

9th International Symposium on Optical Materials

June 26th - 30th 2023
Tarragona (Spain)



UNIVERSITAT
ROVIRA I VIRGILI

26th June, Monday

8:00 h Registration

9:00 h Opening welcome

9:30 h Luisa BAUSÁ. Plenary

Controlling the spatial coherence and subwavelength waveguiding of rare earth quantum emitters by plasmonic nanostructures

10:30 h Coffee break

11:15 h Amina BENSALAH-LEDOUX. Invited

Chirality at the molecular scale: materials and spectroscopy

11:40 h ~~Ismail MEKKAOUI. Oral~~ **CANCELLED**

~~*Fluorescence time decay of 1,2-Indanedione-arginine and applications*~~

11:55 h Natalia JURGA. Oral

Designing photon upconversion nanoparticles showing luminescence in whole human blood

12:10 h Akira YOSHIKAWA. Invited

Crucible-free bulk crystal growth of oxide single crystals using OCCC method

12:35 h Kacper PROKOP. Oral

Structural and spectroscopic properties studies of perovskite-type cubic Nd³⁺-doped M₃Y(PO₄)₃ (M = Sr²⁺ or Ba²⁺) solid-solution

12:50 h Lukasz DUDA. Oral

Organic dye-doped systems based on different matrices: properties and potential applications

13:05 h Lunch on-site

14:30 h Kheirredine LEBBOU. Invited

Recent progress on GAGG (Ce,Mg) single crystal growth and their performance for high energy physics

14:55 h Andrey TURSHATOV. Invited

Tracer-based sorting with lanthanide-activated phosphors for plastics recycling

15:20 h N. SARUKURA. Invited

Spectral Imaging of cultural assets using newly developed fluoride ultraviolet optics

15:45 h A. DIKSHIT. Oral **CANCELLED**

~~*TCAD assessment of hybrid perovskite solar cell incorporating NiO_x as HTL and TiO₂ as ETL*~~

18:00 h. Welcome reception at roman Amphitheatre. (See Social Events)

27th June, Tuesday

8:30 h Registration

9:00 h Muhammad Ali BUTT. Invited

HYPHa project - A voyage of developing a low-cost integrated photonic platform

9:25 h Eva MIHÓKOVÁ. Invited

Lead halide perovskite nanocomposites for fast timing detectors

9:50 h Yuui YOKOTA. Invited

High pressure annealing effects on optical and scintillation properties for Gd₃(Ga,Al)₅O₁₂:Ce scintillator single crystal

10:15 h Georges BOULON. Oral

Investigations on the electric-dipole allowed $4f^25d \rightarrow 4f^3$ broadband emission of Nd³⁺-doped 20Al(PO₃)₃-80LiF glass for potential VUV scintillator of neutron detection

10:30 h Coffee break

11:15 h Rei SASAKI. Oral

Growth and scintillation properties of LaCl₃/6LiCl /SrCl₂ ternary eutectic for thermal neutron detection

11:30 h Karol BARTOSIEWICZ. Oral

Correlation between Sc concentration and Lu₃(Al,Sc,Ga)₅O₁₂:Pr single crystal lattice distortion, atom distribution, Raman, luminescence, and scintillation properties

11:45 h Christophe DUJARDIN. Oral

Nanoporous scintillators for radioactive gas detection

12:00 h Mohamed MEHNAOUI. Oral

Structural and optical properties of dysprosium-doped calcium-oxyapatites Ca_{10-2x}Dy_xLi_x(PO₄)₆O₂ (0 ≤ x ≤ 1)

12:15 h Melvin John EMPIZO. Oral

Ce³⁺ centers in scintillating lithium fluorophosphate glasses

12:30 h Keito SHINOHARA. Oral

Pr³⁺ ion energy levels and decay times of scintillating fluoride glasses

12:45 h Masao YOSHINO. Oral

Growth, scintillation properties, pulse shape discrimination capability of (Ca,Sr)I₂:Eu scintillator

13:00 h Lunch on-site

14:30 h Tomasz GRZYB. Oral

The use of Er³⁺ ions as sensitizers in upconverting nanoparticles: from synthesis to biological applications

