

Program IWASOM 2024

Sunday, July 7, 2024

Location: Main Hall, Faculty of Mathematics, Physics and Informatics, Institute of Experimental Physics, 57 Wita Stwosza Str., Gdansk

Time	Event
15:00 – 18:00	Registration

Monday, July 8, 2024

Location: Main Hall, Faculty of Mathematics, Physics and Informatics, Institute of Experimental Physics, 57 Wita Stwosza Str., Gdansk

Time	Event
08:00 – 09:00	Registration
09:15 – 09:30	Opening ceremony

Location: Room D005, Faculty of Mathematics, Physics and Informatics, 57 Wita Stwosza Str., Gdansk

Session: Phosphors: recent progress, new materials, and applications I

Session chair: Andries Meijerink

Time	Code	Presenting author	Title, authors
09:30 – 10:00	TL1	Michele Back	Cr ³⁺ -activated phosphors: Yesterday, today and tomorrow M. Back
10:00 – 10:30	IL1	Ru-Shi Liu	Near-infrared phosphors: unlocking the potential for next-gen LEDs R. S. Liu
10:30 – 11:00	IL2	Shohei Kodama	Recent development of fast red/NIR oxide phosphors doped with Eu ²⁺ S. Kodama, T. Saito, I. Yanase, H. Takeda
11:00 – 12:00		Coffee break & Tour to our University Gift Store located in the University Library	

Session: Luminescent sensors I

Session chair: Michele Back

Time	Code	Presenting author	Title, authors
12:00 – 12:30	IL3	Justyna Zeler	Advancements in Luminescence Thermometry Utilizing co-dopants Interactions J. Zeler, J. Jedoń, P. Łukaszczuk, M. Sójka, C. D. Brites, L. D. Carlos, Y. Zorenko, V. Gorbenko, E. Zych
12:30 – 12:45	O1	Marcin Nyk	Two-photon excited luminescence of colloidal quantum dots for heavy metal ions detection M. Nyk, A. Siomra, D. Wawrzyńczyk, M. Samoć
12:45 – 13:00	O2	Adam Kabański	The influence of the metal ion on spectroscopic properties of [DMA] M(HCOO) ₃ : Cr ³⁺ (M = Zn ²⁺ , Mn ²⁺ , Mg ²⁺) hybrid perovskites for luminescence thermometry A. Kabański, M. Ptak, D. Stefańska
13:00 – 14:30		Lunch	

Session: Theory and modeling

Session chair: Philippe Goldner

Time	Code	Presenting author	Title, authors
14:30 – 15:00	IL4	Valera Veryazov	How can accurate (and not so accurate) calculations be used in spectroscopy? V. Veryazov
15:00 – 15:30	IL5	Marek Krośnicki	Multi-configurational calculations of the electronic structure of crystalline solids; local excited states, band gaps and valency M. Krośnicki
15:30 – 15:45	O3	Dominika Kaczmarczyk	Photophysical and chiroptical properties of rhenium(I) complex bearing pyrazino-phenanthroline helicene ligand D. Kaczmarczyk, M. Srebro-Hooper
15:45 – 16:30		Coffee break	

Session: Radioluminescence, optically and thermally stimulated luminescence in solids

Session chair: Winicjusz Drozdowski

Time	Code	Presenting author	Title, authors
16:30 – 17:00	IL6	Shusnuke Kurosawa	Transparent ceramics scintillators and quick material search S. Kurosawa
17:00 – 17:30	IL7	Yuriy Zorenko	Synchrotron radiation in luminescence research: recent advances in the study of single crystals and single crystalline phosphors Y. Zorenko
17:30 – 17:45	O5	Karol Bartosiewicz	Engineering atomic size mismatch in La ³⁺ , Pr ³⁺ codoped Lu ₃ Al ₅ O ₁₂ garnet single crystals for tailored structure and functional properties K. Bartosiewicz, B. Albin, D. Szymański, P. Socha, T. Horiai, M. Yoshino, A. Yamaji, S. Kurosawa, R. Kucerkova, P. Galinotto, A. Yoshikawa
17:45 – 18:00	O6	Patarawagee Yasaka	Red-emitting tellurite glasses: a combined investigation of physical, structural, optical and luminescence properties for potential red-light source and scintillation materials P. Yasaka, W. Wongwan, K. Boonin, J. Kaewkhao
18:00 – 20:00		Welcome reception	

