

Program of oral sessions

Day 1 16th September (Wednesday)

14:00 – 18:00 Registration

Room B 16:00 – 17:30 Chair: Go Okada

Special Tutorial: Fundamentals of Photoconductivity

*Safa Kasap¹

1. University of Saskatchewan (Canada)

18:00 – 19:30 RoomA Welcome reception

Day 2 17th September (Thursday)

Room A 9:00 – 10:30 Chair: Toru Aoki

9:00 – 9:20

Opening remarks

9:20 – 10:00

P-01 Photovoltaic and Optoelectronic Features of Advanced Halide Perovskite Devices

*Tsutomu Miyasaka¹

1. Toin University of Yokohama (Japan)

10:00 – 10:30

K-01 Photonic Integrated Circuits on Si-platform using Heterogeneous Integration Technology and Co-design of Photonics and Electronics

*Nobuhiko Nishiyama¹

1. Institute of Science Tokyo (Japan)

(10:30 – 10:50 Coffee break)

Room A 10:50 – 11:50 Chair: Yuma Takebuchi

10:50 – 11:10

AI-01 Ultrafast Halide Scintillators

*Mariya Zhuravleva¹, Daniel Rutstrom¹, Luis Stand¹, Charles Melcher¹

1. Scintillation Materials Research Center, University of Tennessee (USA)

11:10 – 11:30

AI-02 Luminescence Enhancement in Rare-Earth-Doped Silicate Glass: Effects of Soaking Time and Structural Asymmetry

*Chayani Setiades Sarumaha¹, Prom Kantuptim², Akihiro Nishikawa³, Keita Miyajima³, Takayuki Yanagida³, Wutthikrai Busayaporn⁴, Nuchjaree Kiwsakunkran^{1,5}, Jakrapong Kaewkhao^{1,5}

1. Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom 73000 (Thailand)

2. Department of Materials Engineering, Faculty of Engineering, Kasetsart University, Bangkok, 10900 (Thailand)

3. Nara Institute of Science and Technology, 8916-5, Takayama, Ikoma, Nara 630-0192 (Japan)

4. Synchrotron Light Research Institute, 111 University Avenue, Muang District, Nakhon Ratchasima 30000 (Thailand)

5. Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Nakhon Pathom 73000 (Thailand)

11:30 – 11:50

AI-03 Scintillation properties of Eu-doped Lu₂O₃ single crystals

*Takayuki Yanagida¹, Daisuke Nakauchi¹, Takumi Kato¹, Kenichi Watanabe², Noriaki Kawaguchi¹

1. Nara Institute of Science and Technology (Japan)

2. Kyushu University (Japan)

Room B 10:50 – 11:55 Chair: Kenichi Watanabe

10:50 – 11:20

K-02 Role of the Trap-Assisted Auger-Meitner Effect in Nonradiative Recombination

*Chris G. Van de Walle¹

1. University of California, Santa Barbara (USA)

11:20 – 11:40

BI-01 Synthesis of Phosphor Materials using the Water-Assisted Solid-State Reaction

*Kenji Toda¹

1. Niigata University (Japan)

11:40 – 11:55

BO-01 Optical investigation of electrically active threading dislocations in high-purity semi-insulating SiC substrates

*HSIU-MING HSU¹, Irwan Saleh Kurniawan¹, Russel Cruz Sevilla¹, Ruth Jeane Soebroto¹, Hsiu-Ying Huang¹, Chi-Tsu Yuan¹

1. Chung Yuan Christian University (Taiwan)

(12:00 – 13:30 Lunch on your own)

Room A 13:30 – 15:00 Chair: Daiki Shiratori

13:30 – 14:00

K-03 High performance photonic and opto-microfluidic devices for biomedical engineering applications

*Dayan Ban¹

1. University of Waterloo (Canada)

14:00 – 14:20

AI-04 Gas-Phase Luminescence for Radiation Detection and Imaging

*Takeshi Fujiwara¹, Heejeong Kim¹, Hiromi Kimura¹

1. National Institute of Advanced Industrial Science and Technology (AIST) (Japan)

14:20 – 14:40

AI-05 Energy Transfer-Driven Luminescence Properties of Oxyfluoride Glasses Co-Doped with Dual Rare Earth Ions

*Piyachat Meejitpaisan¹, Ramachari Doddji², Suchart Kothan³, HongJoo Kim⁴, Jakrapong Kaewkhao¹

1. Nakhon Pathom Rajabhat University (Thailand)

2. Duy Tan University (Viet Nam)

3. Chiang Mai University (Thailand)

4. Kyungpook National University (Korea)

14:40 – 15:00

AI-06 X-ray-induced luminescence intensities of inorganic scintillators at elevated temperatures

*Noriaki Kawaguchi¹, Akihiro Nishikawa¹, Takumi Kato¹, Daisuke Nakauchi¹, Takayuki Yanagida¹

1. Nara Institute of Science and Technology (Japan)

Room B 13:30 – 14:50 Chair: Tomas Wagner

13:30 – 14:00

K-04 Tuning the Optical and Photonic Properties in Nanoporous Anodic Alumina Structures

*Lluis F. Marsal¹

1. University Rovira i Virgili (Spain)

14:00 – 14:30

K-05 From Biomarkers to Spectral Intelligence: AI-Driven On-Chip Spectroscopy for Rapid Biomedical Diagnostics

*Senthil Murugan Ganapathy¹

1. University of Southampton (UK)

14:30 – 14:50

BI-02 Integrated Scintillation and Photodetection in TiO₂-Coated Optical Materials

*Marilou Cadatal Raduban^{1,2}, Pornnapha Mangthong³, Michal Kohout⁴, Jakrapong Kaewkhao³, Kohei Yamanoi², Zdenek Hubicka⁴, Shingo Ono⁵, Jiri Olejnicek⁴

1. Unitec Institute of Technology (New Zealand)

2. Institute of Laser Engineering, The University of Osaka (Japan)

3. Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University (Thailand)

4. Institute of Physics of the Czech Academy of Sciences (Czech Republic)

5. Department of Physical Science and Engineering, Nagoya Institute of Technology (Japan)

(15:00 – 15:20 Coffee break)

Room A 15:20 – 17:25 Chair: Hiroyuki Fukushima

15:20 – 15:50

K-06 Manganese-doped phosphors: the holy grail of near-infrared imaging?

