

CURRICULUM VITAE ET STUDIORUM

Dr. Flavia Artizzu

Assistant Professor (RTDB) in Inorganic Chemistry at the University of Eastern Piedmont (Italy) until 31.08.2024
Associate Professor from 01.09.2024
Member of the Academic Board of the Doctoral School in Chemistry&Biology



Affiliation

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Education

PhD in Physics (Condensed Matter Physics), University of Cagliari (Italy). Title of the dissertation: “*Light Conversion Processes in Lanthanide-Based Molecular Materials*” defended in date 21.05.2015. Final grade: excellent.

PhD in Chemistry (Inorganic Chemistry), University of Cagliari (Italy), with the additional qualification of *Doctor Europaeus*. Title of the dissertation: “*Near-Infrared Luminescent Lanthanide Complexes of Quinolinol Ligands: Structure/Properties Relationship*” defended in date 28.01.2008. Final grade: excellent.

Master Degree (Laurea) in Chemistry with honours (110/110 summa cum laude), in date 29 April 2004, with a thesis on “*Erbium quinolinolato complexes as luminescent materials for applications in photonics.*”

Additional academic certificates

Italian qualification for the role of Associate Professor in four academic scientific sectors: Physical Chemistry (03/A2), Inorganic Chemistry (03/B1), Chemical Fundamentals of Technologies (03/B2) obtained in date 12.04.2017 (ASN 2016) and Condensed Matter Physics (02/B1) obtained in date 31.05.2021 (ASN 2018). **Qualification for the role of Full Professor** in Inorganic Chemistry (03/B1), obtained in date 06/12/2023.

Research

The research activity is mainly focused on the design, synthesis and characterization of novel materials, molecular, organic-inorganic and nanostructured systems, based on *d*- and *f*- metal ions, showing single or cooperative functionalities (optical, magnetic, conducting) as well as on advanced studies of the photophysical properties of luminescent materials. Scientific interest is also directed towards the investigation of novel strategies for the recovery and valorization of precious and lanthanide metals from scrap materials with green chemistry approaches. These research lines will be further developed in the framework of two recently (June 2023) granted research projects, HE EIC Pathfinder Challenges “ARTEMIS”, PRIN2022 “GREEN SM” and PRIN 2022 PNRR “QuantaMol” starting in autumn 2023 (See Projects section).

Research results have been the subject of numerous communications to Italian and international conferences, including 2 invited talks and of **69 published papers** on international peer-reviewed journals (2 on invitation, 16 as first author, 24 as last or corresponding author, 3 Front Covers, 1 Hot Paper, 1 Highlight) and **3 conference proceedings**. Furthermore, **1 book** and **1 book chapter** are added to the publication production.

h index **23**, total number of citations **1616**(source: Scopus, 05.03.2024).

A brief summary of the main research lines follows:

Luminescent lanthanide-based molecular materials. Design, synthesis, characterization and study of the photophysical properties of luminescent molecular materials, either single molecules and extended networks such as MOFs, HOFs and COFs, based on lanthanides, with particular focus on near-infrared emitters for application in photonics, specifically for signal amplification in telecommunication technology as well as visible emitters for anticounterfeiting and sensing. Heterolanthanide molecular materials, either as discrete molecules and extended frameworks are also developed. Interest is also directed towards the processing of these compounds as hybrid materials (doped glasses, polymers) and thin films for functional devices.

Luminescent lanthanide-based nanomaterials. This research line is oriented towards luminescent nanostructured materials with the aim to achieve more efficient emission performances by overcoming the limitations of molecular complexes (vibrational quenching) and novel potential applications. In particular, current research interests are focused on multilayered nanoarchitectures based on silica, fluorides and lead halide/lead free perovskites combined with luminescent lanthanide ions. These materials are deeply investigated through steady-state and time-resolved techniques, including ultra-fast transient absorption experiments.

Mono- and multifunctional molecular materials. Design, synthesis, characterization and study of the optical (linear and non-linear properties), magnetic and conducting properties of *d* and *f* metal complexes with suitable organic ligands showing simultaneous or cooperative multifunctionalities. In this framework, of particular interest in recent times, are square-planar Ni-triad complexes as NLO-phores, also showing unusual optical properties with anti-Kasha emissive behavior responsive to external stimuli (pH, presence of metal ions).