Tuesday, July 9, 2024

Location: Room D005, Faculty of Mathematics, Physics and Informatics, 57 Wita Stwosza Str., Gdansk

Session: Optical control and detection of quantum systems

Session chair: Ewelina Lipiec

Time	Code	Presenting author	Title, authors
09:30 – 10:00	TL3	Luisa Bausá	Integration of ferroelectrics, plasmonic nanostructures and 2D materials for application for nanophotonics L. E. Bausá
10:00 – 10:30	IL8	Sebastian Maćkowski	Molecular switching with single upconverting nanocrystals S. Mackowski
10:30 – 10:45	07	David Hernández -Pinilla	Monolithically integrated Q-switched plasmonic nanolaser D. Hernández-Pinilla, P. Molina, G. López-Polín, M. Chhowalla, P. Ares, J. Gómez-Herrero, M. Ramírez, L. E. Bausá
10:45 – 11:00	08	Alicja Stachowiak	Impact of side alkyl chain geometry on diketopyrrolopyrrole derivatives: spectroscopic properties, aggregation, and thin film organization A. Stachowiak, K. Kędzierski, K. Rytel, A. Dudkowiak
11:00 – 11:30		Coffee break	

Session: Luminescent sensors II

Session chair: Philippe Smet

Time	Code	Presenting author	Title, authors
11:30 – 12:00	IL9	Marcin Runowski	New strategies for luminescence thermometry and manometry M. Runowski, P. Woźny, T. Zheng, K. Soler-Carracedo, J. Moszczyński, V. Lavín, I. R. Martín, S. Mahlik
12:00 – 12:30	IL10	Łukasz Marciniak	Lifetime-based luminescence manometry on the transition metal ions doped phosphors M. Szymczak, M. Runowski, W. Piotrowski, P. Woźny, S. Mahlik, L. Marciniak
12:30 – 12:45	09	Maja Szymczak	Tri-modal optical pressure sensor based on Cr ³⁺ ions luminescence M. Szymczak, J. Jaśkielewicz, M. Runowski, J. Xue, S. Mahlik, L. Marciniak
12:45 – 13:00	010	Ajeesh Kumar Somakumar	Mn ²⁺ luminescence in ZnS under high pressure A. Somakumar, Y. Zhydachevskyy, D. Włodarczyk, S. Haider, J. Barzowska, K. Bindu, Y. Edathumkandy, T. Zayarniuk, A. Szewczyk, S. Narayanan, A. Lysak, H. Przybylinska, E. Anila, A. Suchocki
13:00 – 14:30		Lunch	