*Dirk Poelman¹, Maxime Delaey¹, Quan Zhang², Jiaren Du³

1. Ghent University (Belgium)

2. Anhui Jianzhu University (China)

3. Jiangnan University (China)

15:50 – 16:10

AI-07 Bright red-emitting scintillators based on defect-Induced luminescence in copper Iodide semiconductors

*Yutaka Fujimoto¹, Hiroki Kawamoto¹, Keisuke Asai¹

1. Tohoku University (Japan)

16:10 – 16:30

AI-08 Radiophotoluminescence Properties of CaF₂ Doped with Heterovalent Cations

*Takumi Kato¹, Daisuke Nakauchi¹, Noriaki Kawaguchi¹, Takayuki Yanagida¹

1. Nara Institute of Science and Technology (Japan)

16:30 – 16:50

AI-09 Combinatorial Characterization of Heterovalence States of Luminous Silver Cations

*Hirokazu Masai¹, Masanori Koshimizu², Hiroki Kawamoto³, Hiroyuki Setoyama⁴, Yohei Onodera⁵, Kazutaka Ikeda⁶, Shingo Maruyama³, Naoki Haruta⁷, Tohru Sato⁷, Yuji Matsumoto³, Chika Takahashi³, Teruyasu Mizoguchi⁸

1. National Institute of Advanced Industrial Science and Technology (Japan)
2. Shizuoka University (Japan)
3. Tohoku University (Japan)
4. Kyushu Synchrotron Light Research Center (Japan)
5. National Institute for Materials Science (Japan)
6. High Energy Accelerator Research Organization (Japan)
7. Kyoto University (Japan)
8. The University of Tokyo (Japan)

16:50 – 17:10

AI-10 Design of Highly Luminescent Glasses via Controlled Mixed-Anion Heterogeneity

*Kenji Shinozaki¹

1. AIST (Japan)

17:10 – 17:25

AO-01 LUMI-22: Development and Preliminary Validation of an Integrated System for Cryogenic Thermoluminescence Measurements

*Matheus Cavalcanti dos Santos Nunes^{1,2}, Filipe S. Costa¹, Felipe R. Kobata¹, Neilo M. Trindade¹

1. University of São Paulo (Brazil)
2. São Paulo State University (Brazil)

Room B 15:20 – 17:25 Chair: Safa Kasap

15:20 – 15:50

K-07 Reconfigurable Light–Matter Interactions with Chalcogenide Phase-Change Metasurfaces

*Harish N S Krishnamoorthy¹, Meera V¹, Abel Paul Joseph¹, Kannal Amudhu K¹, Subrahmanyam S G Mantha^{1,2}

1. Tata Institute of Fundamental Research Hyderabad (India)
2. Birla Institute of Technology and Science Pilani, KK Birla Goa Campus (India)

15:50 – 16:10

BI-03 Incoherent fiber Bragg gratings for high-performance sensing applications

*Sébastien Loranger¹, Arthur Poiffaut¹, Olivier Bélanger¹

1. Electrical Engineering, Polytechnique Montréal (Canada)

16:10 – 16:30

BI-04 Mid-Infrared Photonic Devices Enabled by Femtosecond Laser Writing

*David Le Coq¹, Mariel Ledesma-Molinero¹, Thien Le Phu², Andy Cassez³, Laurent Bigot³, Pascal Masselin²

1. ISCR - UMR 6226 CNRS - University of Rennes (France)
2. LPCA - University of Littoral Côte d'Opale (France)
3. PhLAM - University of Lille (France)

16:30 – 16:45

BO-02 High-Pressure Spectroscopy: A Tool for Understanding Phosphor Luminescence

*Sebastian Mahlik¹

1. University of Gdansk (Poland)

16:45 – 17:00

BO-03 Epoxy-based Material and their Prospective for Polymer Waveguide Application

*Ruth Jeane Soebroto^{1,2}, Hsiu-Ying Huang^{1,2}, Dung-Sheng Tsai^{2,3}, Jui-Ming Yeh^{2,4}, Chi-Tsu Yuan^{1,2}

1. Department of Physics, Chung Yuan Christian University (Taiwan)
2. Research Center of Semiconductor Materials and Advanced Optics, Chung Yuan Christian University (Taiwan)
3. Department of Electronic Engineering, Chung Yuan Christian University (Taiwan)
4. Department of Chemistry, Chung Yuan Christian University (Taiwan)

17:00 – 17:15

BO-04 Interfacial Energy Transfer in Self-Floating Nanofibrous Membranes for Solar-to-Hydrogen Conversion

*Shanjiang Wang¹, Jiabao Yi¹

1. King Fahd University of Petroleum and Minerals (Saudi Arabia)

Day 3 18th September (Friday)

