

# YOUNG MULTIS 2021 – SCHEDULE OF THE CONFERENCE

## OPENING SESSION, MONDAY 05.07, 9:45-11:00

09:45-10:00 **Opening of the Conference**

10:00-11:00 Blundell, Stephen “Using muons to study condensed matter physics”

## SESSION 1 – CONDUCTIVITY, SUPERCONDUCTIVITY, MONDAY 05.07, 11:00-12:15

11:00-11:15 Ito, Yuma “Stabilization of antiferromagnetic ordered state in  $\pi$ -d system of  $\lambda$ -(BEDT-STF)<sub>2</sub>Fe<sub>x</sub>Ga<sub>1-x</sub>Cl<sub>4</sub>”

11:15-11:30 Nomoto, Tetsuya “Magnetic-field-induced transition of charge-glass former containing a magnetic transition metal”

11:30-11:45 Yesil, Emre “Thermodynamic picture of a quantum liquid-liquid transition occurring in the geometrically frustrated organic complexes”

11:45-12:00 Pallister, James “Melting *arctic circles*”

## LUNCH BREAK, MONDAY 05.07, 12:00-13:15

## SESSION 2 – MOLECULAR MAGNETISM, MONDAY 05.07, 13:15-14:45

13:15-13:30 Danylchenko, Petro “Magnetic properties of Ni(*fum*)(*phen*)-ferromagnetic dimer with spin 1”

13:30-13:45 Sas, Wojciech “The synthesis and properties of Prussian blue and its Cr analogue nanotubes”

13:45-14:00 Heczko, Michał “Tuning of magnetic properties of the 3D 2-fold interpenetrating CN-bridged networks”

14:00-14:15 Brzozowska, Maria “High-performance tetrahedral Er<sup>III</sup> SMMs and their functionalization using radicals and photoswitchable molecules”

14:15-14:30 Czernia, Dominik “Effect of proton irradiation on magnetic properties of two-dimensional Ni(II) molecular magnet”

14:30-14:45 Kobylarczyk, Jędrzej “Modular approach in construction of molecular magnetic materials based on molecular clusters”

## BREAK, MONDAY 05.07, 14:45-15:00

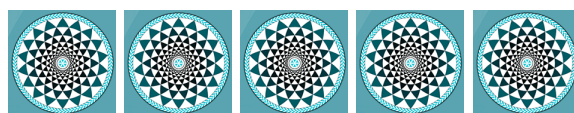
### **SESSION 3 – SOFT MATTER, MONDAY 05.07, 15:00-17:00**

- 15:00-15:15 Arynbek, Yersultan “Raman spectroscopy, SANS and MD simulation combined study of DPPC lipid bilayer: the competitive effect of cholesterol and melatonin”
- 15:15-15:30 Drzewicz, Anna “Vibrational dynamics of chiral smectogenic glassformer”
- 15:30-15:45 Martini, Francesca “Effect of cross-linking on dynamics of elastomers: insights from  $^1\text{H}$  field cycling NMR”
- 15:45-16:00 Ekawa, Bruno “Characterization and thermoanalytical study of novel valsartan coamorphous systems”
- 16:00-16:15 Beena Unni, Aparna “Does the vapour deposited films under confinement follows the bulk behaviour?”
- 16:15-16:30 Sonaglioni, Daniele “Fast calorimetric characterization of glass transition and physical ageing of two prototypical glass-forming liquids”
- 16:30-16:45 C. Silva, Joana F. “The role of co-formers on the thermal behaviour of nateglinide co-amorphous systems”
- 16:45-17:00 Chat, Katarzyna “Influence of molecular weight on the equilibrium phenomena under nanopore-confinement”

