

**2<sup>nd</sup> International Conference on Advanced Materials for Bio-Related Applications, AMBRA 2024**  
 May 19–23, 2024, Wrocław, Poland

**CONFERENCE PROGRAM**

Sunday 19.05.2024

SUN	18:00-21:00	<i>WELCOME RECEPTION &amp; REGISTRATION</i>	<i><u>H14 building, Wybrzeże Stanisława Wyspiańskiego 40 (near Boulevard of Rector Kulczyński)</u></i>
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*End of welcome day*

Monday 20.05.2024

MON	9:00-10:00	<i>REGISTRATION</i>	<i><u>D20 building, ul. Janiszewskiego 8</u></i>
MON	10:00-10:20	<i>OPENING CEREMONY</i>	
	S1	Chair	Prof. Michał Giersig
MON	10:20-11:00	<b>PL1 40 Markus Antonietti</b>	<u>Natural polymers who can talk to microbes: Can this conversation make us carbon neutral?</u>
MON	11:00-11:30	I01 30 Paul Mulvaney	<u>Single nanocrystal arrays for bio-applications</u>
MON	11:30-11:50	O01 20 Alexander Kirillov	<u>Antimicrobial coordination polymers: From self-assembly to biomaterials</u>
MON	12:00-13:00		<i>LUNCH</i>
	S2	Chair	TBA
MON	13:00-13:30	I02 30 Urszula Narkiewicz	<u>Advanced materials for photocatalytic carbon dioxide reduction and ammonia production</u>
MON	13:30-13:50	O02 20 Vadim Kessler	<u>Polyoxometalates as molecular models for mineral nanoparticle - protein interactions</u>
MON	13:50-14:10	O03 20 Marek Godlewski	<u>ZnO-based nanoparticles for biomedical applications</u>
MON	14:10-14:20	SC01 10 Weronika Bodylska	<u>New functional composite for the treatment of bacterial bone infection based on hydroxyapatite and titanium metal-organic framework</u>
MON	14:20-14:30	SC02 10 Troy Breijaert	<u>Cellulose hybrid materials for wound dressing with delayed drug release properties</u>
MON	14:30-15:00		<i>COFFEE BREAK</i>
	S3	Chair	TBA
MON	15:00-15:30	I03 30 Kris Kempa	<u>Towards full control of bio-molecules with electromagnetic radiation</u>
MON	15:30-15:50	O04 20 Magdalena Osial	<u>Core-shell SPION-based nanostructures for biomedical and environmental applications</u>
MON	15:50-16:10	O05 20 Marta Gordel-Wójcik	<u>Gold nanoshells decorated with silver sulfide quantum dots as novel nanoplatfoms for theranostic applications</u>
MON	16:10-16:30	O06 20 Njemuwa Nwaji	<u>Porous magnetic nanostructures for sensing SARS-CoV-2</u>

