MERLN, The Netherlands*
- [P3.048] Enhanced thermoelectric performance of Bi_{0.5}Sb_{1.5}Te₃/black phosphorus nanocomposites prepared by mechanical alloying and rapid sintering**
Y. Zheng^{*}, J.W. Xu, *A*STAR (Agency for Science, Technology and Research), Singapore*
- [P3.049] Development and investigation of pervaporation membranes based on polyphenylene isophthalamide modified by fullerene derivatives**
A. Zolotarev^{*}, M. Dmitrenko, A. Penkova, *St. Petersburg State University, Russia*
- [P3.050] Influence of annealing on the electrical properties of silicon-on-insulator structures implanted with In and Sb ions**
P. Zukowski¹, T. Koltunowicz¹, K. Czarnacka¹, A. Fedotov¹, ¹Lublin University of Technology, Poland, ²University of Life Sciences in Lublin, Poland, ³Belarusian State University, Belarus
- [P3.051] Atomic cluster decoration promises oxygen reduction performance of Co@Pd nanocatalyst**
J.P. Chou¹, K.W. Wang², A. Hu¹, T.Y. Chen³, ¹City University of Hong Kong, China, ²National Central University, Taiwan, ³National Tsing Hua University, Taiwan
- [P3.052] Helicoidal patterning of nanorods with polymer ligands**
E. Galati¹, H. Tao¹, M. Tebbe¹, R. Ansari¹, M. Rubinstein², E.B. Zhulina³, E. Kumacheva¹, ¹University of Toronto, Canada, ²Duke University, USA, ³Institute of Macromolecular Compounds of the Russian Academy of Sciences, Russia
- [P3.053] High-performance and reliable heterostructure metal-oxide thin-film-transistors**
J.W. Jo¹, M. Lee¹, Y.J. Kim¹, A. Facchetti^{2,3}, Y.H. Kim⁴, S.K. Park¹, ¹Chung-Ang University, Republic of Korea, ²Northwestern University, United States Minor Outlying Islands, ³Flexterra Corporation, USA, ⁴Sungkyunkwan University, Republic of Korea
- [P3.054] Heavily nitrogen doped chemically exfoliated graphene by intense pulsed light**
G-W. Lee, *Korea Electrotechnology Research Institute, Republic of Korea*
- [P3.055] The effects of vaporized solid electrolyte solution for all-solid-state batteries**
J-W. Park^{*}, M. Kim, B.G. Kim, Y. Ha, Y. Lee, S. Lee, *Korea Electrotechnology Research Institute, Republic of Korea*
- [P3.056] Effect of phase transformation on the photo-electrochemical performance of thermally oxidized iron films**
Y. Rambabu¹, S. Kment¹, H. Kmentová¹, A. Naldoni¹, P. Schmuki^{1,2}, R. Zboril¹, ¹Palacky university in Olomouc, Czech Republic, ²University of Erlangen-Nuremberg, Germany

- [P3.057] Altering the electrical response of MoS₂ by pressure induction**
R. Torres-Cavanillas, *University of Valencia, Spain*
- [P3.058] Fluorescent and antibacterial nanomaterials on a base of natural mesoporous tubes and their behavior in vivo**
A. Stavitskaya¹, G. Fakhru'llina^{2,1}, M. Artemova*¹, D. Logvinenko¹, A. Novikov¹, D. Kopitsyn¹, R. Fakhru'llin², ¹Russian Gubkin State University of Oil and Gas, Russia, ²Kazan Federal University, Russia
- [P3.059] Multifunctional organic-inorganic hybrid hollow nanoparticles for treatment of hepatic fibrosis**
K. Hayashi*^{1,2}, T. Maruhashi², W. Sakamoto², T. Yogo², ¹Kyushu University, Japan, ²Nagoya University, Japan
- [P3.060] Bioimaging of cancer cells overexpressing heparanase with aggregation-induced emission probe**
S. Kakhkhorov*, S.M. Tawfik, M. Sharipov, Y-I. Lee, *Changwon National University, Republic of Korea*
- [P3.061] Toxicity of silver nanoparticles under aerobic and anaerobic condition in 4 strains of bacteria**
C. Kaweeteerawat*, P. Na Ubol, S. Sangmuang, R. Maniratanachote, *National Nanotechnology Center (NANOTEC), Thailand*
- [P3.062] Enhancement of wound healing by single-wall/multi-wall carbon nanotubes complexed with chitosan**
N. Kittana*¹, M. Assali¹, H. Abu-Rass¹, S. Lutz^{2,3}, R. Hindaw¹, L. Ghannam¹, M. Zakarneh¹, A. Mosa¹, ¹An-Najah National University, Occupied Palestinian Territory, ²University Medical Center Göttingen, Germany, ³DZHK, Germany
- [P3.063] Liposome incorporating boron and gadolinium for neutron capture therapy**