Green chemistry. This research line is addressed to the recovery, recycling and revalorization of noble and precious metals (Au, Pd, Ag, Cu) as well as lanthanides (Nd, Dy, Sm) from electronic waste with green chemistry approaches. Strategies for the efficient leaching of these metals from scrap materials have been studied with the use of opportunely functionalized ligands with the double role of chelating and oxidizing agents. The products of these treatments can afterwards be re-employed as valuable resources for applicative purposes (e.g. phosphors). More recently, strategies for the direct refunctionalization of Nd and Dy from end-of-life supermagnets as luminescent materials are developed in the framework of the PRIN2022 project “GREEN SM”.

The above described research themes on molecular materials have been recently subject of a book titled “*Functional Molecular Materials: An Introductory Textbook*”, by Flavia Artizzu and Matteo Atzori, which delivers a broad overview of the main classes of transition and lanthanide-based molecular materials with optical, magnetic and conducting properties (Chapter 1), provides a rigorous but easy-to-read description of the fundamental physical principles of the functionalities exhibited by molecular materials (Chapter

2), presents functional molecular materials through archetypical examples for each type of functionality (Chapter 3), and multifunctional materials based on the assembly of molecular building blocks (chapter 4). Finally, it provides a brief description of prototype devices (OLEDs, solar cells, magnetic materials on surfaces) based on molecular materials.

Main collaborations.

International: Proff. R. Van Deun and P. Geiregat, Ghent University (Belgium), Prof. J. Liu Southwest University Chongqing (China), Prof. A. Cannizzo and A. Stefanov Institut für angewandte Physik (IAP), Bern University (Switzerland), Prof. B. Kolaric Institute of Physics, Belgrade (Serbia), Prof. T. Verbiest KU Leuven (Belgium), Proff. M. Correa Duarte and L. Vasquez Besteiro University of Vigo (Spain); Proff. A. Corrias and G. Mountjoy School of Physical Sciences, Kent University (UK), Dr. M. Atzori CNRS-Grenoble (France); Prof. M. Zeng Hubei University (PR China), Prof. T. Durt, Ecole Centrale de Marseille (France); Prof. Y. Caudano, University of Namur (Belgium).

National: Proff. A. Serpe, L. Pilia, M.F. Casula, University of Cagliari; Prof. L. Marchiò, University of Parma (Italy); Dr. M.A. Ferrara CNR-ISASI (Italy), Dr. F. Locardi, University of Genoa (Italy), Prof. L. Malfatti, University of Sassari (Italy), Istituto Sup. delle Telecom. e delle Tecn. dell'Inf., (formerly ISCOM) Italian Ministry of Economic Development;

Projects

Principal Investigator:

Financed

- **2023-2027. ARTEMIS** - “*moleculAR maTERials for on-chip intEgrated quantuM lIght sources*” HORIZON-EIC-2022-PATHFINDERCHALLENGES-01-06, GA n. 101115149. Role: co-Coordinator, PI of UPO unit, leader of WP2. 10 partners from 7 countries. Duration 48 months. Total amount granted 3.217M€, UPO funding 363k€. (International);
- **2023-2025. GREEN SM** “*Green processes for Rare Earth Elements Separation, recovery & valorization from permanent Magnets*” – PRIN 2022. Prot. 2022T3H2CW. Role: PI of UPO unit. Partners University of Cagliari (Project Coordinator), University of Parma. Duration 24 months. Total granted budget: 203750€, UPO budget: 61614€. (National - Italy);
- 2017-2020. Marie Skłodowska Curie Action FWO [Pegasus]² grant “*Nanocomposite materials for highly efficient sensitized lanthanide emission*”, 12U3417N LV (International);
- 2010-2012. Project "Young Researchers" granted by the Sardinian Local Government, L.R. 7/2007, project: "*Lanthanide complexes as luminescent materials for photonic applications*" - CRP2_502 University of Cagliari (Italy); €70000 (Local);

Ranked but not financed due to lack of funding:

- 2022. HYPER “*Hybrid photonic-plasmonic sensors for in situ environmental monitoring of metal(loid)s towards more sustainable mining*” - HORIZON-CL4-2022-DIGITAL-EMERGING-01-03 – 2022. Proposal n. 101092679. Role: consortium Coordinator. 14 partners from 7 countries. Duration 48 months. Total requested budget 4.902M€, UPO requested budget 812k€. ESR 10.00/15.00 (Threshold 10.00) (International).

