

**14<sup>th</sup> International Conference on  
Excited States of Transition Elements  
ESTE2025**

**24-29 August, 2025**

**Conference venue: Hotel Lake Hill Resort & Spa in Sosnówka, Poland**

**Sunday, August 24**

<b>Bus from Wroclaw to Sosnówka</b>	<b>Institut of Low Temperature and Structure Research, Polish Academy of Sciences (INTiBS PAN)</b>	<b>Faculty of Chemistry</b>	<b>Wroclaw Airport</b>	<b>Arrival to Sosnówka</b>
Bus#1	13:50	14:30	X	~16:30
Bus#2	X	15:00	X	~17:00
Bus#3	X	16:30	17:10	~19:00
<b>Sunday, August 24</b>	<b>Welcoming participants</b>			
	16:00 -	Check-in at the hotel possible		
	16:00 -	Registration open		
	18:00 - 24:00	Welcome reception		

## Monday, August 25

Monday, August 25	7:30-9:00	BREAKFAST
	9:00-10:50	SESSION 1 <i>Chair: Dariusz Hreniak</i>
	9:00-9:30	Welcome talks <b>Eugeniusz Zych, Wiesław Stręk, Dariusz Hreniak</b> ESTE2025 CHAIRS <b>Christopher Januzzi</b> EXECUTIVE DIRECTOR & CEO, THE ELECTROCHEMICAL SOCIETY
	9:30-9:55	Invited talk I-1 <b>Andries Meijerink</b> , LED IT BE
	9:55-10:20	Invited talk I-2 <b>William Cohen</b> , SMALL PARTICLE SIZE $K_2SiF_6:Mn^{4+}$ PHOSPHOR FOR MICRO-LEDs
	10:20-10:35	Oral communication O-1 <b>Jan Moszczyński</b> , SUPERSENSITIVE VISUAL PRESSURE SENSOR BASED ON THE EXCITON LUMINESCENCE OF THE $Bi^{3+}$ -DOPED, DOUBLE PEROVSKITE MATERIAL $Cs_2Ag_{0.6}Na_{0.4}InCl_6$
	10:35-10:50	Oral communication O-2 <b>Lingdong Sun</b> , LOCAL STRUCTURE ENGINEERING IN RARE EARTH NANOCRYSTALS FOR TUNABLE UPCONVERSION EMISSIONS
	10:50-11:30	COFFEE BREAK
	11:30-13:20	SESSION 2 <i>Chair: Pieter Dorenbos</i>
	11:30-11:55	Invited talk I-3 <b>Dirk Poelman</b> , THE COLORFUL WORLD OF MANGANESE: LUMINESCENCE ACROSS OXIDATION STATES
	11:55-12:20	Invited talk I-4 <b>Jumpei Ueda</b> , HOLE IONIZATION QUENCHING AND HOLE DETRAPPING PERSISTENT PHOSPHORS
	12:20-12:35	Oral communication O-3 <b>Łukasz Marciniak</b> , LUMINESCENCE THERMOMETRY BASED ON FIRST ORDER PHASE TRANSITION
	12:35-12:50	Oral communication O-4 <b>Patrycja Zdeb-Stańczykowska</b> , ENHANCING VISIBLE-TO-UVC UPCONVERSION IN $Pr^{3+}$ -DOPED BORATES
	12:50-13:05	Oral communication O-5 <b>Maria Claudia Felinto</b> , NEAR-INFRARED NON-GALLATE PERSISTENT PHOSPHORS FUNCTIONALIZED WITH EUROPIUM COMPLEX FOR POTENTIAL OPTICAL IMAGING APPLICATIONS

