

## Scientific Program

**Sunday, July 10, 2022**

*Location: Main Hall of the Faculty of Social Sciences, level 200*

*(Faculty of Social Sciences, University of Gdańsk, Jana Bażyńskiego 4, Gdańsk)*

Time	Event
14:00 - 18:00	Registration

**Monday, July 11, 2022**

*Location: Faculty of Social Sciences, University of Gdańsk, level 100,  
Room S204*

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

**Session: Special session in memory of Prof. Marek Grinberg**

Session chair: Marco Bettinelli

Time	Code	Presenting author	Title, authors
09:30 – 10:00	IL1	Andrzej Suchocki	Influence of pressure on Mn <sup>2+</sup> and Fe <sup>3+</sup> ions photoluminescence in solids A. Suchocki
10:00 – 10:30	IL2	Marek Godlewski	Excitons Bound at Rare Earth and Transition Metal Ions. How to see the invisible? M. Godlewski
10:30 – 11:00	IL3	Setsuhisa Tanabe	High pressure spectroscopies on garnet phosphors: what we learned from collaborations with Marek S. Tanabe
11:00 – 11:30		Coffee break	

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

Session chair: Marek Godlewski

Time	Code	Presenting author	Title, authors
11:30 – 12:00	IL4	Michele Back	Temperature and pressure sensing in Cr <sup>3+</sup> phosphors M. Back, J. Ueda, S. Tanabe
12:00 – 12:30	IL5	Miroslav Dramićanin	Mn <sup>5+</sup> phosphors revisited – can we use them for luminescence thermometry in the near-infrared? M. D. Dramićanin, Z. Ristić, S. Kuzman
12:30 – 12:45	O1	Quan Vu	Luminescence of Dy <sup>3+</sup> in A <sub>2</sub> MgWO <sub>6</sub> (A = Ca, Sr, Ba) double perovskites T. H. Q. Vu, D. Stefańska, P. J. Dereń
12:45 – 13:00	O2	Yaroslav Zhydachevskyy	Mn <sup>4+</sup> photoluminescence in Ga <sub>2</sub> O <sub>3</sub> - Al <sub>2</sub> O <sub>3</sub> alloys Y. Zhydachevskyy, V. Mykhaylyk, V. Stasiv, V. Hreb, I. Lutsyuk, A. Luchechko, L. Vasylechko, A. Suchocki
13:00 – 14:30		Lunch	

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

Session chair: Setsuhisa Tanabe

Time	Code	Presenting author	Title, authors
14:30 – 15:00	IL6	Marco Bettinelli	Luminescence Spectroscopy of Eu <sup>3+</sup> in the Rhombohedral Pyrochlore Ca <sub>2</sub> La <sub>3</sub> Sb <sub>3</sub> O <sub>14</sub> A. B. Kulinkin, S. P. Feofilov, F. Piccinelli, A. M. Srivastava, M. Bettinelli
15:00 – 15:30	IL7	Philippe Boutinaud	CuLaO <sub>2</sub> reloaded P. Boutinaud
15:30 – 15:45	O3	Anton Markovskiy	Development of three-layered composite color converters for white LEDs based on the epitaxial structures of YAG:Ce, TbAG:Ce and LuAG:Ce garnets A. Markovskiy, V. Gorbenko, T. Zorenko, O. Sidletskiy, A. Fedorov, M. Pakuła, Yu. Zorenko
15:45 – 16:00	O4	Andrea Diego-Rucabado	Tuning optical properties of Y <sub>2</sub> O <sub>3</sub> :Pr <sup>3+</sup> nanocrystals through different synthesis methods A. Diego-Rucabado, M. Candela, F. Aguado, J. González, F. Rodríguez, R. Valiente, R. Martín-Rodríguez, I. Cano
16:00 – 16:30		Coffee break	

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

Session chair: Philippe Boutinaud

Time	Code	Presenting author	Title, authors
16:30 – 17:00	IL8	Hubert Huppertz	New Developments in the Field of Alkali Lithosilicates H. Huppertz
17:00 – 17:30	L1	Jerzy Sokolnicki	Oxonitridosilicate phosphors for LEDs J. Sokolnicki
17:30 – 17:45	O5	Karol Bartosiewicz	Atom redistribution and defect formation in GAGG:Ce single crystals imposed by Mg <sup>2+</sup> and Li <sup>+</sup> codoping: the impact on the luminescence and scintillation properties K. Bartosiewicz, T. Horiai, D. Szymański, S. Kurosawa, A. Yamaji, A. Yoshikawa, Y. Zorenko
17:45 – 18:00	O6	Winicjusz Drozdowski	Semiconductor Scintillator Development: β-Ga <sub>2</sub> O <sub>3</sub> , MgGa <sub>2</sub> O <sub>4</sub> and ZnGa <sub>2</sub> O <sub>4</sub> W. Drozdowski, A. Bachiri, M. Makowski, M. Witkowski, A. Wojtowicz, Z. Galazka
18:00 – 20:00		Welcome reception	

