

## WORKSHOP

# “COLLOID AND INTERFACE RESEARCH & INNOVATIONS”

18-21 JULY 2021



ASTOR GARDEN HOTEL

ST. ST. CONSTANTINE AND HELENA, BULGARIA

**Program**  
**Sunday, 18<sup>th</sup> July**

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17:00	<i>Opening</i> – Georgi Vayssilov
17:10	Jan Vermant
PL1	“Efficient processing of high interfacial area soft materials ”
18:00	Krassimir D. Danov
OP1	“On the analogy between aapillary and aelectrostatic Interactions in aolloid aystems”
18:20	Svetoslav Anachkov
OP2	“Biocidal action of Ag and soap against staphylococcus aureus”
18:40	Vasil Georgiev
SO1	“Role of surfactant adsorption and surface properties for the efficiency of PDMS-silica antifoams”
18:50	Stefaniya M. Gaydarova
SO2	“Biodigestible solid lipid nanoparticles as drug delivery system: intracellularly focused nasal antihistamine therapy”
19:00	<b><i>Dinner</i></b>

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**Monday, 19<sup>th</sup> July**

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09:00	Jordi Cirera
OP3	“Theoretical modeling of spin-crossover systems as spin-filter devices”
09:20	James D. Nicholas
OP4	“Developing a redox-responsive colloidal system based on host-guest interactions”
09:40	Jon E. Quinlivan
OP5	“Machine-learning assisted characterization of ceria-supported platinum catalysts under reactive conditions: Interface effects”
10:00	Hristiyan A. Aleksandrov
OP6	“Understanding of the structure and properties of surface species on CeO <sub>2</sub> and ZrO <sub>2</sub> -CeO <sub>2</sub> systems”
10:20	Iskra Z. Koleva
OP7	“Quantum chemical modeling of carbon monoxide oxidation on Pt/CeO <sub>2</sub> and Pt/ $\gamma$ -Al <sub>2</sub> O <sub>3</sub> systems”
10:40	Riccardo Farris
SO3	“Accuracy and Efficiency of Bimetallic Nanoalloys Representations for training surrogate energy models”
10:50	<b><i>Coffee break</i></b>
11:10	Konstantin Neyman
PL2	“Metal/metal-oxide interface effects in nanomaterials for catalysis and energy technologies: DFT modelling versus experiment”
12:00	Petko Petkov
OP8	“Silanol nests formation and migration in MSE-type zeolite framework”
12:20	Pablo Castro-Latorre
SO4	“Effects of metal-oxide interfaces: adsorption of probe molecules on ceria-supported metal particles”
12:30	<b><i>Lunch break and discussions</i></b>
16:20	Todor Dudev
OP9	“Host–guest complexation of drug molecules with cucurbit[7]uril and cucurbit[8]uril”

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16:40 OP10	Diana V. Cheshmedzhieva "Amphiphilic asymmetric monomeric and homodimeric polycationic monomethine cyanine dyes – fluorogenic nucleic acids probes"
17:00 OP11	Eric Assen Kantchev "Toward a realistic model of Rh/Chiral diene catalyst for asymmetric arylations"
17:20	<b>Coffee Break</b>
17:40 OP12	Krastanka G. Marinova "Cleaning ability of mixed solutions of sulfonated fatty acid methyl ester"
18:00 OP13	Vladimir Petkov "Dissolution kinetics of glibenclamide amorphous solid dispersions in biorelevant media"
18:20 SO5	Laura Sánchez "Crystal packing of long aliphatic chains: A continuous symmetry measures approach"
18:30 SO6	Totka Todorova "Complete catalytic oxidation of VOCs over noble metals loaded on hierarchical zeolites"
18:40 SO7	Néstor García-Romeral "Relating C(1s) core level binding energy to chemical bonding in MXenes"
18:50 SO8	Daniel Dolz "MXenes exfoliation energy effect on CO <sub>2</sub> capture"
19:00	<b>Dinner</b>