Room A 9:20 – 10:20 Chair: Behrad Gholipour

9:20 – 9:50

K-08 The integrated quantum sensor using diamond nanophotonics

*Takashi Yatsui^{1,2}

1. Toyohashi University of Technology (Japan)
2. The University of Tokyo (Japan))

9:50 – 10:20

K-09 Current Status and Future Developments of Stabilized a-Se Based X-Ray Image Detectors for Medical Applications: Scientific and Commercial Challenges

*Safa Kasap¹

1. University of Saskatchewan (Canada)

(10:20 – 10:50 Conference Photo & Coffee break)

Room A 10:50 – 11:50 Chair: Akihiko Ito

10:50 – 11:10

AI-11 Emission properties of rare-earth doped hexagonal fluorapatite transparent ceramics

*Hiroaki Furuse¹, Sanae Koizumi¹

1. National Institute for Materials Science (Japan)

11:10 – 11:30

AI-12 Synthesis and shaping of ZBLAN glass by combining mechanical milling and Spark Plasma Sintering (SPS)

*Laurent Calvez¹, Elodie Galdo^{1,2}, Solenn Cozic², Johann Troles¹, Antoine Gautier¹, Samuel Poulain², Marcel Poulain² (1. UMR-CNRS ISCR 6226, Universite de Rennes (France), 2. Le verre fluore (France))

11:30 – 11:50

AI-13 Luminescence and Scintillation Properties of a New Garnet Host Material

*Prapon Lertloypanyachai¹

1. Muban Chombueng Rajabhat University (Thailand)

Room B 10:50 – 11:50 Chair: Takami Abe

10:50 – 11:20

K-11 Vibronic States of Eu(III) with C_{3v} Symmetry in GaN Layer Co-doped with Mg and Eu

*Mitsuo Yamaga¹, Hiroto Sekiguchi², Akihiro Wakahara³

1. Department of Electric, Electronic and Computer Engineering, Gifu University (Japan)
2. Department of Applied Chemistry and Materials Science, Meijo University (Japan)
3. Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology (Japan)

11:20 – 11:50

K-12 Materials Challenges and Emerging Applications for Semiconductor Light Emitters

*Stephen J Sweeney¹

1. University of Glasgow (UK)

11:50 – 12:05

BO-05 Selective Optical Detection of Electrically Active Threading Dislocations and Micropipes in 4H-SiC

*Irwan Saleh Kurniawan^{1,2}, Russel Cruz Sevilla^{1,2}, Hsiu-Ming Hsu^{1,2}, Hsiu-Ying Huang^{1,2}, Chi-Tsu Yuan^{1,2}

1. Chung Yuan Christian University (Taiwan)
2. Research Center for Semiconductor Materials and Advanced Optics (Taiwan)

(12:05 – 13:30 Lunch on your own)

Room A 13:30 – 14:50 Chair: Dirk Poelman

13:30 – 13:50

AI-14 Advancing Rare-Earth ion spectroscopy: From Classical to Combinatorial Judd-Ofelt analysis

*Jan Hrabovsky^{1,2}, Petr Varak^{3,4}, Robin Krystufek⁵

1. FZU—Institute of Physics, Czech Academy of Sciences, Prague (Czech Republic)
2. Faculty of Mathematics and Physics, Charles University, Prague (Czech Republic)
3. Department of Inorganic Chemistry, University of Chemistry and Technology, Prague (Czech Republic)
4. Institute of Photonics and Electronics of the Czech Academy of Sciences, Prague (Czech Republic)
5. Institute of Organic Chemistry and Biochemistry of the CAS, Prague 6 16610 (Czech Republic)

13:50 – 14:10

AI-15 Unique luminescence properties of Eu³⁺-doped mixed-anion phosphors

*Yuuki Kitagawa¹

1. National Institute of Advanced Industrial Science and Technology (AIST) (Japan)

14:10 – 14:30

AI-16 Effect of Alkaline Earth Metal Co-doping in Pyrosilicate Crystals to the Luminescence and Scintillation Properties

*Prom Kantuptim¹, Yusuke Endo², Toshiaki Kunikata², Chayani Setiades Sarumaha³, Prapon Lertloypanyachai⁴, Wutthikrai Busayaporn⁵, Noriaki Kawaguchi², Takayuki Yanagida²

1. Kasetsart University (Thailand)
2. Nara Institute of Science and Technology (Japan)
3. Nakhon Pathom Rajabhat University (Thailand)
4. Muban Chom Bueng Rajabhat University (Thailand)
5. Synchrotron Light Research Institute (Thailand)

14:30 – 14:50

AI-17 Mechanical Properties as a Design Principle for Mechanically Responsive Molecular Photonic Materials

*Yuichi Hirai¹

1. National Institute for Materials Science (Japan)

Room B 13:30 – 15:05 Chair: Stephen J. Sweeney

13:30 – 14:00

K-13 Metal-doped chalcogenide thin films

*Tomas Wagner¹

1. University of Pardubice, Faculty of Chemical Technology, CEMNAT (Czech Republic)

14:00 – 14:30

K-14 Metasurfaces by deposition: programming optical functionality into phase change films without lithography

*Behrad Gholipour¹

1. University of Alberta (Canada)

14:30 – 14:50

BI-05 Evaluation of charge transfer properties of TlBr semiconductor detectors

*Kenichi Watanabe¹, Yusuke Sugai¹, Seishiro Tanaka¹, Yusuke Kawai¹, Taisei Teshima¹, Mitsuhiro Nogami², Keitaro Hitomi²

1. Kyushu Univ. (Japan)

2. Tohoku Univ. (Japan)

(Cancelled)