### ***BREAK, MONDAY 05.07, 17:00-17:15***

### **SESSION 4 – MULTIFUNCTIONAL MATERIALS, APPLIED MATERIALS, MONDAY 05.07, 17:15-18:30**

- 17:15-17:30 Malakova, Tanya “Investigation of the nature of bifunctional catalysts in rechargeable zinc-air battery with neutron diffraction methods”
- 17:30-17:45 Malta, José Franciso “Magnetic Skyrmions in  $\text{GaM}_4\text{X}_8$  ( $\text{M} = \text{V}, \text{Mo}$ ;  $\text{X} = \text{S}, \text{Se}$ ) Lacunar Spinels”
- 17:45-18:00 Mañas-Valero, Samuel “Exploring the quantum spin liquid candidate  $1\text{T-TaS}_2$  from bulk to atomically thin-layers”
- 18:00-18:15 Boix Constant, Carla “Sensing spin transitions on hybrid van der Waals heterostructures”
- 18:15-18:30 Gala, Mateusz “Influence of uniaxial pressure on electronic properties of a simple cuprate superconductor”



## **SESSION 5 – ADVANCED MATERIALS, TUESDAY 06.07, 09:00-09:30**

- 09:00-09:15 Lis, Olga “Neutron diffraction studies of pressure induced phase transitions in  $\text{Bi}_2\text{WO}_6$ ”
- 09:15-09:30 MacDonald, David “Analysis of CNR in molecular MRI using core/shell double contrast NPs”

### **FLASH TALKS I, TUESDAY 06.07, 09:30-10:10**

- 09:30-09:35 Boiko, Vitalii “Thermoluminescence studies of  $\text{Y}_3\text{Al}_2\text{Ga}_3\text{O}_{12}:\text{Cr}^{3+}$  persistent nanophosphors”
- 09:35-09:40 Saito, Rikumaru “Investigation of  $\pi$ -d interaction in  $\lambda$ -(BEST) $_2\text{FeCl}_4$ ”
- 09:40-09:45 Polit, Oliwia “Controlling of magnetic properties of iron-based composite particles”
- 09:45-09:50 Pastukh, Oleksandr “Magnetic and nonlinear optical properties of single-molecule magnets/silica nanocomposite”
- 09:50-09:55 Tasheva, Tina “Physico-chemical properties, structure and spectroscopic investigations on iron-containing oxide glasses”
- 09:55-10:00 Dołęga, Agnieszka “Role of sublimation in degradation kinetics of carbamazepine”
- 10:00-10:05 Wrzesińska, Angelika “Study on the molecular dynamics and structure-related electric properties of poly(dimethylsiloxane) coordinated by metal-ligand complexes”
- 10:05-10:10 Chudzik, Julia “Kinetics of formation of cobalt (II) complexes in the top layer of thin polymer films”

## **POSTER SESSION I, TUESDAY 06.07, 10:10-11:10**

### **TECHNICAL BREAK, TUESDAY 06.07, 11:10-11:15**

## **SESSION 6 – SURFACES, INTERFACES, NEW IDEAS, TUESDAY 06.07, 11:15-12:00**

- 11:15-11:30 Giri, Rajendra Prasad “Time-resolved measurements from liquid-vapour interfaces using optical pump – X-ray probe technique”
- 11:30-11:45 Tsekeridis, Charalampos “Lubricant-impregnated surfaces and dynamic measurements with drops of liquids”

11:45-12:00 Shymborska, Yana “Grafted polymer brush coatings with enhanced temperature response based on poly(di(ethylene glycol)methyl ether methacrylate-co-acrylamide)”

### **LUNCH BREAK, TUESDAY 06.07, 12:00-13:00**

### **SESSION 7 – SOFT MATTER, TUESDAY 06.07, 13:00-14:45**

13:00-13:15 Pytlarczyk, Marta “Deuterated liquid crystals – new materials with higher photochemical stability”

13:15-13:30 Duarte, Daniel “Control crystallization of molecular liquid using AC electric field”

13:30-13:45 Deptuch, Aleksandra “Investigation of the glass transition and comparison of physical properties of the orthoconic liquid crystalline mixture W-1000 and its new modification W-356”

13:45-14:00 Winkler, Roksana “The effect of surface modification on the molecular dynamics of poly(phenyl methyl siloxane) confined in alumina nanopores”

14:00-14:15 Wróbel, Piotr “Modelling IR spectra of liquids from MD simulations”

14:15-14:30 Grelska, Joanna “The supramolecular structure of associating alcohols”

14:30-14:45 Marconi, Emilio “Dielectric spectroscopy measurements of a PEO-based polymer electrolyte using interdigitated electrodes”