Monday, August 25	13:05-13:20	<p>Oral communication O-6 <b>Marek Adaszyński</b>, THE Ce<sup>3+</sup> AND Sm<sup>3+</sup>-DOPED PHOSPHATES FOR APPLICATION IN LED LIGHTING</p>
	13:20-14:40	<b>LUNCH</b>
	14:40-16:15	<b>SESSION 3</b> <i>Chair: Marco Bettinelli</i>
	14:40-15:05	<p>Invited talk I-5 <b>Chong-Geng Ma</b>, ADVANCING LUMINESCENT METAL HALIDE PEROVSKITES THROUGH THEORETICAL DEFECT ENGINEERING</p>
	15:05-15:30	<p>Invited talk I-6 <b>Freddy Rabouw</b>, SPECTRAL DISTORTIONS IN LUMINESCENCE THERMOMETRY</p>
	15:30-15:45	<p>Oral communication O-7 <b>Chen Hu</b>, RECENT PROGRESS ON DEFECT ENGINEERING IN LuAG:Ce CERAMICS TOWARDS ULTRAHIGH FAST SCINTILLATION PROPORTION</p>
	15:45-16:00	<p>Oral communication O-8 <b>Jiaren Du</b>, DESIGN OF INORGANIC TRAP-CONTROLLED LUMINESCENT MATERIALS</p>
	16:00-16:15	<p>Oral communication O-9 <b>Jeffrey Zom</b>, DEMONSTRATING POLARON MEDIATED PHOTOLUMINESCENCE IN VANADATES BY A COMBINED EXPERIMENTAL AND COMPUTATIONAL STUDY</p>
	16:15-17:10	<b>COFFEE BREAK</b>
	17:10-18:30	<b>SESSION 4 – GEORGES BOULON MEMORIAL SESSION</b>
	17:10-18:30	<p>Special talk S-1 <b>Marco Bettinelli</b>, GEORGES BOULON: A LIFE DEVOTED TO LUMINESCENCE</p>
		<p>Special talk S-2 <b>Janina Legendziewicz</b>, HONORING THE MEMORY OF GEORGES BOULON</p>
		<p>Special talk S-3 <b>Martin Nikl</b>, CONCLUDING ON GSAG:Ce SINGLE CRYSTAL SCINTILLATOR: MATERIAL OPTIMIZATION AND BOTTLENECKS</p>
		<p>Special talk S-4 <b>Wiesław Stręk</b>, LASER DRIVEN LUMINESCENCE OF RARE EARTH COMPOUNDS</p>
	18:30-20:00	<b>DINNER</b>

## Tuesday, August 26

Tuesday, August 26	7:30-9:00	BREAKFAST
	9:00-10:50	SESSION 5 <i>Chair: Antonio Benayas</i>
	9:00-9:25	Invited talk I-7 <b>Pieter Dorenbos</b> , CHARGE TRANSITION LEVEL ENERGIES OF THE 3d TRANSITION METALS IN COMPOUNDS
	9:25-9:50	Invited talk I-8 <b>Oscar Malta</b> , REVISITING THE MECHANISMS OF NON-RADIATIVE ENERGY TRANSFER IN LANTHANIDE MATERIALS
	9:50-10:05	Oral communication O-10 <b>Chihaya Fujiwara</b> , EMISSION PROPERTIES CONTROL BY IODIDE-DOPING EFFECTS IN ZERO-DIMENSIONAL PEROVSKITE CHLORIDE SCINTILLATORS
	10:05-10:20	Oral communication O-11 <b>Bibo Lou</b> , STRUCTURE-PROPERTY ANALYSIS AND PERFORMANCE PREDICTION OF ION-DOPED LUMINESCENT MATERIALS VIA HIGH-THROUGHPUT FIRST-PRINCIPLES CALCULATIONS
	10:20-10:35	Oral communication O-12 <b>Agata Musialek</b> , EXTERNAL FIELD CONTROL OF LASER INDUCED WHITE LIGHT EMISSION
	10:35-10:50	Oral communication O-13 <b>Shunsuke Kurosawa</b> , EXCITATION AND EMISSION STATES FOR Cr-DOPED GARNET SCINTILLATORS WITH RED AND INFRARED EMISSION
	10:50-11:30	COFFEE BREAK
	11:30-13:20	SESSION 6 <i>Chair: Dirk Poelman</i>
	11:30-11:55	Invited talk I-9 <b>Jiang Li</b> , CONTROLLABLE PREPARATION AND PROPERTIES OF ADVANCED LASER CERAMICS
	11:55-12:20	Invited talk I-10 <b>Greta Inkrataitė</b> , IMPACT OF BORON CO-DOPING ON THE LUMINESCENCE PROPERTIES OF Pr <sup>3+</sup> OR Ce <sup>3+</sup> DOPED YTTRIUM, LUTETIUM, AND GADOLINIUM ALUMINUM GARNETS
	12:20-12:35	Oral communication O-14 <b>Tingsong Li</b> , FABRICATION AND CHARACTERIZATIONS OF Eu <sup>2+</sup> -Dy <sup>3+</sup> CO-DOPED SrAl <sub>2</sub> O <sub>4</sub> CERAMICS WITH PERSISTENT LUMINESCENCE
	12:35-12:50	Oral communication O-15 <b>Sandra Witkiewicz-Łukaszek</b> , SCINTILLATION PROPERTIES OF COMPOSITE SCINTILLATORS BASED ON ORTHOSILICATE COMPOUNDS