**Tuesday, July 12, 2022**
**Session: Radioluminescence, optically and thermally stimulated luminescence in solids I**

Session chair: Agata Kamińska

Time	Code	Presenting author	Title, authors
09:15 – 09:45	IL9	Sergii Ubizskii	The kinetics peculiarities study of the afterglow and OSL in YAP:Mn S. Ubizskii, O. Buryy, V. Degoda, H. Podust
09:45 – 10:15	IL10	Andrzej Wojtowicz	Infra-red stimulated radioluminescence in $\beta$ -Ga <sub>2</sub> O <sub>3</sub> ; a new semiconducting scintillator A. Wojtowicz, M. Witkowski, M. Makowski, W. Drozdowski, K. Irmscher, R. Schewski, Z. Galazka
10:15 – 10:30	07	Arkadiusz Mandowski	An analysis of radiative recombination and trapping of charge carriers in irradiated feldspar samples A. Mandowski, R. Smyka, E. Mandowska
10:30 – 10:45	08	Oleg Viahin	Luminescence properties of Lu <sub>2</sub> SiO <sub>5</sub> :Ce,Yb crystals under synchrotron radiation excitation O. Viahin, O. Sidletskiy, Yu. Malyukin, Yu. Zorenko
10:45 – 11:00	09	Yurii Syrotych	Two and three-layered composite scintillators based on the GAGG and TbAG garnets for simultaneous registration of different types of ionizing radiation Y. Syrotych, V. Gorbenko, R. Kucerkova, J. Mares, M. Nikl, K. Kamada, A. Yoshikawa, Yu. Zorenko
11:00 – 12:00		Coffee break	

**Session: Radioluminescence, optically and thermally stimulated luminescence in solids II**

Session chair: Przemysław Dereń

Time	Code	Presenting author	Title, authors
12:00 – 12:30	IL11	Yuriy Zorenko	Intrinsic and defect-related luminescence of garnet and perovskite compounds Yu. Zorenko, V. Gorbenko, T. Zorenko, K. Bartosiewicz
12:30 – 12:45	010	Sandra Witkiewicz-Łukaszek	Comparison of X rays beam dose distributions in radiotherapeutic tumor treatment procedure using YAG:Ce and LuAG:Ce crystal detectors S. Witkiewicz-Lukaszek, J. Winiecki, P. Michalska, Yu. Zorenko
12:45 – 13:00	011	Anastasiia Lysak	Influence of the growth temperature on the optical properties of {ZnO/CdO} <sub>30</sub> superlattices A. Lysak, E. Przeździecka, A. Wierzbicka, A. Adhikari, M. Stachowicz, R. Jakiela, P. Dłużewski, A. Reszka, J. M. Sajkowski, Z. Khosravizadeh, A. Kozanecki
13:00 – 14:30		Lunch	

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

Session chair: Yuriy Zorenko

Time	Code	Presenting author	Title, authors
14:30 – 15:00	IL13	Przemysław Dereń	Double perovskites - sensors, phosphors P. J. Dereń, T. H. Q. Vu, D. Stefańska, B. Bondzior, N. Miniajluk-Gaweł, K. Lemański
15:00 – 15:15	O12	Agata Kamińska	Luminescent properties of cerium implanted GaInN A. Kaminska, K. Koronski, M. Boćkowski, E. Alves, R. Jakieła, V. Pankratov, V. Pankratova, A. Šarakovskis
15:15 – 15:30	O13	Krzysztof Anders	Low phonon glasses and polymer composites doped with erbium – a comparative study K. Anders, A. Jusza, M. A. Butt, R. Piramidowicz
15:30 – 15:45	O14	Anna Jusza	Dysprosium doped oxide and fluoride glasses for yellow fiber lasers A. Jusza, M. Karczewska, P. Mergo, R. Piramidowicz
15:45 – 16:00		Conference photo	
16:00 – 19:00		Coffee break and poster session	