### **BREAK, TUESDAY 06.07, 14:45-15:00**

### **SESSION 8 – COMPUTATIONAL PHYSICS, TUESDAY 06.07, 15:00-16:45**

15:00-15:15 Sampath, Sankari “New binary copper oxide phases from *ab initio*”

15:15-15:30 Tokar, Kamil “Toward isolated AgF<sub>2</sub> nanowire structure: dynamical and mechanical properties from *ab initio*”

15:30-15:45 Bera, Sandip “Stable magnetic skyrmion without magnetic field”

15:45-16:00 Hess, Richard “Local and non-local quantum transport due to Andreev bound states in finite Rashba nanowires with superconducting and normal sections”

16:00-16:15 Kobińska, Aksel “Emergence of Majorana bound states in expansions of Rashba nanowire model”

- 16:15-16:30 Laubscher, Katharina “From Majorana to parafermion corner states in a second-order topological superconductor”
- 16:30-16:45 Alspaugh, David “Volkov-Pankratov states in topological superconductors”

**BREAK, TUESDAY 06.07, 16:45-17:00**

**SESSION 9 – FLASH TALKS II, TUESDAY 06.07, 17:00-17:30**

- 17:00-17:05 Kaczor, Michał “Analysis of information dynamics in chiral spin chain coupled to boson reservoir”
- 17:05-17:10 Tikhonov, Iurii “Ferroelectric nanoparticles host Hopfion”
- 17:10-17:15 Tzitzilis, Dimitrios “Wenzel to Cassie transition by infusing lubricant”
- 17:15-17:20 Pastukh, Svitlana “*Ab initio* calculations for the alpha phase of cooper pyrophosphate”
- 17:20-17:25 Pakulski, Paweł “New dioxothiadiazole ligands for organic radical-based magnetic materials”
- 17:25-17:30 Peksa, Paulina “Dielectric properties of order-disorder phase transition of dimethylammonium zinc formate”

**POSTER SESSION II, TUESDAY 06.07, 17:30-18:30**



**SESSION 10 – POSITRON ANNIHILATION SPECTROSCOPY, WEDNESDAY 07.07,  
09:00-10:15**

- 09:00-09:15 Krutul, Katarzyna “The radiation damage of PIN-diode detectors irradiated with heavy ions studied with the positron annihilation spectroscopy”
- 09:15-09:30 Luu Anh, Tuyen “Application of nuclear spectroscopies and ion beams in the structural study of nanomaterials”
- 09:30-09:45 Siemek, Krzysztof “Structure of BaTiO<sub>3</sub> nanopowders modified by annealing treatment”
- 09:45-10:00 Goździuk, Magdalena “Research on biopolymer matrices synthesized on the basis of soybean oil in the construction of biosensors of trace water pollutants and analysis of the impact of the matrix composition on its nanostructure”

10:00-10:15 Skowron, Konrad “Gradient microstructure induced by Surface Mechanical Attrition Treatment (SMAT) in magnesium studied by positron annihilation spectroscopy”

**BREAK, WEDNESDAY 07.07, 10:15-10:30**

**BEST POSTER COMPETITION VOTING TIME (10:15-10:30)**

**SESSION 11 – MAGNETISM, MULTIFUNCTIONAL MATERIALS, WEDNESDAY 07.07, 10:30-12:00**

10:30-10:45 Horii, Yoji “Dynamics and magnetic properties of NO molecules encapsulated in open-cage fullerene derivatives evidenced by low temperature heat capacity”

10:45-11:00 Ceglarska, Magdalena “Magnetic investigations of single crystals of spin chains”

11:00-11:15 Chojenka, Juliusz “Nanopatterned MOM junctions”

11:15-11:30 Escalero-Moreno, Luis “Spin relaxation in molecular nanomagnets: first-principles modelling and case studies”

11:30-11:45 Oka, Taiyo “<sup>13</sup>C-NMR study of  $\lambda$ -(BETS)<sub>2</sub>GaBr<sub>x</sub>Cl<sub>4-x</sub> ( $x=0.9$ )”