W. Lee*¹, E. Nam¹, J.Y. Kim², Y.J. Lee², J. Yoo¹, ¹Kyungpook National University, Republic of Korea, ²Korea Institute of Radiological and Medical Sciences, Republic of Korea
- [P3.064] Nanomedicine delivery in three-dimensional vascularized microtumours**
M. Mirbagheri*¹, G. De Crescenzo², X. Banquy¹, ¹Université de Montréal, Canada, ²École Polytechnique de Montréal, Canada
- [P3.065] Aircraft lightning strike protection with graphene hybrid nanomaterials**
Z. Martin*¹, G. Mokry¹, ¹AIRBUS, Spain, ²UC3M, Spain
- [P3.066] High encapsulation stability & protein corona shield of drug-loaded nanocarriers enhances in vivo therapeutic efficacy**
J-H. Ryu, *Ulsan National Institute of Science and Technology, Republic of Korea*
- [P3.067] Design of fluorescent aptasensors based on carbon nanomaterial for the detection of pathogen associated molecules.**
A. Silvestri*, M. Prato, *CIC biomaGUNE, Spain*
- [P3.068] Preparation and invitro evaluation of multifunctional magnetic nanoparticles designed for cancertherapy**
V. Spasojevic*¹, I. Spasojevic², M. Ognjanovic¹, M. Mirkovic¹, M. Radovic¹, S. Vranjes-Djuric¹, T. Stanojkovic³, Z. Prijovic¹, B. Antic¹, ¹University of Belgrade, Serbia, ²Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and The Barcelona Institute of Science and Technology, Campus UAB, Spain, ³Institute of Oncology and Radiology of Serbia, Serbia
- [P3.069] PCL-based multifunctional nanocapsules for theranostic application**
M. Szczech*¹, A. Karabasz², N. Lopuszynska¹, M. Bzowska², W.P. Weglarz¹, P. Warszynski¹, K. Szczepanowicz¹, ¹PAS, Poland, ²Jagiellonian University, Poland
- [P3.070] Gadolinium-labeled polyelectrolyte nanocapsules for biomedical application**
K. Szczepanowicz*¹, M. Szczech¹, A. Karabasz², M. Bzowska², W.P. Weglarz¹, P. Warszynski¹, ¹PAS, Poland, ²Jagiellonian University, Poland
- [P3.071] One-step synthesis of hyaluronic acid - polyethylene glycol nanoparticles for multimodal imaging by a microfluidic platform**
O. Tammaro*^{1,2}, P.A. Netti^{1,2}, E. Torino^{1,2}, ¹University of Naples Federico II, Italy, ²Center for Advanced Biomaterials for Health Care, Italy
- [P3.072] Open source HL7 connectors for electronic medical records exchange: Statistical analysis, profiling, functionality**
M. Hussain, S. Mehrban, S.N. Fatima, S-D. Ayubi*, M. Hassan, *University of Management and Technology, Lahore, Pakistan*
- [P3.073] A comparative study of two solar cells structures of interdigitated rear contact silicon heterojunction**
N. Benadla*, K. Ghaffour, *University of Tlemcen, Algeria*
- [P3.074] Hydrophilic and hydrophobic functionalizations of aqueous silica sols for pickering emulsions**
S. Björkegren*^{1,2}, L. Nordstierna¹, A. Törncrena², A. Palmqvist¹, ¹Chalmers University of Technology, Sweden, ²AkzoNobel Pulp and Performance Chemicals, Sweden

- [P3.075] Nanoparticles and mechanical loading to induce cell differentiation towards tendon regeneration**
I. Casanellas^{1,2}, S. Casanova^{*1,2}, A. Lagunas^{3,1}, Y. Vida^{4,5}, E. Pérez-Inestrosa^{4,5}, J. Samitier^{1,2}, ¹Institute for Bioengineering of Catalonia (IBEC), Spain, ²University of Barcelona (UB), Spain, ³Networking Biomedical Research Center (CIBER), Spain, ⁴Universidad de Málaga (UMA), Spain, ⁵Andalusian Centre for Nanomedicine and Biotechnology (BIONAND), Spain
- [P3.076] 3D fibroblasts constructed by accelerated cellular self-assembly and their applications for tissue models and decellularized scaffolds**
P. Chetprayoon^{*1}, S. Boonjing², R. Maniratanachote¹, ¹National Science and Technology Development Agency, Thailand, ²Chulalongkorn University, Thailand
- [P3.077] Physicochemical properties of hydrogen and deuterated zinc perovskite-type metal-formate frameworks**
A. Ciupa-Litwa^{*}, M. Płak, M. Maczka, *Institute of Low Temperature and Structure Research PAS, Poland*
- [P3.078] Modelling the pH responsiveness in polymers for siRNA delivery against RUNX1/ETO gene in acute myeloid leukemia**