Participant in financed projects:

- **2023-2025 QuantaMol** “*Molecular Quantum Light Sources*” – PRIN 2022 PNRR. Prot. P2022PKW4T. Role: Participant of UPO Unit (coordinator). Partner: University of Cagliari: Total Budget: 275745€, UPO budget: 138556€. (National - Italy);
- 2019-2020. FWO Middelzware Onderzoeksinfrastructuur (Medium Research Infrastructure) I004420N – “*NoLIMITS: a facility for non-linear optical microscopy, spectroscopy and fabrication*” (€ 634871.71€) (National – Belgium)
- 2016-2017. ORISHA - Organics Integrated on Silicon Hybrid Amplifier” financed by the Italian Ministry of Economic Development, Institute for Telecommunication Technology, (€ 25200),

(National – Italy);

- 2015-2017. “Design and development of SERS platforms based on graphene for the detection of pollutants in waste water”, CRP 30, granted by the Sardinian Local Government, (€ 70000), (Local).
- 2012-2014. LR 7/2007, CRP-17571, “Near-infrared emitting lanthanide complexes: structure/properties relationship towards molecular photonics” (€ 207000); (Local);
- 2007-2008. Fondazione Banco di Sardegna, “From Molecules to Molecular devices for applications in Photonics and Molecular Electronics” (€25000) (Local);
- 2005-2007. PRIN05/07 ”Molecular Materials for Applications in Optics and Photonics” (€130000) (National – Italy);
- 2006-2011. COST WG D35-11 “Multifunctional and Switchable Molecular Materials: Design, Synthesis, Characterization and Preparation as Crystals and Thin Films”. (International)
- 2008. POR Sardegna 2000-06, Misura 3.13, Rete Regionale per l’Innovazione, “Recycle and Recovery of Reactants for the Recovery of Gold from Electric Waste” (Local).
- 2012-2016. COST Action CM1202. "Supramolecular photocatalytic water splitting (PERSPECT-H₂O)" (International)
- 2012. Fondazione Banco di Sardegna, "Composti funzionali basati su complessi di metalli di transizione (d e f) per applicazioni High-Tech” (Local);

Awards and recognitions

- INSTM award (€500) for the best oral communication (4^o National Young Researchers Forum, Padova, 28-30 May 2012)
- Enrico Marcialis” Rotary Club Award (€2500) for the most original and innovative master thesis in chemistry (2005)

Editorial Activity

- Associate Editor of *Frontiers in Chemistry*, Inorganic Chemistry section since May 2023.
- Guest Editor for *Molecules* (mdpi), special issue “Metal Complexes for Optical and Electronics Applications”. 6 published papers and 8 planned submissions at 06.06.2023.

Reviewing activity

- Outstanding Reviewer 2021 for *Chemical Communications*. Active expert reviewer for: Royal Chemical Society (*Chem. Soc. Rev.*, *Chem. Comm.*, *Dalton Trans.*, *J. Mater. Chem. C*, *J. Mater. Chem. A*, *Nanoscale*), American Chemical Society (*Chem. Rev.*, *J. Am. Chem. Soc.*, *Inorg. Chem.*, *Chem. Mater.*), Wiley (*Angew. Chemie*, *Adv. Mater.*, *Adv. Opt. Mater.*, *Aggregate*), American Institute of Physics (*App. Phys. Lett.*), Elsevier (*Materials Today*, *J. Lum.*, *J. Rare Earth*, *Photosc. Photobio.*), Optical Society of America (*Optics Letters*, *Optics Express*), Chinese Optical Society, American Scientific Publishers (*J. Nanosc. Nanotech.*).
- Research projects evaluator for the Research Foundation Flanders (FWO).

