

# 1<sup>st</sup> International Conference on Advanced Materials for Bio-Related Applications, AMBRA 2022

May 16–19, 2022, Wrocław, Poland

## CONFERENCE PROGRAM

Monday	9.30	REGISTRATION	(building D20, ul. Janiszewskiego 8)
	11.00-11.10	WELCOME	
		<i>Chair</i>	<i>Wieslaw Streck</i>
	11.10-11.50	<b>PL1 Michał Giersig</b>	<b>Nanomaterials for biomedical applications</b>
	11.50-12.20	I01 Marek Godlewski	Oxides-based fluorescent markers for applications in medicine
	12.20-12.50	I02 Jakub Rybka	The laboratory of applied biotechnology – from 3D bioprinted meniscus to covid-19 immunodiagnostics
		<b>LUNCH</b>	
		<i>Chair</i>	<i>Michał Giersig</i>
	14.10-14.40	I03 Stefan Lis	Chosen inorganic nanoluminophores containing with Ln(III) ions focused on biomedical and analytical applications
	14.40-15.00	O01 Eugeniusz Zych	Pr-activated garnets for optical thermometry
	15.00-15.20	O02 Nicole Nowak	Novel synthesis method of rubidium(I) and europium(III) co-doped hydroxyapatite nanomaterials — potential use in regenerative medicine
	15.20-15.40	O03 Magdalena Muszyńska	Elemental analysis of nanoparticles and single cells in relation to advanced biological materials
		<b>COFFEE BREAK</b>	
		<i>Chair</i>	<i>Jakub Rybka</i>
	16.00-16.30	I04 Galyna Dovbeshko	2D MoS <sub>2</sub> nanoparticles as a platform for imaging of cancer cells
	16.30-16.50	O04 Marta Wujczyk	Spectroscopic investigation of biocompatible bismuth(III) and europium(III) doped yttrium orthovanadate-phosphate
	16.50-17.00	S01 Sylwia Klimas	An in vitro examination of fluoride ions release from selected materials - resin - modified glass ionomer cement (vitremer) and nanohybrid composite material (tetric evoceram)
	17.00-17.10	O05 Sponsor	<i>canceled</i>
17.10-17.50	<b>PL2 Zygmunt Gryczynski</b>	<b>Enhanced fluorescence based detection for biomedical diagnostics and imaging (remote)</b>	
18.00-20.00	<b>Welcome reception</b>	(H14 building, Wybrzeże Stanisława Wyspiańskiego 40)	
	<i>Chair</i>	<i>Stefan Lis</i>	
Tuesday	9.30-10.10	<b>PL3 Aldo Boccaccini</b>	<b>Biofabrication with composite and multimaterial bioinks: Progress and challenges (remote)</b>
	10.10-10.40	I05 Marek Samoć	Toward advanced nonlinear optical materials
	10.40-11.00	O06 John Reeks	Response of ZnO micro- and nano-crystals to <i>Staphylococcus aureus</i> bacteria and bacterial growth media
		<b>COFFEE BREAK</b>	
		<i>Chair</i>	<i>Marek Godlewski</i>
	11.20-12.00	I06 Thi Ngoc Lam Tran	Glass-based optical transducer platforms for bio-chemo-sensors
	12.00-12.10	S02 Weronika Bodylska	Synthesis, characterization and bioactivity of glasses (SiO <sub>2</sub> -CaO) with different sizes
	12.10-12.30	O07 Bartosz Bondzior	Decomposition of LaPO <sub>4</sub> microparticles in glass monitored by the Eu <sup>3+</sup> luminescent probe
	12.30-12.50	O08 Beata Borak	Foliar fertilization by the sol-gel particles containing Cu and Zn
	12.50-13.10	O09 Sabina Jaros	Bioactive aminophosphine coordination networks: Synthesis, characterization and enhanced antimicrobial activity
		<b>LUNCH</b>	
	<i>Chair</i>	<i>Rafał Wiglusz</i>	
14.30-15.10	<b>PL4 John A. Capobianco</b>	<b>Lanthanide luminescence: From high energy to low energy excitation (remote)</b>	