M. Dalmina^{*}, O. Heidenreich, D. Fulton, *Newcastle University, UK*
- [P3.079] The influence of temperature on the formation of belite – calcium sulfoaluminate clinker**
D. Rubinaite, T. Dambrauskas^{*}, K. Baltakys, *Kaunas University of Technology, Lithuania*
- [P3.080] Exploiting the reversible thermal denaturation of bacterial fimbriae in next generation hydrogel materials**
G. Dura^{*}, D.T. Peters, H. Waller, J.H. Lakey, D.A. Fulton, *Newcastle University, UK*
- [P3.081] Engineered 3D skeletal muscle tissues for *in vitro* metabolism studies**
X. Fernández-Garibay^{*}, A. Hernández-Albors, A. G. Castaño, F. Velasco-Mallorquí, M-A. Ortega, J. Ramón-Azcón, *The Barcelona Institute of Science and Technology, Spain*
- [P3.082] Antibacterial properties of titanium surface Ag₂WO₄ coated**
C.C. Foggi^{*1}, M. Assis¹, L.C.L. Santana², J.P.C. Costa¹, J. Andrés³, E. Longo¹, ¹UFSCAR, Brazil, ²UNESP, Brazil, ³Universitat Jaume I, Spain
- [P3.083] Discovery of new porous molecular materials through characterization of their building blocks**
I. Gómez García^{*1,2}, M. Bernabei¹, M. Haranczyk^{1,3}, ¹IMDEA Materials Institute, Spain, ²Universidad Carlos III de Madrid, Spain, ³Lawrence Berkeley National Laboratory, USA
- [P3.084] Enhancing the sensitivity of a sensor for ammonia gas and methanol vapor by cerium doping in a tin dioxide nanomaterial**
K. Govardhan^{*1}, A. Nirmla Grace¹, J. Soon Kwan², B. D'Aguanno³, ¹VIT University, India, ²Korea Institute of Energy Research, Republic of Korea, ³CIC Energigune, Spain
- [P3.085] Controlling the uptake and regulating the release of nitric oxide in microporous solids**
R. Haikal^{*1}, C. Hua², J. Perry², D. O'Nolan², I. Syed², A. Kumar², A. Chester³, M. Zaworotko², M. Yacoub³, M. Alkordi¹, ¹Zewail City of Science and Technology, Egypt, ²University of Limeric, Ireland, ³Imperial College, UK
- [P3.086] Application of fluorescent benzimidazole derivatives in functional materials: A mercury (II) sensitive chemodosimeter**
E. Horak^{*1}, R. Vianello¹, N. Perin², M. Hranjec², I. Murkovic Steinberg², ¹Rudjer Boskovic Institute, Croatia, ²Faculty of Chemical Engineering and Technology, Croatia
- [P3.087] Improved performance of a power-free microfluidic chip for a miRNA detection strategy**
Y.J. Kim^{*}, K. Hosokawa, M. Maeda, *RIKEN, Japan*
- [P3.088] Synergy between metal oxide catalysts in hydrothermal oxidative coupling of methane**
M.A. Hassan, M. Komiyama^{*}, *Universiti Teknologi PETRONAS, Malaysia*
- [P3.089] Supramolecular organic frameworks porous materials as selective sorbents for CO₂ capture**
D. Marcinkowski^{*1}, A. Gorczynski¹, A. Bocian¹, D. Pakulski¹, B. Michalkiewicz², J. Serafin², M. Zielinski¹, M. Kubicki¹, V. Patroniak¹, ¹Adam Mickiewicz University in Poznań, Poland, ²West Pomeranian University of Technology in Szczecin, Poland
- [P3.090] Ag catalysts electrodeposited on Ti mesh gas diffusion layer for electrochemical CO₂ reduction**
S. Oh^{*}, H. Park, H. Kim, D-K. Kim, S-K. Kim, *Chung-Ang University, Republic of Korea*
- [P3.091] Durability of Pt alloy catalysts for high temperature polymer electrolyte membrane fuel cell according to the type of binders**
H. Park^{*}, D-K. Kim, H. Kim, S. Oh, S-K. Kim, *Chung-Ang University, Republic of Korea*
- [P3.092] Morphological and luminescence studies on KGdF₄:Yb³⁺/Tb³⁺ up-conversion nanophosphors**
A. Prasad^{*1}, A.S. Rao¹, M. Gupta², G.V. Prakash², ¹Delhi Technological University, India, ²Indian Institute of Technology, Delhi, India
- [P3.093] Novel hybrid magnetic material for reduction and removal of heavy metals**
S. Sasidharan^{*}, V. Ramakrishnan, *Indian Institute of Technology Guwahati, India*

- [P3.094] Active surfaces to modulate bacterial activity**
R. Sibilo*¹, I. Mannelli¹, R. Reigada², V. Finazzi¹, P. Mazumder³, V. Pruneri^{1,4}, ¹The Barcelona Institute of Science and Technology, Spain, ²Universitat de Barcelona, Spain, ³Corning Research and Development Corporation, USA, ⁴ICREA-Institució Catalana de Recerca i Estudis Avançats, Spain