Previous Research Experience

- 01.06.2017 to 31.05.2020. Marie Słodowska Curie Fellow cofund FWO (Research Foundation Flanders) [PEGASUS]², on a project titled “*Nanocomposite materials for highly efficient sensitized lanthanide emission*”, Condensed Matter and Physical Chemistry panel, Ghent University, Belgium.
- 14.12.2016 to 31.05.2017. Post-doctoral fellow on project titled “*Synthesis and characterization of emissive organic/inorganic systems for integrated silicon devices*”, University of Cagliari (Italy).
- 11.06.2012 to 10.06.2014; 21.07.2014 to 20.07.2015; 29.07.2015 to 28.07.2016. Post-doctoral fellow on project titled: “*Lanthanide complexes with luminescent properties in the near-infrared: study of the structure/properties relationship for molecular photonics*”, University of Cagliari (Italy).
- 15.04.2010 to 14.04.2012. Post-doctoral fellow “Young Researcher” granted by the Sardinian Local Government, L.R. 7/2007, project: “*Lanthanide complexes as luminescent materials for photonic applications*” - CRP2_502 University of Cagliari (Italy);
- 23.10.2006 to 22.10.2006; 23.10.2007 to 22.10.2008. Research fellow on project titled: “*Molecular Materials for Applications in Photonics*”, University of Cagliari (Italy);

- 01.09.2005 to 31.08.2006. Research fellow on project titled: “*Molecular Materials for Applications in Optics and Electronics*” University of Cagliari (Italy).
- 01.09.2004 to 31.01.2005. Research fellow on project titled: “*New light emitters for telecommunications based on organic complexes of lanthanides*” University of Cagliari (Italy);

Research stages

Visiting Researcher

- 20.03-20.04.2023. Visiting Researcher, Department of Chemistry, Ghent University (Belgium) granted by FWO (Research Foundation Flanders) Travel Grant ID V506423N.
- 07.01-07.02.2020. Invited Visiting Researcher, Department of Mechanical, Chemical and Materials Engineering, University of Cagliari, Cagliari, Italy;
- 5-20.03.2019. Invited Visiting Researcher, NABLA Laboratory, King Abdullah University of Science and Technology, KAUST, (Saudi Arabia);
- 07.04.2014 to 07.05.2014; Visiting Foreign Researcher – VBO-BOF Special Research Fund University of Ghent (Belgium) on a project titled “*Quantum yield determination of lanthanide quinolinolato complexes*”;
- 1-20.05.2013. Visiting Scientist Department of Chemistry, University of Pisa;
- 01.02.2007 to 30.04.2007. Research Stay supported by COST ACTION D35 "From Molecules to Molecular Devices", Catholic University of Leuven (Belgium);

Teaching Activity

Fundamentals of Chemistry, bachelor course in Environmental Management and Sustainable Development, University of Eastern Piedmont, since a. y. 2021/2022, 7 CFU

Stoichiometry, bachelor course in Green Chemistry, University of Eastern Piedmont, since a. y. 2021/2022, 4 CFU

Stoichiometry, bachelor course in Chemistry, University of Eastern Piedmont, since a. y. 2022/2023, 3 CFU

Characterization techniques of inorganic compounds, bachelor course in Chemistry, University of Eastern Piedmont, since a. y. 2022/2023, 3 CFU

Metals and Circular Economy, bachelor course in Green Chemistry, University of Eastern Piedmont, from a. y. 2023/2024, 3 CFU

Teaching activity for the Doctoral School of Chemistry& Photonic Materials and photophysical methods for chemistry&biology (8 hours); Optical Thermometry (4 hours).

Promoter of doctoral students

Zhiwang Cai “*Plasmon enhanced hybrid luminescent nanomaterials*”, PhD course in Chemistry, Ghent University, 1.11.2022-ongoing;

Silvia Bonabello “*Lanthanide-based molecular materials for quantum light generation*”, PhD course in Chemistry&Biology, 1.11.2023-ongoing.

Past teaching activity.

Elements, laboratory course for students in Chemistry, Ghent University (Belgium), academic year 2019/2020.

Chemistry 1 (Chemic 1) laboratory course for students in Bioengineering, Ghent University (Belgium), academic years 2017/2018 and 2018/2019.

