



**Materials
Networking project
H2020-TWINN-2015**

**Faculty of Chemistry
and Pharmacy
University of Sofia**



WORKSHOP

“ADVANCED MATERIALS”



21-25 JULY 2019



ASTOR GARDEN HOTEL

**ST. ST. CONSTANTINE AND HELENA
VARNA, BULGARIA**

“Materials Networking” project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 692146.

Program
Sunday, 21st July

17:30	Lindsay Greer
PL1	“Metallic Glasses: a range of states offering exceptional mechanical properties”
18:10	Jaume Garcia-Amorós
18:30	“Mechanofluorescent liquid-crystalline elastomers”
OP1	
19:00	Welcome Party

Monday, 22nd July

	Opening ceremony
10:00	Georgi Vayssilov – project coordinator Milena Damyanova – Director, Directorate “Science”, Ministry of Education and Science
10:20	Pere Alemany
PL2	“First principles modelling of radiation damage: calculation of the electronic stopping power for polymers through non-adiabatic molecular dynamics simulations”
11:00	Petko Petkov
OP2	“Computational modeling of H/H ⁺ migration in porous layered materials”
11:20	Kai Steffen Exner
OP3	“Computational assessment of the performance of a drug-delivery system component”
11:40	Albert Figuerola
OP4	“Preparation and applications of colloidal Au-Ag-chalcogen-based ternary nanocrystals with tunable composition”
12:00	Chaojian Chen
SO1	“Polymer-grafted gold nanoflowers with temperature-controlled catalytic features by combining ARGET ATRP and metal reduction in one pot”
12:10	Nevena Petkova-Yankova
OP5	“Synthesis and chemical properties of 3-phosphonocoumarins as precursors for bioactive compounds”
12:30	Lunch
16:00	Ruth Cameron
KN1	“Ice-templated and charge-deposited structures for regenerative medicine”
16:30	Kaloian Koynov
OP6	“Fluorescence correlation spectroscopy studies of drug nanocarriers in flowing blood”
16:50	Petar Petrov
OP7	“Super-macroporous polysaccharide cryogels: Synthesis and application as drug carriers and cell scaffolds”
17:10	Coffee Break
17:30	Christopher Synatschke
OP8	“Neural cell scaffolds and biohybrid hydrogels from peptide nanofibers”
17:50	Konstantin Balashev
OP9	“The neurotoxin VIPOXIN and its action on model membrane systems and living cells”
18:10	Todor Dudev
OP10	“How Pb ²⁺ binds and modulates properties of Ca ²⁺ - signaling proteins”
18:30	Stanislava Yordanova
18:50	“Spectral characterization of poly(propylene imine) metallodendrimers in solution and onto cotton fabrics and their antimicrobial and antibiofilm activity”
OP11	
19:00	Dinner

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Tuesday, 23th July

09:00	Vasant Kumar
KN2	“The role of 2D-like materials in batteries”
09:30	Tony Spassov
OP12	“LiMnPO ₄ -olivine deposited on microporous alloy as additive-free electrodes for lithium ion batteries”
09:50	Hristo Rashev
SO2	“Solvation-desolvation thermodynamics in mixed alkaline-ion batteries”
10:00	Alia Tadjer
OP13	“Singlet fission - a magic bullet for organic photovoltaics”
10:20	Roger Bujaldón
SO3	“Extending the carbazole core towards enhanced organic semiconductors”
10:30	Coffee Break
10:50	Zoe Barber
KN3	“The control of thin film structures, and applications in materials science”
11:20	Slavka Tcholakova
OP14	“Efficient methods for preparation of emulsions and nanoemulsions”
11:40	Zhulieta Valkova
OP15	“Multilayer formation in self-shaping emulsion droplets”
12:00	Fatmegyul Mustan
SO4	“Surface and foam properties of nonionic surfactant solutions at high sugar concentration”
12:10	Nikolay Grozev
12:20	“Physico-chemical properties of L-Asp based gemini surfactants”
SO5	
12:30	Lunch
16:00	Steering Committee meeting
18:00	Irina Karadjova
OP16	“Speciation of Cr, Mn and Hg in environmental samples by using composite sorbents based on noble nanoparticles embedded in thin films”
18:20	Ivo Ivanov, Silviya Stoykova
OP17	“Common tea for smoking? Trends and cases in Bulgaria”
18:40	Valentina Lyubomirova
OP18	“ICP-MS characterization of Bulgarian bottled mineral and spring waters”
19:00	Dinner