- [P3.095] Development of liver organoids in 3D porous polysaccharide scaffolds**
M.N. Labour^{2,1}, T. Simon-Yarza*¹, D. Letourneur^{1,2}, ¹INSERM U1148, France, ²Université Paris 13, France
- [P3.096] Tailoring phosphorous-doped layers as a junction for photovoltaic via multiple heat treatments**
J. Kim, H. Jeon, Y. Han, D. Suh*, Hoseo University, Republic of Korea
- [P3.097] Cellulose-based cryogels for long-term culture of pancreatic islets and skeletal muscle tissue**
F. Velasco-Mallorqui*, A.G. Castaño, J. Ramon-azcon, The Barcelona Institute of Science and Technology, Spain
- [P3.098] Structure-property insights into zinc oxide nanostructures**
M. Wolska-Pietkiewicz*¹, J. Lewinski^{1,2}, ¹Politechnika Warszawska, Poland, ²Institute of Physical Chemistry Polish Academy of Sciences, Poland
- [P3.099] Sol-gel derived bioactive glasses and aerogels with tailorable properties**
F. Zemke*, F. Schmidt, V. Schölch, A. Gurlo, Technische Universität Berlin, Germany
- [P3.100] Stretchable hydrogel to control ligand spacing and regulate cell spreading and migration**
M. Zhang*, J. Deng, Q. Wei, J. Spatz, Max Planck Institution for medical research, Germany
- [P3.101] Ambient air pollution and the number of new cases of type 1 diabetes mellitus in children and adolescents in the pomeranian voivodeship, Poland**
K. Zorena*, M. Michalska, M. Bartoszewicz, P. Waz, A. Brandt, M. Mysliwiec, Medical University of Gdansk, Poland
- [P3.102] Dendritic grafts on surface of hypercrosslinked vinylbenzyl chloride polyHIPeS**
P. Krajnc*, A. Koler, University of Maribor, Slovenia
- [P3.103] Design of fluorine-containing core-shell particle architectures for the preparation of functional porous materials**
J. Kredel*, A. Schlander, M. Gallei, Technische Universität Darmstadt, Germany
- [P3.104] Dielectric and mechanical behaviour of polyimide/silica nanohybrid aerogels**
D.H. Lee*, M.J. Jo, S.W. Han, H. Park, Korea Electrotechnology Research Institute, Republic of Korea
- [P3.105] Dry submicron porous elastomeric coatings for durable icephobicity**
T. Li, Norwegian University of Science and Technology (NTNU), Norway
- [P3.106] Nanoporous materials for energy and environment applications**
S.N. Talapaneni*¹, A. Vinu¹, A. Coskun², ¹The University of Newcastle, Australia, ²University of Fribourg, Switzerland
- [P3.107] Tailor-made carbazole-based microporous polymer networks for photocatalytic applications**
S. Vogl*¹, A. Thomas¹, H-P. Liang², B-H. Han², ¹Technische Universität Berlin, Germany, ²National Center for Nanoscience and Technology, China
- [P3.108] p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Hiragino Kaku Gothic Interface'; color: #454545} Effect of non-covalent bond for self-assembly of triblock-type supramacromolecule using dissipative particle dynamics simulation**
Y. Araki*, N. Arai, Kindai University, Japan
- [P3.109] Dissipative particle dynamics simulation for self-assembly structure of tetrapod nanoparticles**
Y. Araki*, Y. Kobayashi, N. Arai, Kindai University, Japan
- [P3.110] Investigation of the luminescence properties of mixed Langmuir-Blodgett films of Ag nanoparticles with [Eu (tta)₃(phen)] complexes**
D.R. Assis*, M. Jafellicci Jr., M.R. Davolos, São Paulo State University (UNESP), Brazil
- [P3.111] Numerical characterization of selforganized-star-shaped Ag-ZnO-Au structures**
R. Díaz de León-Zapata*¹, J.V. González-Fernández², J. Ortega Gallegos³, J.E. Sánchez³, F.J. González³, G. González³, E. Flores-García¹, ¹Tecnológico Nacional de México/I.T. San Luis Potosí, Mexico, ²Tecnológico Nacional de México/I.T. La Laguna, Mexico, ³Universidad Autónoma de San Luis Potosí, Mexico
- [P3.112] The nano-log driver's waltz: Orienting silica helices through convective evaporation**