BO-06 3D Nondestructive Mapping of Optical Disorders in Polymer Optical Waveguides for Short-Reach Optical Interconnects

*Chi Tsu Yuan¹

1. Chung Yuan Christian University (Taiwan)

(15:05 – 15:20 Coffee break)

Room A 15:20 – 17:40 Chair: Akito Watanabe

15:20 – 15:50

K-10 A Versatile Low-Dose Organ-Targeted PET Platform for Bioimaging

*Alla Reznik Reznik^{1,2,3}, Oleksandr Bubon^{1,4}

1. Lakehead University (Canada)

2. Thunder Bay Regional Health Research Institute (Canada)

3. Ontario Institute for Cancer Research (Canada)

4. Radialis Inc. (Canada)

15:50 – 16:10

AI-18 Stimuli-Responsive Luminescent Materials Based on Inorganic-Containing Polymers

*Kazuo Tanaka¹

1. Kyoto University (Japan)

16:10 – 16:30

AI-19 Organoboron-based thermally activated delayed fluorescence materials

*Yuichi Kitamoto¹

1. Tohoku University (Japan)

16:30 – 16:50

AI-20 Creation of Functional Luminescent Polymers Incorporating Hypervalent Tin-Fused π -Conjugated Scaffolds

*Masayuki Gon¹, Kazuo Tanaka¹

1. Kyoto University (Japan)

16:50 – 17:10

AI-21 Radiation response of organic–inorganic perovskite-type compounds with various organic amines

*Naoki Kawano¹, Toranosuke Tsubokawa¹, Takumi Kato², Daisuke Nakauchi², Haruaki Ezawa², Toshiaki Kunikata², Keishi Yamabayashi², Shota Otake², Yusuke Endo², Ryosei Takahashi², Keita Miyajima², Fumito Kagaya¹, Takayuki Yanagida²

1. Akita University (Japan)

2. Nara Institute of Science and Technology (Japan)

17:10 – 17:25

AO-02 Role of Different Polymer Shells in the Generation of Visible Emission in ZnO Nanoparticles

*Oksana Chukova¹, Aleksei Kotlov¹, Ihor Fesych², Tetiana Busko², Tetiana Voitenko³, Luiz G. Jacobsohn⁴

1. Deutsches Elektronen-Synchrotron DESY (Germany)

2. Taras Shevchenko National University of Kyiv (Ukraine)

3. University of Cambridge (UK)

4. Clemson University (USA)

17:25 – 17:40

AO-03 Elucidating Exciton Diffusion and Harvesting Dynamics in Lanthanide-based OLEDs using Transient Spectroscopy

*Shiori Miyazaki^{1,2}, Yunzhou Deng¹, Kenichi Goushi², Kiyoshi Miyata², Chihaya Adachi², Ken Onda², Akshay Rao¹

1. University of Cambridge (UK)

2. Kyushu University (Japan)

Room B 15:20 – 17:15 Chair: Go Okada

15:20 – 15:50

K-15 Fs laser induced microstructures in transparent materials-phenomena, mechanisms and applications

*Jianrong Qiu¹

1. Zhejiang University, China (China)

15:50 – 16:20

K-16 Progress in silica-based laser induced solid state cooling and high-resolution thermal mapping of laser cooled silica rods and lasers

*Sébastien Loranger^{1,2}, Malek Aissaoui^{1,2}, Thomas Meyneng^{1,3}, Nicolas Grégoire⁴, Younes Messaddeq⁴, Raman Kashyap^{1,2,3,4}

1. Fabulas Laboratories, Polytechnique Montréal (Canada)

2. Electrical Engineering Department, Polytechnique Montreal (Canada)

3. Engineering Physics Department, Polytechnique Montreal (Canada)

4. Centre of Optics, Photonics and Lasers (COPL), University of Laval (Canada)

(Cancelled)

BI-06 Novel Green-Synthesized Metal Oxide Nanostructures for Sustainable Photoelectrochemical

Energy Conversion

*EMMA PANZI MUKHOKOSI¹

1. DEPARTMENT OF PHYSICS, KYAMBOGO UNIVERSITY (Uganda)

16:20 – 16:40

BI-07 Rational Design of 2D Heterostructured Catalysts for Photoelectrochemical Water Splitting

*Austine Amukayia Mulama¹, Yusuf Madallah¹, Francis Otieno¹, Emma Panzi Mukhokosi², Stella Nasejje², Yushi Cheng³, Eleanor Osborne³, Senthil Murugan Ganapathy³, Emmanuel Mushebo²

1. Maseno University (Kenya)
2. Kyambogo University (Uganda)
3. University of Southampton (UK)

16:40 – 16:55

BO-07 Nonlinear ellipsometry and reflectometry of second harmonic generation : a new tool for photonics materials

*Simon Dubuis¹, Sébastien Guerrault¹, Vincent Rodriguez²

1. NLOPTICS (France), 2. Université de Bordeaux (France)

16:55 – 17:10

BO-12 Phase-Controlled Synthesis of MoTe₂ and its High-Performance Photodetectors

Yuwei Wang¹, Shiyu Wei¹, Fengyuan Zhang¹, *Mingsheng Xu¹

1. Zhejiang University (China)

Day 4 19th September (Saturday)

Room A 9:20 – 10:30 Chair: Toru Aoki

9:20 – 10:00

P-02 Organic light-emitting diodes: Past, Present, and Future Prospects

*Chihaya Adachi¹

1. OPERA, Kyushu Univ. (Japan)

10:00 – 10:30

K-17 Emerging Applications of Glass Scintillators: Advantages and Limitations

*Jakrapong Kaewkhao¹

1. Nakhon Pathom Rajabhat University (Thailand)

(10:30 – 10:50 Coffee break)

