

22 September			Sunday
from 12.00		Registration	
11.00–13.30		Wrocław–Wojanów Bus Transfer	
13.30–15.00		Lunch	
15.00–15.10		Opening Ceremony	
Session I: Interactions and Calculations			Chair: Rui Fausto
15.10–15.40	I-1	Małgorzata Biczysko	Vibrational fingerprints of weak interactions from fully anharmonic computations: success and challenges
15.40–16.00	O-1	Ehud Pines	Structure of protonated water clusters in acetonitrile
16.00–16.20	O-2	Justinas Ceponkus	Conformations of valeric acid in noble gas and pH2 matrices
16.20–16.50		Coffee	
Session II: Matrix Isolation			Chair: Małgorzata Biczysko
16.50–17.20	I-2	Rui Fausto	Tunneling-driven and vibrationally-induced chemistries: Last news from Coimbra!
17.20–17.40	O-3	Magdalena Saldyka	UV-induced photodecomposition of matrix isolated salicylhydroxamic acid: identification of new isocyanate complexes
17.40–18.00	O-4	Robert Medel	Matrix isolation spectroscopy of fluorine compounds
19.00–22.00		Barbecue	

23 September			Monday
Session III: Bioapplications I			Chair: H. Michael Heise
9.00–9.30	I-3	Halina Abramczyk	A new modality for cancer tracking – Raman imaging, fluorescence and AFM studies combined with AI analysis
9.30–9.50	O-5	Himanshu Ojha	Molecular spectroscopic studies of silylated graphene oxide interaction with model proteins bovine serum albumin and pepsin
9.50–10.10	O-6	Joanna Nowak-Karnowska	Oligonucleotide probe with 5-fluoro-4-thiouridine for photocrosslinking with DNA target and binding to streptavidin support
10.10–10.30	O-7	Aleksandra Wesołucha-Birczyńska	Multi-wavelength Raman studies of bactericidal coatings applied to fibrous substrates
10.30–10.50		Coffee	
Session IV: Bioapplications II			Chair: Halina Abramczyk
10.50–11.20	I-4	H. Michael Heise	ATR-FTIR spectroscopy of cells from a human monocyte cell line with stimulation by insulin – opportunities for a cellular-based insulin bioactivity assay
11.20–11.40	O-8	Dominika Święch	Comprehensive characterization of modified metallic surfaces for biomedical applications

11.40–12.00	O-9	Aleksandra Kurek	Analysis of red blood cells from individuals with allergy symptoms using Raman spectroscopy
12.00–12.20	O-10	Sylwester Mazurek	Diagnosing different types of arthritis using vibrational spectroscopy
12.20–12.40	O-11	Jakub Dybas	Interaction of endothelium-derived NO with red blood cells – tracking of hemoglobin adducts with resonance Raman spectroscopy
12.40–13.40			Lunch
Session V: Earth Science and Cultural Heritage			Chair: Aleksandra Wajda
13.40–14.10	I-5	Rosa C. Ponterio	A step forward the sustainability: design and applications of flexible and low cost Surface Enhanced Raman Spectroscopy (SERS) sensors from waste cellulose
14.10–14.30	O-12	Maja Mroczkowska-Szerszeń	Application of statistical clustering methods in IR spectral discrimination of fossil resins of various provenance
14.30–14.50	O-13	Magdalena Gawęda	Amorphous silicon oxycarbide-based protective coatings for nuclear applications – spectroscopic and microstructural studies
14.50–15.05	O-14	Agnieszka Sozańska	Simultaneous in situ Raman and SEM imaging
15.15–19.15			Excursion: Sky Walk – Trail in the Clouds – Świeradów Zdrój
19.30–20.30			Dinner

24 September			Tuesday
Session VI: Optical Materials			Chair: Ivan Němec
9.00–9.30	I-6	Jan Zaręba	Monitoring structural phase transitions in hybrid compounds using nonlinear optical responses
9.30–9.50	O-15	Magdalena Leśniak	Structural study of the laser-induced crystallization in tellurite-phosphate glass
9.50–10.10	O-16	Robert Tomala	Preparation and luminescent properties of phosphors for high CRI white LED
10.10–10.30	O-17	Dominika Gruszkowska	Spectroscopic properties of cocomplexes of europium with phenanthroline family and diketone based ligands
10.30–10.50	O-18	Piotr Żemojtel	Tuning of the spectroscopic properties of semiconductor nanorings by size
10.50–11.20			Coffee
Session VII: Materials			Chair: Jan Zaręba
11.20–11.50	I-7	Ivan Němec	Spectroscopic, structural and optical characterization of molecular crystals based on heteroaromatic carries of NLO properties
11.50–12.10	O-19	Miroslaw Mączka	Vibrational properties and mechanism of phase transitions in lead iodide perovskites comprising $\text{OH}(\text{CH}_2)_n\text{NH}_3^+$ cations (n=2,3)
12.10–12.30	O-20	Kinga Suchorab	Oxidation kinetics of zirconium and its alloys – impact of stabilisation factors on the zirconium oxide polymorphs
12.30–12.50	O-21	Mallika Pathak	Magnetic <i>tagetis erecta</i> biochar ($\gamma\text{-Fe}_2\text{O}_3\text{-TEB}$) for efficient removal of cationic dye from wastewater: A sustainable and economical approach
12.50–13.10	O-22	Ewa Pięta	The role of adaptogens in cervical cancer therapy: High-definition vibrational spectroscopic imaging at the single-cell level
13.10–14.30			Lunch