J. Gao¹, S. Semlali², R. Oda¹, G.L. Drisko*², E. Pouget¹, ¹Chimie et Biologie des Membranes et des Nanoobjets (CBMN), France, ²Institut de Chimie de la Matière Condensée de Bordeaux (ICMCB), France
- [P3.113] Relationship between water permeation and flip-flops motion of lipid membrane**
T. Inokuchi*, N. Arai, Kindai University, Japan

- [P3.114] Enhanced haloing effect in aggregated bimodal ferrocloids**
A. Kuznetsov^{1,2}, ¹Institute of Continuous Media Mechanics UB RAS, Russia, ²Perm State University, Russia
- [P3.115] Colloidal gelation as a nonequilibrium continuous phase transition**
J.C. Rouwhorst*, P. Schall, *Universiteit van amsterdam, The Netherlands*
- [P3.116] Structural analysis of cholesteric liquid crystal orientation in nanotube: Dissipative particle dynamics simulation**
H. Tsujinoue*, T. Nozawa², N. Arai¹, ¹Kindai University, Japan, ²Keio University, Japan
- [P3.117] Polymorphic transition of liquid crystal droplet: Dissipative particle dynamics study**
H. Tsujinoue*, T. Inokuchi, N. Arai, *Kindai University, Japan*
- [P3.118] Synthesis and thermomechanical properties of hybrid photopolymer films based on the thiol-siloxane and acrylate-acrylamide oligomers**
V.S. Basisty^{1,2}, D.I. Derevyanko¹, A.D. Bukhtoyarova¹, I.K. Shundrina¹, V.V. Shelkovnikov^{1,2}, ¹N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry, Russia, ²Novosibirsk State Technical University, Russia
- [P3.119] Charge transfer complex between components of the hybrid photopolymer material: Acrylate monomer and photoinitiator**
D.I. Derevyanko¹, V.V. Shelkovnikov^{1,2}, V.S. Basisty^{1,2}, ¹N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry, Russia, ²Novosibirsk State Technical University, Russia
- [P3.120] Hybrid hollow silica nanospheres for separation chemistry: Influence of synthesis parameters**
J. Ben Ghazi-Bouvrande*, S. Dourdain, S. Pellet-Rostaing, *Univ. Montpellier- CEA-CNRS-ENSCM, France*
- [P3.121] Sol-gel hybrid material synthesized from winemaking waste as adsorbent for textile cationic dye removal from wastewater**
J. Benvenuti*, M. Gutterres, J.H. Zimnoch dos Santos, *Federal University of Rio Grande do Sul - UFRGS, Brazil*
- [P3.122] Structural characterization of M-type barium hexaferrite synthesized by a low cost sol-gel route**
M.A.P. Buzinaro*, N.S. Ferreira¹, P.H.L. Buzinaro², ¹Federal Institute of Education, Science and Technology of Sergipe, Brazil, ²São Bernardo do Campo, Brazil
- [P3.123] Structural and magnetic characterization of hexaferrite Sr1-XSmXFe12O19, synthesized through the proteic sol-gel process**
M.A.P. Buzinaro*, N.S. Ferreira¹, G.C. Cunha¹, P.H.L. Buzinaro², ¹Federal Institute of Education, Science and Technology of Sergipe, Brazil, ²São Bernardo do Campo, Brazil
- [P3.124] Sol-gel optimization synthesis of hydroxyapatite thin film production and functionalization with bisphosphonates**
L.F.G. Dias*, E.S. Bronze-Uhle, P.N. Lisboa-Filho, *São Paulo State University, Brazil*
- [P3.125] Iron (III) porphyrin functionalized on diatomaceous earth/methyl-silica nanocomposite**
M.V. do Prado*, K.J. Ciuffi¹, E.J. Nassar¹, E.H. De Faria¹, R. Trujillano², M.A. Vicente², V. Rives², B. González², E. Perez-Bernal², A. Gil³, ¹Universidade de Franca (UNIFRAN), Brazil, ²Universidad de Salamanca, Spain, ³Universidad Publica de Navarra, Spain
- [P3.126] Modification of Laponite by functionalization alkoxides for adsorption of organic pollutants**
M.V. do Prado*, L. Barbosa¹, E.J. Nassar¹, E.H. de Faria¹, K.J. Ciuffi¹, B. González², M.A. Vicente², R. Trujillano², E. Perez-Bernal², V. Rives², ¹Universidade de Franca, Brazil, ²Universidad de Salamanca, Spain, ³Universidad Publica de Navarra, Spain
- [P3.127] Hybrid acid catalysts: Synthesis and spectroscopic characterization**
A. Erigoni*, I. Miletto², G. Paul², F. Rey¹, E. Gianotti², L. Marchese², U. Diaz¹, ¹Universidad Politécnica de Valencia, Spain, ²Università del Piemonte Orientale, Italy