Session: Luminescent sensors III

Session chair: Marcin Runowski

Time	Code	Presenting author	Title, authors
14:30 – 15:00	IL11	Mu-Huai Fang	Energy-saving colloidal quantum dots composites for short-wave infrared photodetector M. H. Fang
15:00 – 15:15	O11	Ewa Mijowska	Photoelectrochemically active 2D heterostructure based on MoS ₂ /borophene for hydrogen evolution D. Baranowska, G. Leniec, B. Zielińska, E. Mijowska
15:15 – 15:30	O12	Beata Wielgus-Kutrowska	Photophysical properties of green fluorescent protein in solution and polyvinyl alcohol film at room temperature B. Wielgus-Kutrowska, J. Krasowska, E. Alexander, Z. Gryczynski, I. Gryczynski
15:30 – 15:45	O13	Vasyl Stasiv	Chemical tuning of photo- and persistent luminescence of Cr ³⁺ -activated β-Ga ₂ O ₃ by alloying with Al ₂ O ₃ and In ₂ O ₃ V. Stasiv, Y. Zhydachevskyy, V. Stadnik, V. Hreb, V. Mykhaylyk, L. Vasylechko, A. Luhechko, T. Wojciechowski, P. Sybilski, A. Suchocki
15:45 – 16:00	O14	Dagmara Kulesza	beyond luminescence to understand phosphors. the case of Ba ₂ LaNbO ₆ :Mn and its derivatives D. Kulesza, J. Jedoń, M. Buryi, M. G. Brik, M. Piasecki, S. Mahlik, A. M. Srivastava, E. Zych
16:00 – 16:15	O15	Ismail Mekkaoui Alaoui	Fluorescence time decay of 1,2-Indanedione-arginine and applications I. Mekkaoui Alaoui
16:15 – 16:30		Conference photo	
16:30 – 19:00		Poster session	

Wednesday, July 10, 2024

Location: Conference room, Hotel Haffner, 59 Jana Haffnera Str., Sopot

Session: Introduction to Advanced Spectroscopy and Optical Materials I

Session chair: Sebastian Mahlik, Tadeusz Leśniewski

Time	Code	Presenting author	Title, authors
09:45 – 10:00		Coffee break	
10:00 – 10:30	TL4	Andries Meijerink	Experimental techniques in optical spectroscopy A. Meijerink
10:30 – 11:00	TL5	Ignacy Gryczyński	Fluorescence: from basics to advanced topics I. Gryczyński
11:00 – 11:15		Coffee break	
11:15 – 11:45	TL6	Markus Suta	Radiative and non-radiative transitions: different and yet so similar M. Suta
11:45 – 12:15	TL7	Albano Carneiro	From basics to advanced: intensity and energy transfer in lanthanide-based compounds A. N. Carneiro Neto
12:15 – 12:30		Coffee break	
12:30 – 13:00	TL8	Philippe Smet	Basics and quirks of thermoluminescence and optically stimulated luminescence P. F. Smet, V. Fritz, D. Van der Heggen
13:00 – 13:30	TL9	Przemysław Dereń	Two-photon absorption, upconversion, photon avalanche, cross relaxation: exploring commonalities and mechanisms with practical examples P. J. Dereń
13:30 – 15:00		Lunch	

Session: Introduction to Advanced Spectroscopy and Optical Materials II

Session chair: Marcus Suta

Time	Code	Presenting author	Title, authors
15:00 – 15:30	TL10	Winicjusz Drozdowski	Tailoring the properties of rare earth activated oxide scintillators by bandgap engineering W. Drozdowski
15:30 – 16:00	TL11	Marek Godlewski	Excitonic recombination processes in solids M. Godlewski
16:00 – 16:30	TL12	Andrzej Suchocki	Spectroscopic properties of Mn ²⁺ and Fe ³⁺ dopants A. Suchocki
16:30 – 19:30		Free Time in Sopot	
19:30 – 21:00		Dinner on the Beach	

Thursday, July 11, 2024

Location: Room D005, Faculty of Mathematics, Physics and Informatics, 57 Wita Stwosza Str., Gdansk