14:45 h Nicolás PAZOS-PEREZ. Oral

Tuning the optical properties of gold nanostars

15:00 h Dominika PRZYBYLSKA. Oral

Core@shell structure with highly doped Nd³⁺ sensitizing ions for temperature sensing and bioimaging

15:15 h Agata SZCZESZAK. Oral

Inorganic nanoparticles based on rare earth elements for advanced applications

15:30 h Eugenio CANTELAR. Oral

Er³⁺-doped CaF₂ nanocubes: Synthesis and optical characterization

15:45 h Jakub PAWLOW. Oral

Structural and spectroscopic properties of nano-crystalline Nd³⁺-doped GdPO₄ obtained by ionic liquid and oleic acid-assisted methods

18:00 h. Excursion to Perinet Winery. (See Social Events)

28th June, Wednesday

9:00 h Malgorzata GUZIK. Oral

New transparent optical ceramics based on isotropic and anisotropic oxide structures - challenges and perspectives

9:15 h Shekhar GUHA. Oral

Anisotropic thermo-mechanical properties of BaGa₂GeS(e)₆ crystals

9:30 h Valentin PETROV. **Plenary**

Acentric Barium chalcogenides for nonlinear optics in the mid-IR

10:30 h Coffee break

11:15 h Maria Jesús PASCUAL. Invited

Processing of rare-earth-doped nanostructured glass-ceramics for enhanced photoluminescence

11:40 h I. LÓPEZ. Invited

Second harmonic generation in femtosecond laser-induced damage structures in Nd:YAG crystals

12:05 h Makoto NAKAJIMA. Invited

Terahertz time domain ellipsometry and its application in wide-bandgap semiconductors characterization

12:30 h Luis SCALVI. Oral

Thin film deposition of organic-inorganic quinoline-tin dioxide pn-junction for optoelectronic devices

12:45 h Masood GHOTBI. Invited

BIBO: an effective nonlinear crystal for femtosecond optical parametric oscillators

13:10 h Lunch on-site

FREE TIME

29th June, Thursday

9:00 h Ionut Gabriel BALASA. Invited

Rare earth-diamond hybrid structures for optical quantum technologies

9:25 h Laura MERCADÉ. Invited

Silicon optomechanical crystal cavities for microwave signal processing and biosensing

9:50 h Luca GUERRINI. Invited

Chemosensing of low molecular weight biothiols via surface-enhanced Raman spectroscopy (SERS)

10:15 h Hendrik SWART. Oral

Laser-induced heating decimated luminescence nanothermometry using robust LaOF:Yb³⁺,Er³⁺ upconversion nanophosphor

10:30 h Coffee break

11:15 h Víctor LAVÍN. Oral

New strategies for efficient optical pressure & temperature sensors

11:30 h Anastasia BABKINA. Oral

Highly luminescent borogermanate glass with mixed perovskite CsPb(Br,I)₃ and (Cs,Rb)Pb(Br,I)₃ nanocrystals: properties and applications

11:45 h Anna KOZLOWSKA. Oral

Tailoring the optical and photometric properties of light sources based on dual-layer ceramics

12:00 h Yashashchandra DWIVEDI. Oral

Optical modulation and humidity sensing performance of Tb:Ce complex inhibited polymeric nanofibres

12:15 h Luis SCALVI. Oral

Ultraviolet excitation of persistent photoconductivity, close to room temperature, in composites of reduced graphene oxide and tin dioxide

12:30 h Yuriy ZORENKO. Oral

Recent developments of composite scintillators and LED converters based on the epitaxial structures of oxide compounds

12:45 h Ashutosh Kumar DIKSHIT. Oral **CANCELLED**

~~*Effect of ZnO Nanorods on Nontoxic Perovskite solar cell*~~

13:00 h Lunch on-site

14:30 h - 16:00 h POSTER SESSION

[19:30 h. Gala dinner at H10 Imperial Tarraco Hotel. \(See Social Events\)](#)

30th June, Friday

9:00 h Mamoru KITAURA. Invited

Local structures of Tm ions in Ca₂Al₂SiO₇:Eu,Tm long persistent phosphorescence phosphor studied by X-ray fluorescence holography and positron annihilation lifetime spectroscopy

9:25 h Kei KAMADA. Invited

A novel CeCl₃/NaCl/SrCl₂ ternary eutectic scintillator for fast and high resolution radiation imaging applications