- [P3.128] Mechanical and electrical insulation behaviour of poly(imide-urea)/silica nanohybrid elastomers**
S.W. Han*, D.H. Lee, J. Han, J.W. Park, *Korea Electrotechnology Research Institute, Republic of Korea*
- [P3.129] Molecular engineering of nanostructured hybrid fibres**
B. Holubová*, V. Máková¹, K. Havlíčková¹, D. Tetour², M. Rezanka¹, ¹Technical University of Liberec, Czech Republic, ²University of Chemistry and Technology, Czech Republic
- [P3.130] A methodology for preparation of homogeneous silica aerogels with single or multiple dopants as monodispersed nanoparticles**
G. Lazovski*, G. Bar, N. Atar, R. Gvishi, *Soreq NRC, Israel*
- [P3.131] Corrosion resistance performance of cerium doped hybrid sol-gel coatings on tinplate**
M. Magnani*, S. Blanchandin², F. Meneau³, V. Briois², S.H. Pulcinelli¹, C.V. Santilli¹, ¹Instituto de Química - Unesp, Araraquara, Brazil, ²Synchrotron SOLEIL, Gif-sur-Yvette, France, ³Laboratório Nacional de Luz Síncrotron, Campinas, Brazil

- [P3.132] Functional polymer gel electrolytes for flexible electrochemical applications**
H.C. Moon, *University of Seoul, Republic of Korea*
- [P3.133] Preparation of colorless and transparent organic polymer aerogel by non-aqueous sol-gel process**
Y. Nakanishi*, K. Kanamori, K. Nakanishi, *Kyoto University, Japan*
- [P3.134] Nanometer precise, multifunctional pore functionalization of nanopores with local plasmonic readout**
M. Ochs¹, R. Mohammadi², N. Vogel², A. Andrieu-Brunsen¹, ¹*Technische Universität Darmstadt, Germany*, ²*Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany*
- [P3.135] Synthesis of bio-relevant polymers and hydrogels through proton transfer polymerization between amine and epoxide groups**
J. Oh*, A. Khan, *Korea University, Republic of Korea*
- [P3.136] Synthesis of commercial grade TiO₂-Al₂O₃-SiO₂ core-shell-shell paint pigment for coating**
J.R. Park*, B. Swain, K.S. Park, C.G. Lee, *Institute for Advanced Engineering, Republic of Korea*
- [P3.137] Preparation of lignin/sepiolite hybrid aerogels for bio-based carbon/clay hybrid aerogels**
J. Park*, H. Roh, *Seoul National University, Republic of Korea*
- [P3.138] Organic/Inorganic hybrid xerogels based on Stöber particles**
T. Noisser, M. Börner, G. Reichenauer*, C. Scherdel, *Bavarian Center for Applied Energy Research, Germany*
- [P3.139] A novel highly electrically conductive composite resin for stereolithography**
G. Scordo^{*4}, V. Bertana⁴, L. Scaltrito⁴, S. Ferrero⁴, M. Cocuzza^{4,1}, S. Marasso^{4,1}, S. Romano¹, R. Sesana², F. Catania¹, F. Pirri^{3,4}, ¹*CNR-IMEM, Italy*, ²*Department of Mechanical and Aerospace Engineering (DIMEAS), Italy*, ³*Italian Institute of Technology, Italy*, ⁴*Department of Applied Science and Technology (DISAT), Italy*
- [P3.140] In-situ formation of molecularly dispersed ZrO₂ in polydimethylsiloxane for highly gas permeable membranes**
R. Selyanchyn*, S. Fujikawa, *Kyushu University, Japan*
- [P3.141] Preparation of flexible polysiloxane porous materials in non-aqueous condition and their characterizations**
R. Shigetake*, K. Kanamori, K. Nakanishi, *Kyoto University, Japan*
- [P3.142] Direct laser writing of crystallized TiO₂ and TiO₂/carbon microstructures with tunable conductive properties**
S-Y. Yu^{1,2}, G. Schrodj¹, K. Mougin¹, J. Dentzer¹, J-P. Malval¹, H-W. Zan², O. Soppera¹, A. Spangenberg*, ¹*Université de Haute-Alsace, France*, ²*National Chiao Tung University, Taiwan*
- [P3.143] Reinforced UV curable cycloaliphatic epoxy oligosiloxane resin nanocomposite for coating applications**
I. Topolniak^{*1}, V-D. Hodoroaba¹, D. Pfeifer¹, U. Braun¹, H. Sturm^{1,2}, ¹*Federal Institute for Material Research and Testing (BAM), Germany*, ²*Technical University Berlin, Germany*
- [P3.144] Super-flexible silica based aerogels with additive reinforcement for aeronautics' insulation application**
P. Voepel^{*1}, A. Rege², M. Hillgärtner², M. Itskov², B. Milow¹, ¹*German Aerospace Center (DLR), Germany*, ²*RWTH Aachen University, Germany*