Session VIII: Methods

Chair: Rosa C. Ponterio

14.30–15.00	I-8	Aleksandra Wajda	Vibrational Optical Activity – a unique tool for studying supramolecular systems
15.00–15.20	O-23	Łukasz Pięta	A novel approach for highly sensitive Raman spectroscopy – PIERS
15.20–15.40	O-24	Anna Kołodziej	The 2D correlation spectroscopy (2D-COS) study of polycaprolactone-hydroxyapatite composites bioactivity
15.40–16.00	O-25	Vitalii Boiko	Determination of structural transformation in transparent $Y_3Al_5O_{12}$ ceramics in the process of chromium recharging
16.00–16.20	O-26	Karolina Haupa	FTIR spectrometers are like cars. Learn how to select the best for you (Bruker)
16.20–18.30			Coffee
16.30–18.30			Poster Session
19.30–20.30			Conference Dinner

ISSSMC Conference 2024 ProgramGalyna Puchkovska International School-Seminar
Spectroscopy of Molecules and Crystals

24 September ISSSMC Online

Tuesday

Session online I: Molecules & Molecular Interactions

Chair: Andrii Kadashchuk

10.00–10.25	IGP-1	Mykhailo Bondar	Linear photophysics, fast vibronic relaxations and two-photon absorption properties of new coumarin derivatives
10.25–10.50	IGP-2	Vytautas Klimavicius	Solid-state NMR of phosphate based functional materials
10.50–11.05	OGP-1	Olena Gnatyuk	Vibrational and imaging markers of circulating metastatic cells based on the Lewis lung carcinoma cell line
11.05–11.30			Coffee Break

Session online II: Liquid Crystals & New Materials

Chair: Taras Mykytiuk

11.30–11.55	IGP-3	Longin N. Lisetskii	Induced and spontaneous nanostructuring in liquid crystal colloidal systems for display and sensor applications
11.55–12.20	IGP-4	A. Demchenko	Molecular machines powered by electronic excitation
12.20–12.35	OGP-2	E. Manuilov	Effect of tin and tin-carbon dopants on physicochemical properties and photocatalytic behavior of TiO_2 in hydrogen production reaction
12.35–14.30			Lunch Break

Session online III: Biological Systems

Chair: Nataliia Bashmakova

14.30–14.55	IGP-5	S. Yefimova	ROS-regulating nanomaterials
14.55–15.20	IGP-6	G. Rudko	Luminophores for luminescent solar concentrators
15.20–15.35	OGP-3	L. Brizhik	Soliton mediated long-range electron transport in donor—alpha-helix-acceptor systems
15.35–15.50	OGP-4	Valeriia Ovdenko	Nonlinear optical properties of azo-naphthols with a pyridine nitrogen atom: theoretical and experimental study
15.50–16.05	OGP-5	Grygorii Monastyrskyi	WS_2 and MoS_2 2D nanoparticles as inducers of changes in liposome formation and spectroscopic properties

Session IX: ISSSMC – New materials & Nanosystems**Chair: Svitlana Bugaychuk**

8.30–8.55	IGP-7	Marek Drozd	Phases transition phenomena in highly sensitive luminescence nanothermometry
8.55–9.20	IGP-8	Alexander Krivchikov	Heat capacity of molecular crystals with different types of disorder
9.20–9.45	IGP-9	Andrii Kadashchuk	Triplet-triplet annihilation mechanism of intrinsic charge-carrier generation in neat organic semiconductors
9.45–10.10	IGP-10	Galina Dovbeshko	War-derived air pollution based on carbon-containing smoke nanoparticles with Fe and Cu metal compounds: physical chemical property, and neurotoxicity risk assessment
10.10–10.25	OGP-6	Yuriy Hizhnyi	Luminescence mechanisms in oxide glass-ceramic composites: insights from electronic structure calculations
10.25–10.40			Coffee

Session X: ISSSMC – Methods & Applications**Chair: Alexander Krivchikov**

10.40–11.05	IGP-11	Svitlana Bugaychuk	Optical dielectric spectroscopy associated with plasmonic resonance in LC nanocomposites with gold nanoparticles
11.05–11.30	IGP-12	Taras Mykytiuk	Making 10nm nano-holes for trapping light by mixing monolayers of gold and silver nanoparticles
11.30–11.45	OGP-7	Nataliia Bashmakova	Spectral properties of two pyrrolopyridine derivatives synthesized from citric acid and urea
11.45–12.00	OGP-8	Mariia Kyrpa	Electronic structure and UV-Vis spectroscopy of mesoionic compounds
12.00–12.15	OGP-9	Vlada Pashynska	Noncovalent complexes of dimethyl sulfoxide with anti-cancer thioderivatives of purine nucleobases: model mass spectrometry and quantum chemical study on molecular mechanisms of transmembrane drug delivery facilitation

12.15–12.30 Closing Ceremony and Awards

12.30–13.30 Lunch

13.45–15.45 Wojanów–Wrocław Bus Transfer

ISSSMC-2024 Poster Session will be held online. The poster presentations will be available at <https://issismc.org.ua> on September 22-25, 2024. Over those days, you will be able to look through the PDF presentations and submit your written questions to the authors by email; the authors will be asked to check it periodically and respond to your questions.