Promoter of doctoral students. Min Zeng, “*Luminescent lanthanide-doped perovskite quantum dots*”, Ghent University (Belgium), 2016-2020, defended in date 24.09.2020; Chaoqing Yang “*Synthesis and properties of hydrogen-bonded organic frameworks involving europium and terbium*” Ghent University (Belgium), 2016-2021,

defended in date 06.07.2021; Jingyuan Xue, “Rare-earth/inorganic/organic host materials for near-infrared optical waveguides”, Ghent University (Belgium), 2017-2021;

Promoter of master thesis students, Stef Goethals “*Influence of the host composition on the emission properties of lanthanide upconversion nanoparticles*” Master of Science in Chemistry, Ghent University (Belgium), 2023/24. Maxim Van de Steen “*Nd- and Dy- based luminescent materials from end-of-life supermagnets*”, Master of Science in Chemistry, Ghent University (Belgium), 2018/19; Ignasi Fort Grandas, “*Lanthanide-based luminescent nanocomposites for white light generation*”, Master of Science in Chemistry, Ghent University (Belgium), 2017/18.

Molecular Materials based on Transition Metal Complexes Faculty of Sciences, Master Degree in Chemistry and Doctoral Schools in Chemistry and Physics, University of Cagliari (Italy), academic year 2012/2013.

General and Inorganic Chemistry, course in Medicine and Surgery, University of Cagliari (Italy), academic year 2010/2011.

Honorary Fellow in General and Inorganic Chemistry (Italian academic title “Cultore della Materia”) since 2014.

Tutorial activities: Doctoral School in Chemistry (05.2007- 10.2007); “Coordination Chemistry II”, Master Degree in Chemistry, (2010/2011 and 2011/2012); “General and Inorganic Chemistry” Master Degree in Environmental Sciences, (2003/2004, 2004/2005; 2005/2006, 2009/2010), “Advanced Chemistry” Master Degree in Chemistry, (2003/2004, 2004/2005, 2005/2006), University of Cagliari (Italy),

Co-author of a textbook titled “*Functional Molecular Materials: an Introductory Textbook*”, edited by Pan Stanford Publishing, 2018, addressed to master and PhD students and early-stage researchers. The book covers the fundamental physical principles of photophysics, magnetism and conductivity and presents the design tools to achieve the desired physical properties in molecules.

Conference Organization

Member of the Organizing Committee “3rd World Congress on Materials Science & Engineering”, August 24-26, 2017, Barcelona, Spain.

Member of the Organizing Committee “Final COSTD35 Meeting - From Molecules to Molecular Devices”, 10-14 Sept 2011, S. Margherita di Pula (Ca), Italy.

Other certificates and linguistic skills

- **European Computer Driving Licence (ECDL)**, obtained in 2002.
- **Qualification as professional Chemist**, obtained 2004.
- Member of **Società Chimica Italiana (SCI)**, **Royal Chemical Society (RSC)**, **Materials Research Society (MRS)** and **Istituto Nazionale per la Scienza e la Tecnologia dei Materiali (INSTM)**.
- **European C1 level certificate in English QCER** (TOEFL - Test of English as Foreign Language) obtained in 2008.
- **European A2 level certificate in Spanish QCER**, obtained in 2011.
- **Certificate Dutch 2nd language – grade 1**, Provincie Oost-Vlaanderen, Belgium, 2018.