Room A 10:50 – 11:50 Chair: Prom Kantuptim

10:50 – 11:10

AI-22 High Temperature Luminescence of β -Ga₂O₃ Doped with Rare Earths

*Luiz G. Jacobsohn¹, Joshua A. Medina¹

1. Clemson University (USA)

11:10 – 11:30

AI-23 Novel Ln³⁺ doped borophosphate glass scintillator for X-ray imaging

*Nuanthip Wantana^{1,2}, Fueangfa Khongchaiyaphum^{1,2}, Yotsakit Ruangtaweep^{1,2}, Natthakridta Chanthima^{1,2}, Phakkhananan Pakawanit³, Chalermluck Phoovasawat³, Wutthikrai Busayaporn³, Pham Hong Minh⁴, Takayuki Yanagida⁵, Nuttawadee Intachai⁶, Suchart Kothan⁶, Hong Joo Kim⁷, Jakrapong Kaewkhao^{1,2}

1. Faculty of Science and Technology, Nakhon Pathom Rajabhat University (Thailand)

2. Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom, 73000 (Thailand)

3. Synchrotron Light Research Institute (Public Organization), Synchrotron Research and Applications Division, 111 University Avenue, Muang District, Nakhon Ratchasima 30000 (Thailand)

4. Center Institute of Physics, Vietnam Academy of Science and Technology, Hanoi (Viet Nam)

5. Nara Institute of Science and Technology, 8916-5, Takayama, Ikoma, Nara, 630-0192 (Japan)

6. Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, 50200 (Thailand)

7. Department of Physics, Kyungpook National University, Daegu, 41566 (Korea)

11:30 – 11:50

AI-24 Ce³⁺-Activated Oxyhalide Glass Scintillators for Scintillation and Synchrotron X-ray Tomography Applications

*Nuttawadee Intachai¹, Nuanthip Wantana², Yaowaluk Tariwong¹, N. D. Quang³, Phakkhananan Pakawanit⁴, Wutthikrai Busayaporn⁴, Jaeyoung Cho⁵, Montree Tungjai¹, Suchart Kothan¹, Hongjoo Kim⁵, Jakrapong Kaewkhao²

1. Chiang Mai University (Thailand)

2. Nakhon Pathom Rajabhat University (Thailand)

3. Dalat Nuclear Research Institute (Viet Nam)

4. Synchrotron Light Research Institute (Thailand)

5. Kyungpook National University (Korea)

Room B 10:50 – 11:55 Chair: Yuuki Kitagawa

10:50 – 11:10

BI-08 Chemical vapor deposition of rare-earth oxides for thick film scintillators

*Akihiko Ito¹

1. Yokohama National University (Japan)

11:10 – 11:25

BO-08 Linear Energy Transfer-Dependent Scintillation Responses of ZnS:Ag and Gd₂O₃:Tb under Clinical Particle Beams

*YU TONG GE¹, Toshiyuki Toshito², Kohei Nakanishi¹, Masataka Komori¹, Katsunori Yogo¹

1. Graduate School of Medicine, Nagoya University (Japan)

2. Nagoya Proton Therapy Center, Nagoya City University West Medical Center (Japan)

11:25 – 11:40

BO-09 Tunable White-Green Emission and Energy Transfer of Dy³⁺/Tb³⁺ Co-Doped Aluminum Sodium Calcium Borate Glasses for Emitting Devices

*Nawarut Jarucha¹, Yotsakit Ruangtaweep¹, Piyachat Meejitpaisan¹, Nuttawadee Intachai², Suchart Kothan², Akihiro Nishikawa³, Toshiaki Kunikata³, Keita Miyajima³, Takayuki Yanagida³, Dae-Yong Jeong⁴, Jakrapong Kaewkhao¹

1. Nakhon Pathom Rajabhat University (Thailand)

2. Chiang Mai University (Thailand)

3. Nara Institute of Science and Technology (Japan)

4. Inha University (Korea))

11:40 – 11:55

BO-10 Evaluation of Glass Scintillator Performance for Tritiated Water Measurement

*Tomone Suganuma¹, Ichiro Nishii¹, Chayani S. Sarumaha², Eakgapon Kaewnuam³, Jakrapong Kaewkhao^{2,4}, Makoto Nakajima¹, Masanori Hara⁵, Masahiro Tanaka⁶, Chiharu Nakatsuji¹, Keisuke Shigemori¹, Kohei Yamanoi¹

1. Institute of Laser Engineering, The University of Osaka (Japan)

2. Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University (Thailand)

3. Faculty of Science and Technology, Muban Chombueng Rajabhat University (Thailand)

4. Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University (Thailand)

5. Faculty of Science, University of Toyama (Japan)

6. National Institute for Fusion Science (NIFS), Gifu (Japan)

(11:55 – 13:30 Lunch on your own)

13:30 – 15:00 Poster session I

15:00 – 15:30 Coffee break

15:30 – 17:00 Poster session II

Day 5 20th September (Sunday)

Room A 9:20 – 10:30 Chair: Toru Aoki

9:20 – 10:00

P-03 Topology Opens New Routes for Controlling Light in Photonic Nanostructures

*Satoshi Iwamoto¹

1. The University of Tokyo (Japan)

10:00 – 10:30

K-18 Photovoltaic devices and systems for solar fuel production

*Masakazu Sugiyama¹

1. The University of Tokyo (Japan)

(10:30 – 10:50 Coffee break)