	12:50-13:05	<p>Oral communication</p> <p>O-16</p> <p><b>Monika Kotykova</b>, OPTICAL AND SCINTILLATION PROPERTIES OF INDUSTRY-SCALE (Gd,Y)AlO<sub>3</sub>:Ce SINGLE CRYSTAL</p>
	13:20-14:40	LUNCH
	14:40-16:15	SESSION 7 <i>Chair: Jumpei Ueda</i>
	14:40-15:05	<p>I-11</p> <p><b>Philippe Smet</b>, REVEALING TRAPPING PROCESSES IN PERSISTENT PHOSPHORS BY TIME-RESOLVED OPTICAL SPECTROSCOPY ON THE PS TO MS TIMESCALE</p>
	15:05-15:30	<p>Invited talk</p> <p>I-12</p> <p><b>Hermi Brito</b>, LUMINESCENCE PROPERTIES OF RARE EARTH NANOMATERIALS AND COMPLEXES AS LIGHT EMITTERS</p>
	15:30-15:45	<p>Oral communication</p> <p>O-17</p> <p><b>Maxime Delaey</b>, IMPROVING THE OPTICAL PROPERTIES OF NEAR-INFRARED LUMINESCENT NANOPARTICLES BY PROTECTED CALCINATION</p>
	15:45-16:00	<p>Oral communication</p> <p>O-18</p> <p><b>Przemysław Dereń</b>, COMPARISON OF UPCONVERSION TO UVC AND UVB IN ABO<sub>3</sub>: Pr<sup>3+</sup> WHERE A = Sc, Y, La, AND Lu</p>
	16:00-16:15	<p>Oral communication</p> <p>O-19</p> <p><b>Yurii Syrotych</b>, COMPARISON OF STRUCTURAL, LUMINESCENT AND SCINTILLATION PROPERTIES OF Gd<sub>3</sub>Al<sub>x</sub>Ga<sub>5-x</sub>O<sub>12</sub>:Ce, x=2.3-3 SINGLE CRYSTALS AND SINGLE-CRYSTALLINE FILMS</p>
	16:15-18:30	POSTER SESSION
	18:30-20:00	DINNER

# Wednesday, August 27

Wednesday, August 27	7:30-9:00	<b>BREAKFAST</b>
	9:00-10:50	<b>SESSION 8</b> <i>Chair: Hermi Brito</i>
	9:00-9:25	Invited talk I-13 <b>Markus Suta</b> , OUT OF THE COMFORT ZONE – A PARADIGM SHIFT IN LIGAND FIELD TUNING OR NOT?
	9:25-9:50	Invited talk I-14 <b>Karol Bartosiewicz</b> , ACHIEVING LONG-PERSISTENT LUMINESCENCE IN Ce <sup>3+</sup> -DOPED GARNET SINGLE CRYSTALS THROUGH NONSTOICHIOMETRIC ENGINEERING AND CONTROLLED CRYSTALLIZATION KINETICS
	9:50-10:05	Oral communication O-20 <b>Galyna Dovbeshko / Vitalii Boiko</b> , WAR-DERIVED CARBON CONTAINING SMOKE NANOPARTICLES WITH HEAVY METALS: PHYSICOCHEMICAL PROPERTY AND TOXICITY
	10:05-10:20	Oral communication O-21 <b>Nadia Rebrova</b> , INNOVATIVE Pr <sup>3+</sup> -ACTIVATED RbCaF <sub>3</sub> PHOSPHOR FOR EFFICIENT UVC EMISSION VIA VISIBLE AND X-RAY EXCITATION
	10:20-10:35	Oral communication O-22 <b>Marta Gordel-Wójcik</b> , EXPLORING ULTRAFast DYNAMICS IN HYBRID COLLOIDAL NANOSYSTEMS USING FS TRANSIENT ABSORPTION
	10:35-10:50	Oral communication O-23 <b>Adam Kabański</b> , MULTIMODAL TEMPERATURE SENSING IN HYBRID PEROVSKITES DOPED WITH Cr <sup>3+</sup>
	10:50-11:30	<b>COFFEE BREAK</b>
	11:30-13:20	<b>SESSION 9</b> <i>Chair: Maria Luisa Saladino</i>
	11:30-11:55	Invited talk I-15 <b>Jonas Joos</b> , MULTICONFIGURATIONAL AB INITIO CALCULATIONS AS A TOOL TO REVEAL THE EXCITED STATES OF TRANSITION ELEMENT IMPURITIES IN CRYSTALS
	11:55-12:20	Invited talk I-16 <b>Sebastian Mahlik</b> , REVISITING THE SINGLE CONFIGURATIONAL COORDINATE MODEL IN TRANSITION METAL-DOPED PHOSPHORS
	12:20-12:35	Oral communication O-24 <b>Magdalena Dudek</b> , OPTICAL COOLING IN CaF <sub>2</sub> MICROCRYSTALS DOPED WITH Yb <sup>3+</sup> IONS
	12:35-12:50	Oral communication O-25 <b>Andrii Shyichuk</b> , BROAD BAND EMISSION MODELING WITH AUTOMATED CONSTRUCTION OF CONFIGURATIONAL DIAGRAM