**Wednesday, July 13, 2022**
**Session: Thin films and low-dimensional systems**

Session chair: Hubert Huppertz

Time	Code	Presenting author	Title, authors
09:15 – 09:45	IL14	Pablo Molina	Electrostatic doping modulation in monolayer MoS <sub>2</sub> through ferroelectric domain patterns P. Molina, J. Fernandez-Tejedor, D. Gallego-Fuente, P. Ares, J. Gomez-Herrero, L. E. Bausá, M.O Ramírez
09:45 – 10:15	L2	Shirly Espinoza	Acoustic phonons propagation in thin film and bulk materials explored by pump-probe ellipsometry S. Espinoza, M. Rebarz, M. Zahradník, A. Dubroka, J. Andreasson
10:15 – 10:30	O15	Krzysztof Dorywalski	UV-VUV spectroscopic ellipsometry of PLD-grown PbTiO <sub>3</sub> thin films K. Dorywalski, B. Andriyevskyy, N. Lemée, M. Gharbi, A. Zeinert, M. Piasecki
10:30 – 10:45	O16	Juby Alphonsa Mathew	Luminescence Properties of MBE grown Eu doped ZnMgO thin films on c- and r-oriented Al <sub>2</sub> O <sub>3</sub> substrates J. A. Mathew, V. Tsiumra, A. Wierzbicka, A. Lysak, J. M Sajkowski, R. Jakiela, Y. Zhydachevskyy, M. Stachowicz, E. Prezdziecka, A. Kozanecki
10:45 – 11:00	O17	Marcin Łapiński	New, hybrid luminescent materials based on thin oxide films doped by rare earth ions and gold plasmonic nanostructures M. Łapiński, R. Koziół, W. Sadowski, B. Kościelska
11:00 – 11:30		Coffee break	

**Session: Hybrid and organic optical materials**

Session chair: Pablo Molina

Time	Code	Presenting author	Title, authors
11:30 – 12:00	IL15	Ryszard Piramidowicz	Luminescent polymer composites doped with rare-earth elements R. Piramidowicz, A. Jusza, K. Anders, M. A. Butt, R. Łyszczek, P. Mergo
12:00 – 12:30	L3	Serhii Nedilko	Luminescent oxide fillers in various types of nanocomposites S. G. Nedilko
12:30 – 12:45	O18	Diana Bobrowska	Poly(p-phenylene vinylene)/carbon nanostructures composites: morphology, structure and electrochemical properties D. Bobrowska, K. Gdula, K. Winkler
13:00 –		Lunch and excursion	

**Thursday, July 14, 2022****Session: Nanoscale optical materials and single nano-objects I**

Session chair: Ryszard Piramidowicz

Time	Code	Presenting author	Title, authors
09:15 – 09:45	IL16	Barbara Kościelska	AuAg nanoalloy plasmonic properties tuned by the assistance of machine learning method B. Kościelska, M. Łapiński, R. Koziół, P. Syty, J. E. Sienkiewicz, A. Synak, P. Bojarski, W. Sadowski
09:45 – 10:15	IL17	Julien Houel	CdSe/CdZnS quantum dots in adjustable bandgap MAPbX <sub>3</sub> (X = Cl, Br and I) perovskite matrix J. Baronnier, B. Mahler, P. Mai, C. Dujardin, F. Kulzer, J. Houel
10:15 – 10:30	O20	Dawid Piątkowski	Up-conversion luminescence at the nanoscale: benefits and difficulties D. Piątkowski, M. Ćwierzona, K. Wiwatowski, M. Żebrowski, M.A. Antoniak, K. Sulowska, R. Houssaini, Z. Korczak, M. Szalkowski, A. Bednarkiewicz, M. Nyk, A. Hartschuh, S. Maćkowski
10:30 – 10:45	O21	Maciej Ćwierzona	Up-converting nanocrystals coupled to a single silver nanowire as a source of surface plasmon polaritons for direct measurement of propagation losses M. Ćwierzona, M. Żebrowski, M. A. Antoniak, K. Sulowska, M. Nyk, S. Maćkowski, D. Piątkowski
10:45 – 11:00	O22	Xavier Guichard	RE <sup>3+</sup> Photoluminescence of Charge Compensated Hafnia Nanoparticle: Solvothermal Synthesis and Colloidal Dispersion X. H. Guichard, A. Lauria
11:00 – 11:30		Coffee break	

**Session: Nanoscale optical materials and single nano-objects II**

Session chair: Barbara Kościelska

Time	Code	Presenting author	Title, authors
11:30 – 12:00	IL18	Sebastian Maćkowski	Single up-converting nanocrystals – ideal probes of interactions at the nanoscale S. Maćkowski
12:00 – 12:30	IL19	Marcin Nyk	Advanced colloidal nanomaterials with nonlinear optical and extended functionalities M. Nyk
12:30 – 12:45	O23	Arturas Katelnikovas	Ultrasound-Induced Synthesis of All-Inorganic Lead Perovskite QDs: Fast, Simple, and Highly Reproducible A. Katelnikovas, M. Steponavičiūtė, E. Ežerskytė, V. Klimkevičius
12:45 – 13:00	O24	Dawid Piątkowski	Single up-converting nanocrystals nanothermometry K. Wiwatowski, M. Szalkowski, Z. Korczak, R. Houssaini, A. Hartschuh, A. Bednarkiewicz, S. Maćkowski, D. Piątkowski
13:00 – 14:30		Lunch	