Session: Nanoscale optical materials, control and detection of quantum systems

Session chair: Przemysław Dereń

Time	Code	Presenting author	Title, authors
09:30 – 10:00	IL12	Philippe Goldner	Rare earth doped crystals for integrated quantum photonics P. Goldner
10:00 – 10:30	IL13	Ewelina Lipiec	Mind the gap! Plasmonic nanocavity for spectroscopic trapping of local molecular rearrangements in artificial lipid monolayers E. Lipiec, A. Chahaj-Brekiesz, M. Czaja, J. Kobierski, D. Lupa, S. Seweryn, K. Skirlińska-Nosek, K. Sofińska, M. Szymoński, A. Wnętrzak
10:30 – 10:45	016	Marta Gordel-Wójcik	Nanoparticle-based system of gold nanoshells and silver sulfide quantum dots for enhancing optical response M. Gordel-Wójcik, M. Pietrzak, J. Tracz
10:45 – 11:00	017	Michał Żebrowski	Kinetic of the power-dependent up-conversion luminescence in Er ³⁺ /Yb ³⁺ -doped single nanocrystal M. Żebrowski, M. Ćwierzona, M. Nyk, A. Bednarkiewicz, S. Maćkowski, D. Piątkowski
11:00 – 11:45		Coffee break	

Session: Phosphors: recent progress, new materials, and applications II

Session chair: Łukasz Marciniak

Time	Code	Presenting author	Title, authors
11:45 – 12:00	019	Dagmara Stefańska	White light generation with high CRI D. Stefańska, M. Adaszyński, D. Szymański
12:00 – 12:15	020	Karol Lemański	Stokes and anti-Stokes emission of CaAl ₂ SiO ₆ polycrystals doped with Pr ³⁺ ions K. Lemański, N. Rebrova, P. Zdeb, P. J. Dereń
12:15 – 12:30	021	Mykhailo Chaika	Concentration-dependent emission spectra in Cr ³⁺ :ggg transparent nanoceramics M. Chaika, P. Głuchowski
12:30 – 12:45	022	Nadiia Rebrova	Upconversion properties of Pr ³⁺ doped A ₃ Y(PO ₄) ₃ (A=Sr, Ba) phosphors N. Rebrova, R. Lisiecki, P. Zdeb, P. J. Dereń
12:45 – 13:00	023	Patrycja Zdeb	Unlocking the potential of Pr ³⁺ -doped borates in the field of visible to UVC upconversion P. Zdeb, N. Rebrova, P. J. Dereń
13:00 – 14:30		Lunch	

Session: Characterization techniques for optical materials

Session chair: Krzysztof Dorywalski

Time	Code	Presenting author	Title, authors
14:30 – 15:00	IL14	Michał Piasecki	Interrelationships between the luminescent transitions and nonlinear optics in RE activated phosphate, arsenide and vanadate compounds M. Piasecki, A. M. Srivastava, M. G. Brik, W. W. Beers, C. G. Mad, W. E. Cohen
15:00 – 15:15	024	Grzegorz Leniec	Investigation of the local environment of luminescent chromium ions in the near-infrared (NIR-I/II) range by electron paramagnetic resonance (EPR) technique G. Leniec, E. Mijowska, Y. H. Hsiao, M. H. Huang, K. C. Chen, C. L. Chien, W. T. Huang, N. Majewska, M. Kamiński, S. Mahlik, S. L. Huang, R. S. Liu
15:15 – 15:30	025	Mateusz Rebarz	ELI ERIC: new capabilities for applications in molecular, bio-medical and material science M. Rebarz, S. Espinoza, J. Andreasson
15:30 – 15:45	026	Stefan Schweizer	Interlaboratory comparison on absolute photoluminescence quantum yield measurements of scattering luminescent materials S. Schweizer, S. Fiedler, F. Frenzel, C. Würth, I. Tavernaro, M. Grüne, A. Engel, U. Resch-Genger
15:45 – 16:00	027	Andrii Schyichuk	Excitation and emission bands of oxygen vacancies in rare earth bixbyite oxides: experiment and calculations A. Shyichuk, J. Trojan-Piegza, E. Zych
16:00 – 16:30		Coffee break	