*Tuesday, 20<sup>th</sup> July*

09:00 OP14	Aleksey Vasilev "Organic solar energy storage systems intensified by annihilation upconversion"
09:20 OP15	Yulian Zagranaryanski "New naphthalene and perylene based chromophores for high-tech applications"
09:40 OP16	Nevena I. Petkova-Yankova "Dealkylation of esters of 1,2-benzoxaphosphorins and 1,2-benzoxa-phosphorinphosphonates with halogenotrimethylsilanes"
10:00 OP17	Rumen Lyapchev "Trapping Imidazoquinoline-1-ylidenes with Selenium and Sulfur"
10:20 SO9	Ana Koleva "Homodimerization of 3-acetylcoumarin and its derivatives"
10:30 SO10	Kristina Simeonova "Quantum-chemical study of the mechanism of 3,3'-diacetyl-[4,4'-bichroman]-2,2'-dione formation"
10:40 SO11	Boris Borrisov "Synthesis of substituted heterocycles, containing pyrrolo[2,1-a]isoquinoline system with potential biological activity"
10:50	<b>Coffee Break</b>
11:10 PL3	Georgi N. Vayssilov "Transition metal cations and oxide clusters in zeolites studied with density functional methods"
12:00 Invited	Albert Bruix "Addressing the complexity of nanostructured materials in catalysis modelling"
12:20 SO12	David Vázquez "Trends on CO adsorption and dissociation on transition metals"
12:30	<b>Lunch Break</b>

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16:20 OP18	Meglana I. Kandinska “Design, synthesis and anti-coronaviral activity of heterocyclic compounds with controllable cell toxicity via nanoconfinement “
16:40 OP19	Petar D. Petrov “Novel block copolymer micelles for improved solubilization and delivery of poorly water-soluble bioactive substances”
17:00 OP20	Daniela S. Tsekova “Supramolecular structures of L-Asp based surfactants - carriers for biologically active compounds”
17:20	<b>Coffee break</b>
17:40 OP21	Radoslava Stamboliyska “Complexation of macrolide antibiotics with copper(II) ions”
18:00 OP22	Daniela Tsekova “Structure-performance relationship of a series of complexes of Pd <sup>III</sup> , Pt <sup>III</sup> and Au <sup>II</sup> with hematoporphyrin IX designed as cytotoxic agents”
18:20 OP23	Elena Vassileva “Bioinspired remineralization of artificial caries lesions using PDMAEMA-calcium phosphates hybrid microgels”
18:40 SO13	Aleksey A. Vasilev “Styryl hemicyanine dyes with thiomorpholine functionality for nucleic acids and cell nucleolus visualization”
18:50 SO14	Monika Mutovska “Dioxin-annulated 1,8-naphthalimides – Synthesis, spectral and electrochemical properties, and application in OLED”
19:00 SO15	Hristo Manov “Synthesis and characterization of two novel 1,8-naphthalimide derivatives with potential of antimicrobial photodynamic therapy”
19:10	<b>Dinner</b>

### Wednesday, 21<sup>st</sup> July

09:00 OP24	Valentina Lyubomirova “Analytical approaches for multielement characterization of liquid and solid waste samples”
09:20 OP25	Martin Tsvetkov “Superior visible light photocatalytic activity of BiOBr/Carbon foam towards organic pollutants in water”
09:40 OP26	Denitsa Elenkova “Novel lanthanoid metal-organic frameworks, Ln-MOFs, as luminescent sensors for water pollutants”
10:00 OP27	Yuri Kalvachev “Fluoride etching of AlZSM-5 and GaZSM-5 zeolites”
10:20 SO16	Dancho Danalev “A holistic approach for target therapy of cancer”
10:30 SO17	Denitsa Nikolova “Nanoparticulate drug delivery system for timolol maleate based on poly (sulfobetaine methacrylate)”
10:40	Anife Ahmedova “News and funding possibilities in the Marie Skłodowska Curie actions for the calls in 2021”
11:00	<i>Closing the conference</i>

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