Room A 10:50 – 11:50 Chair: Takumi Kato

10:50 – 11:10

AI-25 Effect of Holding Time on Local Structural Asymmetry and Luminescence Properties of Dy³⁺-Doped Phospho-Tellurite Glasses

*Patarawagee Yasaka^{1,2}, Winut Wongwan^{1,2}, Kitipun Boonin^{1,2}, Jakrapong Kaewkhao^{1,2}

1. Nakhon Pathom Rajabhat University (Thailand)
2. Center of Excellence in Glass Technology and Materials Science (Thailand)

11:10 – 11:30

AI-26 TL/OSL Luminescence Properties of Silver-Doped Magnesium and Sodium Borate Glasses

*Sonia Hatsue Tatum¹, Go Okada², Caroline Paschoal Fernandes³, Isadora A.M. Duque³

1. Federal University of São Paulo (Brazil)
2. Kanazawa Institute of Technology (Japan)
3. University of São Paulo (Brazil)

11:30 – 11:50

AI-27 Fully automated instrumentation for the advanced characterisation of trapped-charge luminescence signals: from instrument development to new material insights

*Lily Bossin¹, Go Okada², Miho Aoki², Eduardo Yukihiro¹

1. Paul Scherrer Institute (Switzerland)
2. Kanazawa Institute of Technology (Japan)

Room B 10:50 – 11:55 Chair: Naoki Kawano

10:50 – 11:10

BI-09 Rare-earth-doped GaN nanowires: recent progress from growth to micro-LED applications

*Jun Tatebayashi¹, Yasufumi Fujiwara^{1,2}

1. The University of Osaka (Japan)
2. Ritsumeikan University (Japan)

11:10 – 11:25

BO-11 Controlling the phase transition dynamics of GeTe by Sn and As substitution for phase change

memory, photodetection, and neuromorphic devices

*VINOD ERKKARA MADHAVAN¹, Mubaris N. K.¹, Rajkumar Shanajaoba Singh¹

1. National Institute of Technology Calicut (India)

11:25 – 11:40

BO-13 Study on silver photo-diffusion into amorphous GeS₂ from an atomistic point of view: X-ray photoemission spectroscopy and X-ray absorption fine structure

*Yoshifumi Sakaguchi¹, Tatsuya Hara², Takehisa Shibuya², Yuji Baba³, Yoshihiro Okamoto³, Yasuhiro Niwa^{4,5}, Hitoshi Abe^{4,5,6}

1. Comprehensive Research Organization for Science and Society (Japan)
2. Tokai University (Japan)
3. Japan Atomic Energy Agency (Japan)
4. High Energy Accelerator Research Organization (Japan)
5. SOKENDAI (the Graduate University for Advanced Studies) (Japan)
6. Ibaraki University (Japan)

(11:40 – 13:30 Lunch on your own)

Room A 13:30 – 15:00 Chair: Hiromi Kimura

13:30 – 14:00

K-19 Multifunctional Gallium and Aluminum Single Crystal Garnets Containing Rare Earths Obtained from Supersaturated Glass Solutions

*Marcelo Nalin¹

1. Institute of Chemistry - São Paulo State University (Brazil)

14:00 – 14:20

AI-28 Light-cyan photoluminescence from Eu²⁺ centers in BaMgP₂O₇ glasses for LED-based illumination

*Nuchjaree Kiwsakunkran^{1,2}, Natthakridta Chanthima^{1,2}, Wutthikrai Busayaporn³, Anon Angnanon^{4,5}, Jakrapong Kaewkhao^{1,2}

1. Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Nakhon Pathom (Thailand)
2. Center of Excellence in Glass Technology and Materials science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom (Thailand)
3. Synchrotron Light Research Institute, Nakhon Ratchasima (Thailand)
4. Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai (Thailand)
5. Office of Research Administration, Chiang Mai University, Chiang Mai (Thailand)

14:20 – 14:40

AI-29 Radiophotoluminescence technologies: from materials development to applications

*Go Okada¹

1. Kanazawa Institute of Technology (Japan)

14:40 – 15:00

AI-30 Development of new radiophotoluminescence glass materials utilizing Ag.

*Hiroki Kawamoto¹, Yutaka Fujimoto¹, Keisuke Asai¹

1. Tohoku Univ. (Japan)

Room B 13:30 – 14:50 Chair: Daisuke Nakauchi

13:30 – 13:50

BI-10 Designing a super weak crystal field for Cr³⁺ to realize long and broad NIR luminescence

Likhith Balse¹, Hirohisa Miyata¹, *Jumpei Ueda¹

1. Japan Advanced Institute of Science and Technology (Japan)

13:50 – 14:05

BO-14 Anomalous lattice defect formation in Y₃Al₂Ga₃O₁₂:Ce revealed by positron and X-ray probe

*Mamoru Kitaura¹, Hisato Suezumi^{2,4}, Kei Kamada³, Kyoung Jin Kim⁴, Akira Yoshikawa^{3,4}, Koji Michishio⁵

1. Faculty of Science, Yamagata University (Japan)

2. Graduate School of Engineering, Tohoku University (Japan)

3. New Industry Creation Hatchery Center, Tohoku University (Japan)

4. Institute for Materials Research, Tohoku University (Japan)

5. National Institute of Advanced Industrial Science and Technology (Japan)

14:05 – 14:20

BO-15 Influence of High Pressure on the Luminescence Properties of Ni²⁺

*Mikołaj Kamiński¹, Mu-Huai Fang², Sebastian Mahlik¹

1. Institute of Experimental Physics, Faculty of Mathematic, Physics, and Informatics, University of Gdańsk (Poland)

2. Research Center for Applied Sciences, Academia Sinica (Taiwan)

14:20 – 14:35

BO-16 Optical transitions of F and F⁺ centers in corundum (α -Al₂O₃) from first-principles