- [P3.145] Photo-induced proton transfer polymerization: A robust synthetic tool for patterning hydrogels**
H. Yeo*, A. Khan, *Korea University, Republic of Korea*
- [P3.146] Synthesis and viscoelastic characterization of glyceroldialdehyde-carboxymethyl chitosan hydrogels with self-healing ability**
C. Bayram^{*1}, E. Erdal², E. Kilicay³, D. Kavaz⁴, ¹*Hacettepe University, Turkey*, ²*Yıldırım Beyazıt University, Turkey*, ³*Bülent Ecevit University, Turkey*, ⁴*Cyprus International University, Cyprus*
- [P3.147] Fabrication and characterization of europium chelate encapsulated levan nanoparticles for lateral flow immunoassay**
M.J. Choi*, S.J. Kim, D.J. Chung, W. Chung, Y.B. Shin, *Bionano Health Guard Research Center, Republic of Korea*
- [P3.148] Self-assembling peptide-polymer nano-objects via Polymerization-Induced Self-Assembly**
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- [P3.149] Reductive cleavage of the azo bond: An opportunity for the development of colon specific drug delivery approaches**
T. Eom*, A. Khan, *Korea University, Republic of Korea*
- [P3.150] Characteristics of polypropylene/cotton linter composite fiber and its drawing behavior**
N. Febriani*, T. Shinagawa, K.H. Kim, Y. Ohkoshi, *shinshu university, Japan*

- [P3.151] Multivalent levan-sialyllactose-conjugated gold nanoparticles for efficient interaction with and colorimetric detection of influenza A virus**
S.J. Kim*, M.J. Choi, D.J. Chung, W.S. Chung, Y.B. Shin, *Bionano Health Guard Research Center, Republic of Korea*
- [P3.152] Mechanically strong silica-silk fibroin bioaerogel hybrid scaffold with ordered honeycomb microstructure and multiscale porosity for bone tissue engineering**
H. Maleki*^{1,3}, M.A. Shahbazi², S. Montes³, T. Verwanger³, B. Krammer³, S. Mathur¹, B. Milow¹, N. Hüsing³, ¹University of Cologne, Germany, ²University of Helsinki, Finland, ³University of Salzburg, Austria
- [P3.153] Fluorescence behaviour of novel hybrids containing graphene quantum dots and porphyrins**
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- [P3.154] The hybrid mesoporous material made by montmorillonite and doughnut-like-shape mesoporous material supported by metallocene used for polymerization of ethylene**
Y.U. Kang, *Beijing Research Institute of Chemical Industry, SINOPEC, China*
- [P3.155] Nano-composite HDS catalyst for deep desulfurization of diesel fuels**
S. Ahmed, *King Fahd University of Petroleum and Minerals, Saudi Arabia*
- [P3.156] Modified zeolitic waste adsorbent used for the removal of ammonium from aqueous solutions**
A. Mikelionienė*, D. Vaičiukynienė, A. Kantutas, *Aleksandras Stulginskis university, Lithuania*
- [P3.157] Nanoparticle-based Y₃Al₅O₁₂:Ce aerogels - the novel porous sensors**
M. Odziomek*¹, F. Chaput¹, C. Dujardin¹, F. Lerouge¹, P. Cassette¹, M. Sitarz¹, S. Parola¹, ¹Université de Lyon, France, ²University of Science and Technology AGH, Poland, ³Université Claude Bernard Lyon 1-CNRS, France, ⁴CEA-LIST, France
- [P3.158] Controlling yield and final size of colloidal zeolite particles**
W. Rosas-Arbelaez, A.E.C. Palmqvist*, *Chalmers University of Technology, Sweden*
- [P3.159] Mechanochemical pre-treatment opens easier way for the synthesis of zeolite SSZ-13**
V. Pashkova*¹, K. Mlekodaj¹, M. Lemishka^{1,2}, V. Tokarova³, L. Brabec¹, P. Klein¹, J. Dedecek¹, ¹Academy of Science of the Czech Republic, Czech Republic, ²University of Pardubice, Czech Republic, ³Unipetrol Group, Czech Republic
- [P3.160] Cyanine-doped hybrid material as promising artificial one-directional antenna system**
R. Sola-LLano*¹, V. Martínez-Martínez¹, Y. Fujita^{2,3}, L. Gómez-Hortigüela⁴, A. Alfayete⁴, H. Uji-i², E. Fron², S. Toyouchi², J. Perez-Pariente⁴, I. López-Arbeloa¹, ¹Universidad del País Vasco, Spain, ²Katholieke Universiteit Leuven, Belgium, ³Toray Research Center, Japan, ⁴CSIC, Spain