LIST OF PUBLICATIONS

Articles

1. **Spectral tuning and emission enhancement through lanthanide coordination in a dual Vis-NIR emissive cyanide-bridged heterometallic Ru(II)-Er(III) complex** Dimitrije Mara, Zhiwang Cai, Silvia Bonabello, Stefano Penna, Rik Van Deun, Luciano Marchiò, Luca Pilia, Flavia Artizzu*, deposited in ChemRxiv, **2024**, DOI: 10.26434/chemrxiv-2024-hg1wn
2. **EHDTA: a green approach to efficient Ln³⁺-chelators** Fabio Travaglini, Maria Ludovica Macchia, Toni Grell, Judit Bodnár, Zsolt Baranyai, Flavia Artizzu, Mauro Botta, Giovanni B. Giovenzana, *Dalton Transactions*, **2024**, DOI: 10.1039/D3DT03292B
3. **Lanthanide phosphonate coordination polymers** Maya Boone, Flavia Artizzu, Joydeb Goura, Dimitrije Mara, Rik Van Deun, Matthias D'hooge, *Coordination Chemistry Reviews*, **2024**, 501, 215525. DOI: 10.1016/j.ccr.2023.215525.
4. **Triple-Mode Upconversion Emission for Dynamic Multicolor Luminescent Anti-Counterfeiting** Xiangyang Yuan, Endian Cui, Kai Liu, Flavia Artizzu, Xiaoling Liao, Juntao Zhao, Jianfeng Tang, Wei Sun, Jing Liu, Yingshuai Liu, *Journal of Colloid and Interface Science* **2023**, 641, 961-971. DOI: 10.1016/J.JCIS.2023.03.125. IF: 9.965
5. **Anion-Induced Structural Diversity and Optical Chromism in a Series of Cyano-Bridged Heterometallic 3d-4f Coordination Polymers** Flavia Artizzu*, Luca Pilia, Angela Serpe, Dimitrije Mara, Maria F. Casula, Luciano Marchiò, Paola Deplano*, *Molecules* **2023**, 28, 2871. DOI: 10.3390/molecules28062871. IF: 4.927
6. **Near-IR Absorbers Based on Pt(II)-Dithiolene Donor-Acceptor Charge-Transfer (CT) Systems: A Structural Analysis to Highlight DA Interactions** Davide Espa, Luca Pilia, Flavia Artizzu, Angela Serpe, Paola Deplano, Luciano Marchiò, *Molecules* **2023**, 28, 2566. DOI: 10.3390/molecules28062566. IF: 4.927
7. **Photophysical and Primary Self-Referencing Thermometric Properties of Europium Hydrogen-Bonded Triazine Frameworks** Chaoqing Yang, Dimitrije Mara, Joydeb Goura, Flavia Artizzu*, Rik Van Deun, *Molecules* **2022**, 27, 6687, DOI: 10.3390/molecules27196687. IF: 4.927
8. **Heteroleptic Co(III) bisdithiocarbamate-dithione complexes: Synthesis, Structure and Bonding of [Co(Et₂dtc)₂(R₂pipdt)]BF₄ (R = Me, 1; Ph, 2; pipdt = piperazin-2,3-dithione) Complexes** Flavia Artizzu, Luciano Marchiò, Luca Pilia, Angela Serpe, Paola Deplano, *Journal of Coordination Chemistry*, Special Issue dedicated to Prof. G. De Munno, **2022**, DOI: 10.1080/00958972.2022.2126770.
9. **Progress and perspectives on strategies to control photochemical properties in Metallo-Dithiolene Donor-Acceptor systems** Flavia Artizzu*, Davide Espa, Luciano Marchiò, Luca Pilia*, Angela Serpe, Paola Deplano*, *Inorganica Chimica Acta*, Special Issue dedicated to Prof. R. Ugo, **2022**, 531, 120731 DOI: 10.1016/j.ica.2021.120731. IF: 3.118
10. **Molecular dysprosium complexes for white-light and near-infrared emission controlled by the coordination environment** Dimitrije Mara, Flavia Artizzu, Joydeb Goura, Manjari Jayendran, Bojana Bokic, Branko Kolaric, Thierry Verbiest, Rik Van Deun, *Journal of Luminescence*, **2022**, 243, 118646, DOI: 10.1016/j.jlumin.2021.118646. IF: 4.171
11. **Single-component panchromatic white light generation, and tuneable excimer-like visible orange and NIR emission in a Dy quinolinolate complex** Dimitrije Mara, Luca Pilia, Maxim Van de Steen, Ivana Miletto, Min Zeng, Kristof Van Hecke, Angela Serpe, Paola Deplano, Rik Van Deun, Flavia Artizzu* *Journal of Materials Chemistry C*, **2021**, 9, 15641-15648, DOI: 10.1039/d1tc04191f. IF: 8.067