*Christoph Wilhelmer¹, Mark E. Turiansky³, Dominic Waldhoer¹, Chris G. Van de Walle², Tibor Grasser¹

1. TU Wien (Austria)

2. University of California, Santa Barbara (USA)

3. US Naval Research Laboratory (USA)

14:35 – 14:50

BO-17 Light-Induced Color: Revealing Rapid Photochromic Evolution in Inorganic Materials

*Wei Hu¹, David Vander Heggen¹, Dirk Poelman¹, Philippe F. Smet¹

1. Ghent University (Belgium)

(15:00 – 15:20 Coffee break)

Room A 15:20 – 17:15 Chair: Kensei Ichiba, Noriaki Kawaguchi

15:20 – 15:40

AI-31 Development of Sulfide-Based Transparent Ceramic Scintillators for Radiation Detection

*Hiromi Kimura¹, Yuuki Kitagawa¹, Yuma Takebuchi², Toshiaki Kunikata³, Takumi Kato³, Takayuki Yanagida³, Yanagida

Fujiwara¹

1. National Institute of Advanced Industrial Science and Technology (Japan)
2. Utsunomiya University (Japan)
3. Nara Institute of Science and Technology (Japan)

15:40 – 16:00

AI-32 Radiation-Induced Luminescence Properties in Rare-Earth-Doped Metaphosphate Glasses

*Daiki Shiratori¹, Hiromi Kimura², Daisuke Nakauchi³, Yutaka Fujimoto⁴, Hiroki Kawamoto⁴, Kenichi Watanabe⁵, Kensei Ichiba⁶, Akihiro Nishikawa³, Yusuke Endo³, Yutaka Fukuchi¹, Keisuke Asai⁴, Takayuki Yanagida³

1. Tokyo University of Science (Japan)
2. National Institute of Advanced Industrial Science and Technology (Japan)
3. Nara Institute of Science and Technology (Japan)
4. Tohoku University (Japan)
5. Kyushu University (Japan)
6. Kansai University (Japan))

16:00 – 16:20

AI-33 From Defects to Dosimetry: Integrated Stimulated Luminescence for Radiation-Sensitive Luminescent Materials

*Neilo M Trindade¹

1. Institute of Physics - University of São Paulo (Brazil)

16:20 – 16:40

AI-34 Development of Eu³⁺-Doped SrGd₂O₄ Oxide-Based Phosphor Powders for High-Resolution Composite Film X-ray Imaging Screens Using a Cu-Target X-ray Source

*Anon Angnanon^{1,2}, Benchaphorn Damdee⁵, Narit Triamnak³, Nuttawadee Intachai², Suchart Kothan², Jakrapong Kaewkhao^{4,5}

1. Office of Research Administration, Chiang Mai University, Chiang Mai 50200 (Thailand)
2. Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, 50200 (Thailand)
3. Department of Materials Science and Engineering, Faculty of Engineering and Industrial Technology, Silpakorn University, Nakhon Pathom, 73000 (Thailand),
4. Physics program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University Nakhon Pathom, 73000 (Thailand)
5. Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom, 73000 (Thailand)

16:40 – 17:00

AI-35 Scintillation Properties of Rare-earth Orthoniobates Single Crystals Grown by the Floating Zone Method

*Yuma Takebuchi¹, Reiji Yamashiro¹, Hiromi Kimura², Daisuke Nakauchi³, Kazuhiro Yamaki¹, Keitaro Tezuka¹, Takayuki Yanagida³

1. Utsunomiya Univ. (Japan)
2. AIST (Japan)
3. NAIST (Japan)

17:00 – 17:15

AO-04 Chemical, structural and thermoluminescent properties of lunar soil simulants

*Caio Morelli Vicentini^{1,2}, Isabela Alves Ferreira^{1,3}, Matheus Cavalcanti Nunes^{1,3}, Georgia Hernandez Pongeluppe¹, Carina Ulsen², Luiz Gustavo Jacobsohn⁴, Neilo Marcos Trindade¹

1. Institute of Physics/University of São Paulo (Brazil)
2. Technological Characterization Laboratory/University of São Paulo (Brazil)
3. Graduate Program in Science and Technology of Materials/University of São Paulo State (Brazil)
4. Department of Materials Science and Engineering/Clemson University (USA)

Room B 15:20 – 17:15 Chair: Jumpei Ueda

15:20 – 15:40

BI-11 Effects of Cr₂O₃ Concentration on the Luminescence Properties of Cr₂O₃–CaO–GeO₂ Glass and Glass Ceramic Phosphors

*Yasushi Nanai¹, Yuma Matsushita¹, Moe Suzukawa¹, Seiya Shimono², Yasuhiro Niwa^{3,4}, Nobuaki Kitazawa¹

1. National Defense Academy (Japan)
2. JASRI (Japan)
3. KEK (Japan)
4. SOKENDAI (Japan)

15:40 – 16:00

BI-12 Influence of Eu³⁺ Concentration on Optical and Thermoluminescence Characteristics of Boro-Tellurite Glass System

*Kitipun Boonin^{1,2}, Seubsakun Khondara^{1,2}, Patarawagee Yasaka^{1,2}, Winut Wongwan^{1,2}, Nuttawadee Intachai³, Suchart Kothan³, Jakrapong Kaewkhao^{1,2}