**Session: Theory and modeling**

Session chair: Michał Piasecki

Time	Code	Presenting author	Title, authors
14:30 – 15:00	IL20	Jonas Joos	Charge transfers processes in phosphors: emission, quenching and trapping J. J. Joos
15:00 – 15:30	IL21	Anatoli Popov	Thermal annealing of radiation defects in optical and dielectric ceramics for fusion applications A. I. Popov, E. A. Kotomin, V.N. Kuzovkov, A. Lushchik
15:30 – 15:45	O25	Andrii Shyichuk	Electronic trap depths in Pr-doped lutetium oxide doped with Ti, Zr and Hf: ab initio multiconfigurational calculations A. Shyichuk, M. Krośnicki
15:45 – 16:00	O26	Mohamed Taibeche	First-principles calculation of electronic structure of luminescence in Li <sup>+</sup> co-doped Ce <sup>3+</sup> -doped Lu <sub>3</sub> Al <sub>5</sub> O <sub>12</sub> (LuAG) inorganic scintillator M. Taibeche, Z. Akhrib, A. Boukerika, L. Guerbous
16:00 – 16:30		Coffee break	

**Session: Transition metal and rare earth compounds**

Session chair: Anatoli Popov

Time	Code	Presenting author	Title, authors
16:30 – 17:00	IL22	Michał Piasecki	Mid-infrared (MIR) fluorescent sources Overview and Structure–Property Relationship M. Piasecki, A. Racu, J. Szczepkowski, A. Wittlin, A. Suchocki, M. Stef, M. Dramicianin, M. G. Brik
17:00 – 17:30	L4	Szymon Chorąży	Multifunctional luminophores constructed from homo- and heteroleptic cyanido metal complexes S. Chorąży, J. J. Zakrzewski, M. Liberka, M. Zychowicz, M. Heczko, J. Rzepiela, J. Wang, K. Kumar, S. Ohkoshi
17:30 – 17:45	O27	Damian Włodarczyk	Spectral and X-ray comparison between novel double perovskites and their derivatives based on tungsten and chosen rare-earths ions. D. Włodarczyk, M. J. Chrunik, M. Amilusik, K. M. Kosyl, M. Strankowski, V. Tsiumra, T. Giela, M. Zając, A. Grochot, K. Jabłońska, A. Reszka, P. Iwanowski, H. Przybylińska, M. Boćkowski, A. Suchocki
17:45 – 18:00	O28	João Marcos Goncavales	Influence of Nd <sup>3+</sup> concentration on laser induced broadband white emission of La <sub>1-x</sub> AlO <sub>3</sub> :xNd <sup>3+</sup> perovskites J. M. Gonçalves, M. Stefanski, R. Tomala, W. Stręk
18:00 – 23:00		Conference Banquet	



## Friday, July 15, 2022

## Session: Experimental methods for characterizing optical materials

Session chair: Andrzej Wojtowicz

Time	Code	Presenting author	Title, authors
09:45 - 10:15	IL23	Marcin Szalkowski	Photon avalanching: properties and challenges M. Szalkowski, Z. Korczak, M. Dudek, M. Misiak, K. Prorok, A. Kotulska, A. Bednarkiewicz
10:15 - 10:30	029	Łukasz Haryński	Experimental Method for the Tauc Exponent and Corresponding Transition Types Determination Ł. Haryński, A. Olejnik, K. Grochowska, K. Siuzdak
10:30 - 10:45	030	Mateusz Rębarz	Broadband Femtosecond Ellipsometry at ELI Beamlines Facility M. Rebarz
10:45 - 11:00	031	Jakub Zakrzewski	Dehydration-driven modulation of opto-magnetic properties in Ln <sup>III</sup> Co <sup>III</sup> cyanido-bridged frameworks J. J. Zakrzewski, J. Wang, M. Zychowicz, Y. Xin, K. Nakabayashi, H. Tokoro, B. Sieklucka, S. Ohkoshi, S. Chorazy
11:00 - 11:30		Coffee break	

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

Session chair: Andrzej Suchocki

Time	Code	Presenting author	Title, authors
11:30 - 12:00	IL24	Dagmara Kulesza	Non-Boltzmann luminescent thermometers D. Kulesza, J. Zeler, P. Bolek, J. Trojan-Piegza, E. Zych
12:00 - 12:30	IL25	Wiesław Stręk	Laser induced white emission phenomena W. Strek, R. Tomala, M. Stefanski, P. Wiewiorski, M. Oleszko, W. Mista
12:30 - 13:00		Closing ceremony	
13:00 - 14:30		Lunch	