	15.10-15.40	I07	Elżbieta Gumienna-Kontecka	Biomimetic analogues of siderophores: from structural probes of ferric ions assimilation to $^{68}\text{Ga}/^{89}\text{Zr}$ nuclear imaging
	15.40-16.00	O10	Alexander Kirillov	Bioactive metal-organic networks for antimicrobial applications
	16.00-16.20	O11	Maciej Wernecki	Challenges in studying nanomaterials as antibacterial agents
	16.30-18.00	<b>POSTER SESSION</b>		
	19.45-21.30	<b>Night sightseeing</b> (start from pl. Katedralny 18, main entrance to Cathedral)		
		<i>Chair</i>		<i>Artur Bednarkiewicz</i>
	9.30-10.10	PL5	<b>Luís Carlos</b>	<b>How hot are living cells during magnetic hyperthermia?</b> ( <i>remote</i> )
	10.10-10.40	I08	Vadim Kessler	Oligonuclear metal-oxo-alkoxide complexes as molecular models for oxide nanoparticles produced in the sol-gel process
	10.40-11.00	O12	Karolina Elzbieciak-Piecka	$\text{Cr}^{3+}$ -doped $\text{GdAl}_3(\text{BO}_3)_4$ borates as an efficient tool in light-to-heat conversion
	11.00-11.20	O13	IKA Poland Sp. z o.o.	Organic, aqueous syntheses and fermentation in new IKA reactor systems
		<b>COFFEE BREAK</b>		
		<i>Chair</i>		<i>Pavla Jendelova</i>
	11.40-12.10	I09	Artur Bednarkiewicz	Photon avalanching: Old phenomenon, new challenges
	12.10-12.40	I10	Marzena Dominiak	Customized 3D allogenic bone blocks in complex dental treatment
	12.40-13.00	O14	Sara Targońska	Investigation of micro and nanostructure of various type of bone substituted materials
	13.00-13.20	O15	Kamila Maciejewska	Synthesis and application of $\text{NaYF}_4$ nanoparticles as nanoheaters and luminescent nanothermometers
		<b>LUNCH</b>		
		<i>Chair</i>		<i>Justyna Krzak</i>
	14.40-15.10	I11	Pavla Jendelova	Hydrogels for spinal cord injury repair
	15.10-15.40	I12	Magdalena Wawrzyńska	Coating and surface modification of stents for cardiovascular applications
	15.40-16.00	O16	Martyna Majchrzak	Dissecting the role of prolyl oligopeptidases in cell death by the application of protease-selective prodrugs: From basic research into new anticancer therapeutic strategies
	18.00	<b>Conference dinner with barbecue</b> (Ogród Botaniczny, ul. Sienkiewicza 23 or ul. Kanonia 4)		
		<i>Chair</i>		<i>Łukasz Marciniak</i>
	9.30-10.00	I13	Marcin Nyk	Nonlinear optical properties and bio-related applications of advanced colloidal nanomaterials
	10.00-10.30	I14	Gulaim A. Seisenbaeva	Hybrid organic inorganic materials as advanced adsorbents and biocatalysts
	10.30-10.50	O17	Dominika Wawrzyńczyk	$\text{Pr}^{3+}$ -doped $\text{NaYF}_4$ and $\text{LiYF}_4$ nanocrystals combining visible-to-UVC upconversion and NIR-to-NIR downconversion for biomedical applications
		<b>COFFEE BREAK</b>		
		<i>Chair</i>		<i>Vadim Kessler</i>
	11.10-11.40	I15	Łukasz Marciniak	Sensitization of lanthanide-based phosphors by transition metals towards high-brightness and sensitive thermometers
	11.40-12.00	O18	Marta Gordel-Wójcik	Optical characterization of surface-modified gold nanoshells
	12.00-12.20	O19	Anna Szczurek	Protection of polymeric materials with sol-gel coatings for the reduction of plastic waste
	12.20-12.40	O20	Adam Watras	Synthesis and structural properties of novel $\text{Ln}_4\text{O}_3\text{F}_6$ ( $\text{Ln} = \text{Ce-Yb}$ ) oxyfluorides
	12.40-12.50	CLOSING		