- [P3.161] Silver-exchanged zeolite micromotors for the removal of radioactive iodine**
H-M. Yang*, I. Lee, C.W. Park, *Korea atomic energy research Institute, Republic of Korea*
- [P3.162] Enhanced adhesion of tough composite double network hydrogels to soft tissues**
P. Karami*¹, C. Wyss¹, A. Khoushabi¹, A. Schmockler¹, M. Broome², C. Moser¹, P-E. Bourban¹, D. Pioletti¹, ¹EPFL, Switzerland, ²Lausanne University Hospital, Switzerland
- [P3.163] A new approach for molecular thermoelectrics: Large-area thermoelectric junctions formed with a liquid metal**
S. Park, H.J. Yoon*, *Korea University, Republic of Korea*
- [P3.164] Synthesis of natural origin star-like bio-nanocontainers through low ppm ATRP method**
I. Zaborniak*, P. Chmielarz, *Rzeszow University of Technology, Poland*
- [P3.165] Formation of nano-carbides in a high carbon steels deposited by direct energy deposition method**
G-W. Park^{1,2}, T-H. Nam^{1,3}, H.J. Jo^{1,2}, S.M. Shin¹, W.J. Lee¹, J.B. Jeon*¹, ¹Korea Institute of Industrial Technology, Republic of Korea, ²Pukyong National University, Republic of Korea, ³Pusan National University, Republic of Korea
- [P3.166] Obtaining of natural composite materials by the directed design of biohybrids**
A.S. Miroshnichenko*¹, P.V. Krivoschapkin¹, E.F. Krivoschapkina¹, A.A. Utkin², ¹ITMO University, Russia, ²Syktvykar State University, Russia
- [P3.167] The influence of anisotropic thermal composites on heat transfer: Numerical simulation**
L.B. Chen*, C.P. Feng, Y.H. Huang, R. Chen, L. Liu, M.B. Yang, *Sichuan University, China*
- [P3.168] A finely dispersing MWCNT network for enhanced electrical conductivity, ultra-high dielectric performance and toughness of iPP/OBC/MWCNT nanocomposites**
X. Zha*, W. Yang, *Sichuan University, China*
- [P3.169] Dramatically enhancing the sensitivities of strain sensors with 2D end-to-end carbon nanotube conductive networks in polymer nanocomposites**
J. Pu*, W. Yang, *Sichuan University, China*

- [P3.170] Designing the encapsulation structure to improve the surface properties of PE by controlling the microscopic dispersion of polymer composites**
Y. Wang*, Y. Yan, B. Yin, M. Yang, *Sichuan University, China*
- [P3.171] A simple way to enhance output performance of cellulose nanofiber-based triboelectric nanogenerator through hierarchical surface morphology control and permittivity enhancement**
Y. Shao*, B. Yin, M. Yang, *Sichuan University, China*
- [P3.172] Application of semiconducting nanoparticles supported on fibers for industrial dyes removal by photocatalysis**
V.C. Ferreira*¹, W.R. Wise^{1,2}, O.C. Monteiro¹. ¹University of Lisbon, Portugal, ²University of Northampton, UK
- [P3.173] An electrospun strain sensor with high stretchability/sensitivity**
N. Khalili*, H.H. Shi, M. Chu, H.E. Naguib, *University of Toronto, Canada*
- [P3.174] Investigation of effectiveness of some extensively used polymers on thermoreversible properties of Pluronic® tri-block copolymer**
N.R. Rarokar¹, P.B. Khedekar*¹, S.D. Saoji¹, R.P. Kalsait², A.A. Tatode², M.J. Umekar², ¹Rashtrasant Tukadoji Maharaj Nagpur University, India, ²Smt. Kishoritai BHoyar College of Pharmacy, India
- [P3.175] Preparation of self-standing hydrogel of cellulose nanofiber by using only heat and pressure**
S. Suenaga, M. Osada*, *Shinshu University, Japan*
- [P3.176] Low-temperature spray deposition synthesis of ordered mesoporous titania films**
A. Lotsari, A.E.C. Palmqvist*, *Chalmers University of Technology, Sweden*
- [P3.177] Hybrid structure of ion-exchange resin with magnetic nanoparticles for ultrapure water system**
J.H. Park*, J.J. Lee, B.H. Kim, K.T. Lee, S.J. Lee, *Korea Institute of Industrial Technology, Republic of Korea*
- [P3.178] Core-shell mesoporous silica nanoparticles synthesized from L-DOPA derivatives as potential treatment for Parkinson's disease**
V. Morales, E. Cesar-Rodo, M. Pérez-Garnes*, R. Sanz, R.A. García-Muñoz, *Rey Juan Carlos University, Spain*