*End of 1<sup>st</sup> day*

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Tuesday 21.05.2024

		S4	Chair		TBA
TUE	9:30-10:10	PL2	40	<b>Yadong Wang</b>	<u>Metallo-elastomers for biomedical applications</u>
TUE	10:10-10:40	I04	30	Anna Nikodem	<u>Differential analysis of volumetric changes in multiphase materials using microtomography</u>
TUE	10:40-11:00	O07	20	Łukasz John	<u>Functionalized silsesquioxanes with cage architecture as versatile building blocks in chemistry and biomaterials engineering</u>
TUE	11:00-11:30				COFFEE BREAK
		S5	Chair		TBA
TUE	11:30-12:00	I05	30	Ambra Giannetti	<u>Oligonucleotide switches for optical biosensing</u>
TUE	12:00-12:20	O08	20	Yuri Strzhemechny	<u>Role of synthesis parameters in optoelectronic and antibacterial properties of microcrystalline <math>\beta</math>-Ga<sub>2</sub>O<sub>3</sub> and GaO(OH)</u>
TUE	12:20-12:40	O9	20	Imroi El-Habib	<u>Antibacterial activity of ZnO nanoparticles thin films</u>
TUE	12:40-12:50	SC03	10	Paulina Piotrowska	<u>Development of biocompatible elastin-rich bioprosthesis material to overcome valve calcification</u>
TUE	12:50-13:00	SC04	10	Natalia Charczuk	<u>The influence of excitation wavelength on the emission of europium(III) ions in phosphate silicate hydroxyapatite</u>
TUE	13:00-14:00				LUNCH
		S6	Chair		TBA
TUE	14:00-14:30	I06	30	Gulaim A Seisenbaeva	<u>Tailoring adsorbents and biocatalysts for sustainability challenges</u>
TUE	14:30-14:50	O10	20	Anna Gibas	<u>Photocatalytic and antibacterial properties of H<sub>2</sub>O<sub>2</sub>-sensitized TiO<sub>2</sub></u>
TUE	14:50-15:10	O11	20	Monika Stącel	<u>Influence of the type of thermoplastic recycled material on the rheological and mechanical properties of the plastic-based composites towards circular economy</u>
TUE	15:10-15:20	SC05	10	Filip Kozłowski	<u>Synthesis of Mn-doped TiO<sub>2</sub> nanoparticles</u>
TUE	15:20-15:30	SC06	10	Natalia Kaczmarczyk	<u>Application of sol-gel materials in bioenergy technology: sealing high-pressure hydrogen tanks</u>
TUE	15:30-15:40	SC07	10	Patryk Fałat	<u>Spectroscopic characterization of NaYF<sub>4</sub>: Tm<sup>3+</sup>/Pr<sup>3+</sup> microcrystals showing concurrent emission in UV and NIR spectral ranges</u>
TUE	15:40-17:00	PS	90	POSTER SESSION	
TUE	18:30			GALA DINNER	<u>Odra Centrum, Wybrzeże Juliusza Słowackiego 5B, 50-406 Wrocław (near Grunwaldzki Bridge)</u>

End of 2<sup>nd</sup> day

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**CONFERENCE PROGRAM**

Wednesday 22.05.2024

		S7	Chair		TBA
WED	9:30-10:10	PL3	40	<b>Tadeusz Sarna</b>	<u>Tuning the formation of reactive oxygen species mediated by exogenous and endogenous photosensitizers for efficient photodynamic therapy of cancer and bacterial infections</u>
WED	10:10-10:40	I07	30	Claudine Kieda	<u>Glycobiology for cell targeting in hypoxia-dependent pathologic microenvironment</u>
WED	10:40-11:00	O12	20	Magdalena Łabowska	<u>Additive manufacturing of stimuli-responsive hydrogel pharmaceuticals for controlled drug delivery</u>
WED	11:00-11:30				COFFEE BREAK
		S8	Chair		TBA
WED	11:30-12:00	I08	30	Marcel Schubert	<u>Microscopic lasers as biointegrated sensors</u>
WED	12:00-12:20	O13	20	Adam Watras	<u>Structural and spectroscopic properties of <math>\text{Ca}_{1-x}\text{Sr}_x\text{F}_2:\text{Nd}^{3+}</math> nanocrystals</u>
WED	12:20-12:40	O14	20	Walis Jones	<u>Exploiting the Full Potential of Surface Plasmon Resonance: Beyond Sensorgrams and Kinetics to Reflectance Spectra and Surface Layer Characterisation</u>
WED	12:40-13:00	O15	20	José Ferreira	<u>Alkali-free-based bioactive glass compositions and devices for the most demanding applications in healthcare, bone regeneration &amp; tissue engineering</u>
WED	13:00-14:00				LUNCH
		S9	Chair		TBA
WED	14:00-14:30	I9	30	Michael J. Naughton	<u>Control of macrophages with piezoelectric nanoparticles</u>
WED	14:30-14:50	O16	20	Galyna Dovbeshko	<u>Interaction of carbon-containing nanoparticles of smoke with various types of pollutants during their simultaneous exposure: Physical chemical property and neurotoxicity</u>
WED	14:50-15:10	O17	20	Beata Borak	<u>The influence of silica nanoparticles containing boron on growth of cucumber (<i>Cucumis sativus L.</i>)</u>
WED	15:10-15:30	O18	20	Philip Kiełbowicz	<u>Assessment and development of a core-shell SPION-based targeted nanoparticle therapy for atherosclerosis treatment</u>
WED	16:00-18:00				EXCURSION

*End of 3<sup>rd</sup> day*

Thursday 23.05.2024

		S10	Moderator		Prof. Michał Giersig
THU	10:00-11:30	OPEN SESSION & DISCUSSION		Future forecasts for advanced materials in biomedicine and energy	
THU	11:30-13:00	NETWORKING			
THU	13:00-13:10	CLOSING CEREMONY			