Session: Glasses, hybrid and organic optical materials

Session chair: Albano Carneiro

Time	Code	Presenting author	Title, authors
16:30 – 16:45	028	Bohdan Padylak	Optical and EPR spectroscopy of the $\text{Li}_2\text{B}_4\text{O}_7:\text{Cu},\text{Eu}$ and $\text{Li}_2\text{B}_4\text{O}_7:\text{Mn},\text{Sm}$ glasses (the review) B. V. Padylak, I. Kindrat, A. Drzewiecki, V. Adamiv, I. Teslyuk
16:45 – 17:00	029	Audrey Potdevin	Strategies for increasing Cr^{4+} content in YAG:Cr matrix for laser applications R. Thévenet, A. Potdevin, F. Réveret, G. Chadeyron
17:00 – 17:15	030	Miguel Andrés Hernández-Rodríguez	All-photonic tunable molecular transistor based on trivalent lanthanide ions luminescence M. A. Hernández-Rodríguez, A. N. Carneiro Neto, C. D. S. Brites
17:15 – 17:30	031	Antonio Varriale	Cyanobacteria water contaminations. A fluorescence-based method to detect the presence of toxic microcystin molecules in water A. Varriale, A. Capo, A. Pennacchio, C. Montagnese, A. Hadjiantonis, P. Demosthenous, A. Giusti, M. Staiano, S. D'Auria
17:30 – 17:45	032	Taras Zhezhera	Optical properties of Bi_3TeBO_9 crystalline materials doped with rare earth ions T. Zhezhera, P. Gluchowski, A. Miklaszewski, M. Chrunik, A. Majchrowski, D. Kasproicz
19:00 – 24:00		Conference Banquet	

Friday, July 12, 2024

Location: Room D005, Faculty of Mathematics, Physics and Informatics, 57 Wita Stwosza Str., Gdansk

Session: Phosphors: recent progress, new materials, and applications III

Session chair: Marek Krośnicki

Time	Code	Presenting author	Title, authors
10:00 – 10:15	034	Saiful Islam Khan	Physical and electrochemical characterization of laser processed anodic semitransparent titania oxide nanotubes formed out of Ti-Au co-sputtered alloy S. I. Khan, K. Siuzdak, K. Grochowska
10:15 – 10:30	035	Joachim Grzybowski	Theoretical spectroscopic studies on [6] helicene-based chiral conjugated oligomers J. Grzybowski, D. Tabor, M. Srebro-Hooper
10:30 – 10:45	036	Katarzyna Orzechowska	Theoretical studies on fluorescence properties of 5-(4-nitrophenyl)-1,3,4-thiadiazol-2-amine K. Orzechowska, A. Matwijczuk, M. Srebro-Hooper
10:45 – 11:00	037	Mirosław Batentschuk	Phosphors for the improvement of silicon solar cell efficiency: general considerations and examples with new materials - AgIn ₅ S ₈ /ZnS core-shell nanocrystals and Cs ₂ Ag _x Na _{1-x} Bi _y In _{1-y} Cl ₆ powders M. Kong, O. Raievska, O. Stroyuk, A. Barabash, C. Erban, A. Osvet, M. Batentschuk, C. J. Brabec
11:00 – 11:30		Coffee break	

Session: Novel fluorophores, optical materials, devices for biosensing, biomedical and environmental applications

Session chair: Anna Synak

Time	Code	Presenting author	Title, authors
11:30 – 12:00	IL15	Roman Sobolewski	Terahertz time-domain spectroscopy imaging studies of biomaterials R. Sobolewski
12:00 – 12:30	IL16	Sabato D'Auria	Biomolecules as new avenues for the design of optical biosensors S. D'Auria
12:30 – 12:45	039	Paula Gawryszewska	A new look at the ligand-lanthanide energy transfer pathways P. Gawryszewska, A. N. Carneiro Neto, E. Kasprzycka, A. Lipa, J. Nasalska, V. A. Trush, L. Michnik, V. M. Amirkhanov, O.L. Malta, J. Legendziewicz
12:45 – 13:00		Closing Ceremony	
13:00 – 14:30		Lunch	