Wednesday, 24th July

09:00	Chris Pickard
KN4	“Random explorations of material structure space”
09:30	Stanislav Balushev
OP19	“Local temperature and oxygen sensing in water environment using annihilation upconversion materials embedded in wax-matrices”
09:50	Nikoleta Kircheva
SO6	“A DFT/PCM study of the complexation between Ga ³⁺ and ribonucleotide reductase substrates”
10:00	Zhihong Ye
SO7	“Fe-based MOFs as efficient catalysts for the degradation of emerging contaminants in urban wastewater”
10:10	Jordi Cirera
OP20	“Multiscale modeling of spin-crossover phenomena in molecular materials”
10:30	Coffee Break

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10:50 OP21	Stoyan Yordanov “Evaluation of newly developed dye tags for proteins characterization and detection by Fluorescence Correlation Spectroscopy”
11:10 OP22	Giorgio Divitini “Electron microscopy and multivariate analysis for dynamical characterisation of perovskite solar cells”
11:30 OP23	Martin Tsvetkov “Luminescence properties of $Gd_{1.97-x}Sm_xTb_{0.03}Mo_3O_{12}$ for potential LED applications”
11:50 SO8	Marc Figueras Valls “Correcting flaws in the assignment of nitrogen chemical environments in N-doped graphene”
12:00 12:10 SO9	Anabel Jurado “First principles evaluation of the initial oxidation of transition metal surfaces”
12:30	Lunch
16:00 OP24	Stefan Tsakovski “Assessment of the Bulgarian wastewater treatment plants impact on the receiving water bodies”
16:20 OP25	Theodor Gurkov “Interfacial layers of volatile surfactants: adsorption and kinetics of evaporation”
16:40 OP26	Spas Kolev “Microfluidic fabrication of micro polymer inclusion beads (μ PIBs). Application to the recovery of gold from electronic scrap”
17:00	Coffee break
17:20 OP27	Rumen Tomov “Inkjet printing of direct carbon solid oxide fuel cell”
17:40 OP28	Mihail Georgiev “Bicontinuous phases from mixed surfactant solutions with enhanced solubilization capacity and their potential applications”
18:00 OP29	Rumen Lyapchev “NHC-ligands: Imidazopyridine-3-ylidenes versus Imidazoquinoline-1-ylidenes”
18:20 18:30 SO10	Konstans Ruseva “Triple stimuli-responsive interpenetrating polymer network of poly(carboxybetaine methacrylate)/poly(sulfobetaine methacrylate)”
19:00	Dinner
Thursday, 25th July	
09:30 OP30	Milen Bogdanov “Ionic liquids as alternative solvents in the sample treatment for determination of biologically active compounds in plants”
09:50 OP31	Angel Morales Garcia “Stability or photoactivity? Properties of realistic TiO_2 nanoparticles”
10:10 OP32	Tsveta Sarafska “Inclusion complexes of naproxen in amorphous gamma cyclodextrin”
10:30 SO11	Mengxi Lin “Synthesis and characterization of nanostructured Pt-Ag-based chalcogenide semiconductors”
10:40 SO12	Raul Morales “Two dimensional Transition Metal Carbides/nitrides (MXenes) as potential catalysts for CO_2 conversion to CO”
10:50 SO13	Joan Mariñoso Guiu “How to accurately model the IR spectra of nanosilicates”
12:30	Lunch

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