<b>Wednesday, August 27</b>	12:50-13:05	Oral communication O-26 <b>Adam Watras</b> , INFLUENCE OF MANGANESE IONS ON $\text{Eu}^{3+}$ EMISSION IN $\text{Eu}^{3+}$ , $\text{Mn}^{n+}$ : $\text{YVO}_4$ NANOPHOSPHOR
	13:20-14:40	LUNCH
	14:40-18:30	EXCURSION
	20:00-23:00	DINNER-GRILL-BBQ

## Thursday, August 28

Thursday, August 28	7:30-9:00	<b>BREAKFAST</b>
	9:00-10:50	<b>SESSION 10</b> <i>Chair: Martin Nikl</i>
	9:00-9:25	Invited talk I-17 <b>Marcin Runowski</b> , COMBINATION OF PHOTOLUMINESCENCE AND MECHANOLUMINESCENCE FOR OPTICAL PRESSURE AND TEMPERATURE MONITORING
	9:25-9:50	Invited talk I-18 <b>Marco Bettinelli</b> , $Tb^{3+} \rightarrow Eu^{3+}$ ENERGY TRANSFER IN $Tb_{1-x}Eu_xAl_3(BO_3)_4$ CRYSTALS ( $x=0.01-0.20$ )
	9:50-10:05	Oral communication O-27 <b>Winicjusz Drozdowski</b> , SCINTILLATION PROPERTIES OF DMAC-TRZ DERIVATIVE CRYSTALS
	10:05-10:20	Oral communication O-28 <b>Leonardo Ceccon</b> , CIRCULARLY POLARIZED LUMINESCE FROM PURE AND Eu-DOPED TRIGONAL $TbPO_4 \cdot nH_2O$ NANOCRYSTALS COATED WITH DICARBOXYLIC ACID
	10:20-10:35	Oral communication O-29 <b>Leonardo Saraiva</b> , DIMENSIONALITY REDUCTION ALGORITHMS AS A PATHWAY TO ENHANCE THE PERFORMANCE OF SINGLE-CENTER $Eu^{III}$ LUMINESCENT THERMOMETER
	10:35-10:50	Oral communication O-30 <b>Mykhailo Chaika</b> , THE FEATURE OF $Cr^{4+}$ DOPED $Y_3Al_5O_{12}$ TRANSPARENT CERAMIC SPECTROSCOPIC PROPERTIES
	10:50-11:30	<b>COFFEE BREAK</b>
	11:30-13:20	<b>SESSION 11</b> <i>Chair: Andries Meijerink</i>
	11:30-11:55	Invited talk I-19 <b>Riccardo Marin</b> , A TALE OF REMOTE SENSING: NANOSENSORS, CROSS-SENSITIVITY, AND ARTIFICIAL INTELLIGENCE
	11:55-12:20	Invited talk I-20 <b>Jorma Hölsä</b> , PERSISTENT LUMINESCENCE: DOPANTS, DEFECTS AND TRAPS
	12:20-12:35	Oral communication O-31 <b>Long Yan</b> , TEMPORAL CONTROL OF DYNAMIC UPCONVERSION MEDIATED BY ENERGY TRANSFER
	12:35-12:50	Oral communication O-32 <b>Vladimir Pankratov</b> , NEAR INFRARED SCINTILLATORS BASED ON RARE-EARTH DOPED CsI SINGLE CRYSTALS