9:50 h Shunsuke KUROSAWA. Invited

Luminescent Properties of Ce-doped Garnet Transparent Ceramics Prepared by the Spark Plasma Sintering Process

10:15 h Yusuke URANO. Oral

Scintillation Properties of Tl-doped Cs₃(Cu, Li)₂l₅ Crystals for Cosmic Dark Matter Search

10:30 h Coffee break

11:15 h Daisuke MATSUKURA. Oral

Demonstration of Dose Rate Monitoring System with Garnet-Type Scintillators

11:30 h Sami SLIMI. Oral

Structure and luminescence properties of Dy³⁺ doped Li₃Ba₂Gd₃(WO₄)₈ tungstate for applications in wLEDs

11:45 h Giulio GORNI. Oral

Toward white light emission from Bi and V codoped borosilicate glasses upon UV excitation

12 h Closing ceremony

LIST OF POSTERS

1 *Dual green-red emission of Mn-doped Li₂O-ZnO-GeO₂ glass-ceramics*

Anastasiia Babkina

2 *Localized-enhancement of 1L MoS₂ photoluminescence on ferroelectric domain walls*

Joan Javier Ronquillo Tutiven

3 *Modelling of spectral response of electrically biased suspended graphene over variable trench depth*

Kamila Leśniewska-Matys

4 *Surface waveguides with modal shaping in Nd:YAG crystal for sensing applications: design and fabrication with femtosecond laser pulses*

Víctor Arroyo Heras

5 *Material aspects of Yb:CNGG lasers*

Carlos Zaldo

6 *Optical and Scintillation Properties of Pr³⁺-Doped (La, Y)₂Si₂O₇ Single Crystals*

Yuka Abe

7 *Luminescence and scintillation properties of Tb,Ce co-doped (Gd,La)₂Si₂O₇ for radiation imaging*

Rikito Murakami

8 *Crystal Growth and Optical Properties of Ce-doped (Gd, Y, Tb)₃Ga₃Al₂O₁₂ Scintillators for X-ray Imaging*

Kazuya Omuro

9 *Excitonic luminescence in (Lu,Y)₂SiO₅:Ce³⁺ single crystals*

Vladimir Pankratov

10 *Influence of swift heavy ions on structural and luminescent properties of several important optical and scintillator materials*

Viktorija Pankratova

11 *Optical and luminescence investigation of barium borate doped with Ce³⁺ under ultraviolet (UV) excitation for scintillating glasses*

Masahiro Yamashita

12 *Optical thermometry properties of a novel quaternary tungstate $\text{Li}_3\text{Ba}_2\text{Gd}_3(\text{WO}_4)_8$: Ho, Tm*
Sami Slimi

13 *New nanoprobe designs for bioimaging and contactless luminescence thermometry*
Carlos Zaldo

14 *Fabrication of surface relief gratings (SRGs) in hydrogen bonded polymer-dye complexes and their replication for security features*
Łukasz Duda

15 *Photoluminescence and Raman spectroscopy of Ce^{3+} doped $\text{Y}_3\text{Al}_5\text{O}_{12}$ single crystalline films LPE grown onto $\text{Y}_3\text{Al}_5\text{O}_{12}$ and $\text{Lu}_3\text{Al}_5\text{O}_{12}$ substrates*
Anton Markovskiy

16 *Optimization of photolithography process using negative tone resist towards obtaining high-quality photonic structures*
Jakub Pawłó

17 *Fabrication of Mach-Zehnder interferometer structures based on low-cost SiO_2 : TiO_2 optical platform for integrated photonics applications*
Kacper Prokop

18 *Transmission measurements of GaAsP layers grown from the vapour phase by heteroepitaxy*
Valentin Petrov

19 *Second harmonic microscopy of femtosecond laser micro-modifications in BBO crystal*
Nuria Sevilla-Sierra

20 *Application of hard metal (Al, Cu, Cr) masks for dry etching of sol-gel-derived silica-titania photonic structures*
Łukasz Duda

~~**21** *Structural and optical properties of Nd^{3+} doped $\text{Sr}_6\text{Y}(\text{PO}_4)_5$ phosphor*~~
~~**Abdesslem Badri**~~ **CANCELLED**