1. Nakhon Pathom Rajabhat University (Thailand)
2. Center of Excellence in Glass Technology and Materials Science (Thailand)
3. Center of Radiation Research and Medical Imaging (Thailand)

16:00 – 16:20

BI-13 Growth-Region Dependence of Scintillation Performance in Hydrothermally Grown ZnO Single Crystals

*Takami Abe¹, Toshiaki Kunikata², Haruaki Ezawa², Yusuke Endo², Shota Otake², Takayuki Yanagida²

1. Iwate Univ. (Japan)
2. NAIST (Japan)

16:20 – 16:40

BI-14 Radiochromism in Multicomponent Lutetium-Based Inorganic Oxide Single Crystals

*Kai Okazaki¹, Akihiro Nishikawa², Haruaki Ezawa², Daisuke Nakauchi², Takumi Kato², Noriaki Kawaguchi², Takayuki Yanagida²

1. AIST (Japan)
2. NAIST (Japan)

16:40 – 17:00

BI-15 Near-infrared luminescence properties of Sm-doped halide scintillators

*Daisuke Nakauchi¹, Takumi Kato¹, Noriaki Kawaguchi¹, Takayuki Yanagida¹

1. Nara Institute of Science and Technology (Japan)

17:00 – 17:15

BO-18 Spectroscopic Investigation of Temperature- and Pressure-Dependent Luminescence in Cr³⁺-doped double perovskite

*Agata Gurzyńska¹, Natalia Majewska^{1,2}, Yu-Te Lee³, Yi-Ting Tsai³, Mu-Huai Fang³, Sebastian Mahlik¹

1. Institute of Experimental Physics, Faculty of Mathematic, Physics, and Informatics, University of Gdańsk, Wita Stwosza 57, 80-308 Gdańsk (Poland)
2. Faculty of Chemistry, Adam Mickiewicz University, Uniwersytetu Poznańskiego 8, 61-614 Poznań (Poland)
3. Research Center for Applied Sciences, Academia Sinica, Taipei 11529 (Taiwan)

Day 6 21st September (Monday)

Room A 9:20 – 10:50 Chair: Kai Okazaki

9:20 – 9:50

K-20 How internal Ag⁰ nanoparticles make electro-optic glass respond ultrafast

*Martin Havlik Mika¹, Kristyna Jilkova¹, Riccardo Mincigrucci²

1. University of Chemistry and Technology (Czech Republic)
2. Elettra Sincrotrone Trieste (Italy)

9:50 – 10:10

AI-36 Radiophotoluminescence properties of Ca₃Al₂Ge₃O₁₂ with different Mn concentration

*Hiroyuki Fukushima¹, Go Okada², Takayuki Yanagida³

1. National Institute of Technology, Fukui college (Japan)
2. Kanazawa Institute of Technology (Japan)
3. Nara Institute of Science and Technology (Japan)

10:10 – 10:30

AI-37 RE³⁺ doped alkaline/alkaline-earth borosilicate glass for X-ray detection application

*Eakgapon Kaewnuam¹, Fueangfa Khrongchaiyaphum^{2,3}, Benchaphorn Damdee^{2,3}, Chayani S. Sarumaha^{2,3}, Wasu Cheewasukhanont^{4,5}, Nuanthip Wantana^{2,3}, Jakrapong Kaewkhao^{2,3}

1. Faculty of Science and Technology, Muban Chombueng Rajabhat University (Thailand)
2. Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University (Thailand)
3. Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University (Thailand)
4. Office of Research Administration, Chiang Mai University (Thailand)
5. Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University (Thailand)

Room A 10:50 – 10:50 Chair: Hiroki Kawamoto

10:30 – 10:50

AI-38 Photoluminescence and scintillation properties of Eu-doped NaBr single crystals

*Kensei Ichiba¹, Keiichiro Miyazaki², Tomohiro Shimizu¹, Takeshi Ito¹, Takayuki Yanagida^s

1. Kansai University (Japan)
2. NAIST (Japan)

10:50 – 11:05

AO-05 Photoluminescence and Radioluminescence Properties of Pb-doped β -Ga₂O₃ Single Crystals using the Floating Zone method

*Toshiaki Kunikata¹, Kai Okazaki¹, Yusuke Endo¹, Hiromi Kimura², Takumi Kato¹, Daisuke Nakauchi¹, Noriaki Kawaguchi¹, Takayuki Yanagida¹

1. Nara Institute of Science and Technology (Japan)
2. National Institute of Advanced Industrial Science and Technology (Japan)

(Cancelled)

AO-06 Tailoring Er³⁺ Stark Splitting and Visible-NIR Emission in YPO₄:Er³⁺ Nanocrystals

Rocio Molina Motos¹, Jose Francisco Fernandez Iozano¹, *Victor Fuertes de la Llave¹

1. The Institute of Ceramics and Glass (ICV-CSIC) (Spain)

11:05 – 11:20

AO-07 Crossover or autoionization? Photoelectric insight into quenching in Cr³⁺-activated phosphors

*Natalia Majewska^{1,2}, Milosz Pol², Yu-Te Lee³, Yi-Ting Tsai³, Tadeusz Lesniewski², Maciej Grzegorzczak², Mu-Huai Fang³, Sebastian Mahlik²

1. Faculty of Chemistry, Adam Mickiewicz University (Poland)

2. Faculty of Mathematic, Physics, and Informatics, University of Gdańsk (Poland)

3. Research Center for Applied Sciences, Academia Sinica (Taiwan)

11:30 – 11:45 Closing