Thursday, August 28	12:50-13:05	<p>Oral communication O-33</p> <p><b>Vincent Benning</b>, PHOTON STATISTICS AS A TOOL TO (DIS)PROVE QUANTUM CUTTING IN NEAR-INFRARED EMITTING MATERIALS</p>
	13:05-13:20	<p>Oral communication O-34</p> <p><b>Wei Hu</b>, STEPWISE PHOTOCHROMISM REGULATED BY MULTIPLE COLOR CENTERS IN INORGANIC PHOTOCHROMIC MATERIALS</p>
	13:20-14:40	LUNCH
	14:40-16:15	SESSION 12 <i>Chair: Markus Suta</i>
	14:40-15:05	<p>Invited talk I-21</p> <p><b>Antonio Benayas</b>, HEATING THROUGH OPTICAL EXCITATION ABOVE 1000 nm: SPECTRALLY DECOUPLING THERANOSTICS &amp; ENGINEERING PLASMONIC NANOPARTICLES TO MAXIMIZE HEAT DELIVERY</p>
	15:05-15:30	<p>Invited talk I-22</p> <p><b>Maria Luisa Saladino</b>, FROM ANCIENT PIGMENTS TO MODERN SECURITY: NOVEL LUMINESCENT FORMULATION FOR ANTI-COUNTERFEITING APPLICATIONS</p>
	15:30-15:45	<p>Oral communication O-35</p> <p><b>Vasilii Khanin</b>, NANO-ENGINEERED PHOSPHORS FOR WHITE LEDS</p>
	15:45-16:00	<p>Oral communication O-36</p> <p><b>Vojtech Vanecek</b>, FLUOROPEROVSKITE SOLID SOLUTIONS: A PLATFORM FOR THE STUDY OF 5d → 4f LUMINESCENCE</p>
	16:00-16:15	<p>Oral communication O-37</p> <p><b>Dagmara Stefańska</b>, THE ROLE OF Eu<sup>2+</sup> IN PHOSPHORS FOR WHITE AND NEAR-INFRARED LIGHT-EMITTING DIODE APPLICATIONS</p>
	16:15-17:10	COFFEE BREAK
	17:10-18:35	SESSION 13 <i>Chair: Marcin Runowski</i>
	17:10-17:35	<p>Invited talk I-23</p> <p><b>Airton Germano Bispo Junior</b>, MOLECULAR ENGINEERING OF LANTHANIDE(III) COMPLEXES TOWARDS DUAL-FUNCTION SINGLE MOLECULE MAGNETS DISPLAYING LUMINESCENCE THERMOMETRY</p>
	17:35-18:00	<p>Invited talk I-24</p> <p><b>Yuriy Zorenko</b>, LUMINESCENCE OF THE ISOELECTRONIC IMPURITIES IN HALIDE AND OXIDE SCINTILLATORS UNDER X-RAYS AND SYNCHROTRON RADIATION EXCITATION</p>
	18:00-18:15	<p>Oral communication O-38</p> <p><b>Oksana Chukova</b>, THE LUMINESCENCE OF Gd<sup>3+</sup> AND Ce<sup>3+</sup> DOPED ZnO NANOPARTICLES</p>
	18:15-18:30	CLOSING REMARKS
	20:00-1:00	BANQUET & DANCING

## Friday, August 29

Friday, August 29	Check out / Departure	
	7:30-11:00	BREAKFAST
	<b><u>Departure from the hotel</u></b> <b>Stops at the Wrocław Airport and the Faculty of Chemistry.</b>	
	9:00	Buses will depart around <b>9:00, 9:45 and 10:30</b> . It will take about 1:50 hours to Wrocław Airport, and about 2:30 hours to the city center.  <b>You will have an opportunity to sign up for a specific bus at the conference reception during the conference.</b>
	9:45	
	10:30	