11:45-12:00 Hatakeyama, Toshimitsu “Dielectric and thermodynamic properties of mixed valence coordination polymer [Cu<sup>I</sup><sub>7</sub>Cu<sup>II</sup>Br<sub>7</sub> (*n*-Bu<sub>2</sub>dtc)<sub>2</sub>]<sub>*n*</sub>”

**LUNCH BREAK, WEDNESDAY 07.07, 12:00-13:00**

**SESSION 12 – MULTIFUNCTIONAL MATERIALS, MISCELLANY, NEW IDEAS WEDNESDAY 07.07, 13:00-14:45**

13:00-13:15 Manaparambil, Anand “Spin-resolved thermoelectric properties of correlated magnetic molecules”

13:15-13:30 Pudza, Inga “Local structure studies of multifunctional CuMoO<sub>4</sub> and CuWO<sub>4</sub> solid solutions”

13:30-13:45 Nazarova, Assel “The ”core-shell” type magnetic nanoparticles in biomedicine: preparation, physical properties and applications”

13:45-14:00 Casas-Ferrer, Laura “Design and microfluidic flow of a vesicle prototissue”

14:00-14:15 Szeremeta, Anna “Influence high hydrostatic pressure on electrical properties of ferroelectric (Ba<sub>0.83</sub>Ca<sub>0.17</sub>)TiO<sub>3</sub> ceramics”

- 14:15-14:30 Lipp, Vladimir “Applying Density Functional Tight Binding approach to study X-ray-induced phase transitions in solid materials”
- 14:30-14:45 Janiszewska, Natalia “Effect of tacticity of PtBMA thin films on interactions with proteins, peptides and bacteria”

***BREAK, WEDNESDAY 07.07, 14:45-15:05***

***BEST TALK COMPETITION VOTING TIME (14:45-15:00)***

15:05-15:30 **Closing of the Conference**

## POSTER SESSION I, Tuesday, 10:10-11:10

1. Banu, Samiran “Development of a tabletop femtosecond electron diffraction system”
2. Kato, Taiga “Electronic properties of quasi-one-dimensional organic conductor (DMET-TTF)<sub>2</sub>AuBr<sub>2</sub>”
3. Nagashima, Shuntaro “Observation of CN stretching mode below magnetic phase transition temperature on a MnW octacyanide molecule-based magnet”
4. Yamamoto, Taro “Thermodynamic properties of metastable gel phase for cationic surfactant cetyltrimethylammonium bromide (CTAB) / water system”
5. Tanaka, Mayuko “Pressure effect on the magnetic properties of MnW cyanide-bridged bimetal assemblies”
6. Umeda, Miyu “Effects of stretching on the melting behaviours of silicone rubbers”
7. Saito, Rikumaru “Investigation of  $\pi$ -d interaction in  $\lambda$ -(BEST)<sub>2</sub>FeCl<sub>4</sub>”
8. Capała, Karol “Kramers-like problem for underdamped Levy flights”
9. Boiko, Vitalii “Thermoluminescence studies of Y<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Cr<sup>3+</sup> persistent nanophosphors”
10. Bragar, Igor “Retardation of quantum correlation decay of two spin qubits by quantum measurements”
11. Shtapleva, Nikoleta “Phase composition and microstructure of iron-containing glasses and glass-ceramics”
12. Pernikov, Martin “Vibration spectroscopy and neutron diffraction studies on glasses and glass-ceramics in the system Na<sub>2</sub>O/BaO/TiO<sub>2</sub>/B<sub>2</sub>O<sub>3</sub>/SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>”
13. Kolenov, Ivan “Influence of the parallelepiped form localized defects on ellipsometry data: scale modelling”
14. Skrypnik, Yevhenii “Electrical conductivity of lithium-sodium tetragermanate glass”
15. Kuziv, Ivan “Positron Annihilation Spectroscopy study of defects in doped diamonds”
16. Pacanowska, Aleksandra “Towards thin films of multi-responsive molecular switches”
17. Polit, Oliwia “Controlling of magnetic properties of iron-based composite particles”
18. Hreb, Vasyl “Crystal structure and luminescence of Gd<sub>1-x</sub>Yb<sub>x</sub>AlO<sub>3</sub>:Mn<sup>4+</sup>”
19. Mirzayev, Matlab “Decomposition of water molecules on titanium dioxide nano powder under neutron irradiation”
20. Belozerova, Nadezhda “Study of pressure-induced polymorphic phase transitions in pharmaceutical compounds”



21. Linnik, Ekaterina “Vibrational spectroscopy study of SrTiO<sub>3</sub>-based quantum paraelectrics”

## **POSTER SESSION II, Tuesday, 17:30-18:30**

22. Bartkowiak, Amanda “Mechanical and bioactive properties of nanopatterned TiO<sub>2</sub>/HAp coatings”
23. Vinnik, Olha “Field induced magnetic ordering in the singlet-ground state magnet Cu(en)<sub>2</sub>SO<sub>4</sub>”
24. Baloh, Pavlo “Experimental study of low-temperature properties of As<sub>x</sub>S<sub>100-x</sub> glassy systems”
25. Landi, Noemi “Solid-State NMR study of a multiple-cation lead mixed-halide perovskite with high efficiency”
26. Maurina, Elena “2D Ruddlesden-Popper Perovskites BA<sub>2</sub>MA<sub>n-1</sub>Pb<sub>n</sub>I<sub>3n+1</sub> as studied by Solid-State NMR Spectroscopy”
27. Kaczor, Michał “Analysis of information dynamics in chiral spin chain coupled to boson reservoir”
28. Tikhonov, Iurii “Ferroelectric nanoparticles host Hopfion”
29. Gatlik, Jacek “The effective mass of fluxon for the process of its interaction with inhomogeneity in the Josephson junction”
30. Babich, Artem “Phase transitions in systems with anisotropic order parameter modulations”
31. Kowalewska, Pamela “Magnetocaloric properties of V<sub>6</sub> and Cu<sub>5</sub> molecular magnets”
32. Kondovych, Svitlana “Topological polarization textures in a ferroelectric nanodot”
33. Basak, Surajit “Magneto-transport in the planar Hall setup for a periodically driven multi-Weyl semimetal”
34. Niemiec, Małgorzata “Fabrication of self-assembled monolayers SAMs based on dithiocarbamate head group”
35. Pico, Román “Structural and magnetic properties of FePc chains and hybrid superlattices”
36. Oulmidi, Afaf “Synthesis and crystal engineering of d10 complexes based on multifunctional pyridinic blocks”
37. Diachenko, Anna “The role of structural defects in optical absorption of Bi<sub>12</sub>SiO<sub>20</sub> crystals”
38. Horbatenko, Yuliia “Thermal conductivity of the glass-like molecular solids”

39. Tzitzilis, Dimitrios “Wenzel to Cassie transition by infusing lubricant”
40. Dąbczyński, Paweł “Dipole-induced extraordinary conduction increase in R-P3HT/P4VP metal complex cross-linked”
41. Lomygin, Anton “Characterisation of the positron annihilation in Zr/Nb nanoscale multilayer coatings”
42. Tkachenko, Victor “Ultrafast non-thermal phase transitions of carbon and silicon”

*PDF files of posters will be available only during the conference, i.e. from 5<sup>th</sup> July to 7<sup>th</sup> July.*

Samiran Banu  
Taiga Kato  
Shuntaro Nagashima  
Taro Yamamoto  
Mayuko Tanaka  
Miyu Umeda  
Rikumaru Saito  
Karol Capała  
Vitalii Boiko  
Igor Bragar  
Nikoleta Shtapleva  
Martin Pernikov”  
Ivan Kolenov  
Yevhenii Skrypnik  
Ivan Kuziv  
Aleksandra Pacanowska  
Oliwia Polit  
Vasyl Hreb  
Matlab Mirzayev  
Nadezhda Belozerova  
Ekaterina Linnik  
Amanda Bartkowiak  
Olha Vinnik  
Pavlo Baloh  
Noemi Landi  
Elena Maurina  
Michał Kaczor  
Iurii Tikhonov  
Jacek Gatlik  
Pamela Kowalewska  
Svitlana Kondovych  
Surajit Basak  
Małgorzata Niemiec  
Afaf Oulmidi  
Anna Diachenko  
Dimitrios Tzitzilis  
Paweł Dąbczyński  
Anton Lomygin  
Victor Tkachenko