12. **Dye-sensitized Er³⁺-doped CaF₂ nanoparticles for enhanced near-infrared emission at 1.5 μm** Jing Liu*, Flavia Artizzu*, Min Zeng, Luca Pilia, Pieter Geiregat, Rik Van Deun *Photonics Research*, **2021**, *9*(10), 2037. DOI: 10.1364/PRJ.433192. IF: 7.254
13. **Insight into the properties of heteroleptic metal dithiolenes: Multi-Stimuli Responsive Luminescence, Chromism and Nonlinear optics** Salahuddin Attar , Luca Pilia, Davide Espa, Flavia Artizzu*, Angela Serpe, Maddalena Pizzotti, Daniele Marinotto, Luciano Marchiò*, Paola Deplano* *Inorganic Chemistry*, **2021**, *60*, *13*, 9332-9344. DOI: 10.1021/acs.inorgchem.1c00023. IF: 5.436
14. **Excitation dependent multicolour luminescence and colour blueshifted afterglow at room-temperature of europium incorporated hydrogen-bonded multicomponent frameworks** Chaoqing Yang, Flavia Artizzu,* Karel Folens, Gijs Du Laing, Rik Van Deun,* *Journal of Materials Chemistry C*, **2021**, *9*, 7154-7152. DOI: 10.1039/D1TC01627J. IF: 8.067
15. **Switching on near-infrared light in lanthanide-doped CsPbCl₃ perovskite nanocrystals** Min Zeng, Federico Locardi, Dimitrije Mara, Zeger Hens, Rik Van Deun, Flavia Artizzu*, *Nanoscale*, **2021**, *13*, 8118-8125. DOI: 10.1039/d1nr00385b. IF: 8.307
16. **Molecular size matters: ultrafast dye singlet sensitization pathways to bright nanoparticle emission** Jing Liu, Pieter Geiregat, Luca Pilia, Rik Van Deun, Flavia Artizzu*, *Advanced Optical Materials*, **2021**, 2001678, DOI: 10.1002/adom.202001678. IF: 10.050
17. **Luminescent PMMA Films and PMMA@SiO₂ Nanoparticles with Embedded Ln³⁺ Complexes for Highly Sensitive Optical Thermometers in the Physiological Temperature Range** Dimitrije Mara, Anna M. Kaczmarek, Flavia Artizzu, Anatolii Abalymov, Andre G. Skirtach, Kristof Van Hecke, Rik Van Deun, *Chemistry – A European Journal*, **2021**, *27*, *21*, 6479-6488. DOI: 10.1002/chem.202004951. IF: 5.020
18. **Anti-Kasha Conformational Photoisomerization of a Heteroleptic Dithiolenes Metal Complex Revealed by Ultrafast Spectroscopy** Michela Gazzetto, Flavia Artizzu, Salahuddin S. Attar, Luciano Marchiò, Luca Pilia, Egmont J. Rohwer, Thomas Feurer, Paola Deplano, Andrea Cannizzo *The Journal of Physical Chemistry A*, **2020**, *124*, *51*, 10687-10693. DOI: 10.1021/acs.jpca.0c07794. IF: 2.944
19. **Improved Quantum Yield and Excellent Luminescence Stability of Europium-Incorporated Polymeric Hydrogen-Bonded Heptazine Frameworks Due to an Efficient Hydrogen-Bonding Effect** Chaoqing Yang, Karel Folens, Gijs Du Laing, Flavia Artizzu,* Rik Van Deun*, *Advanced Functional Materials*, **2020**, *30*, 2003656. DOI: 10.1002/adfm.202003656. IF: 19.924
20. **Boosting the 1.5 μm Er³⁺ Luminescence in CsPbCl₃ Perovskite Nanocrystals for Photonic Devices Operating at Telecommunication Wavelengths** Min Zeng, Flavia Artizzu,* Jing Liu, Shalini Singh, Federico Locardi, Dimitrije Mara, Zeger Hens, Rik Van Deun, *ACS Applied Nano Materials*, **2020**, *3*, *5*, 4699–4707. DOI: 10.1021/acsnm.0c00701. IF: 6.14
21. **Developing Luminescent Ratiometric Thermometers Based on a Covalent Organic Framework (COF)** Anna M. Kaczmarek, Ying-Ya Liu, Mariusz K. Kaczmarek, Hengshuo Liu, Flavia Artizzu, Luis D. Carlos, Pascal Van Der Voort, *Angewandte Chemie Int. Ed.*, **2020**, *59*, 1932-1940, DOI: 10.1002/anie.201913983; IF: 16.823
22. **Vibrational Quenching in Near-Infrared Emitting Lanthanide Complexes: A Quantitative Experimental Study and Novel Insights** Dimitrije Mara, Flavia Artizzu,* Philippe F. Smet, Anna M. Kaczmarek, Kristof Van Hecke, Rik Van Deun, *Chemistry – A European Journal*, **2019**, *25*, 15944-15956, DOI:10.1002/chem.201904320. IF: 5.020;
23. **Solution-processable Yb/Er 2D-layered metallorganic frameworks with high NIR-emission quantum yields** Flavia Artizzu,* Matteo Atzori,* Jing Liu, Dimitrije Mara, Kristof Van Hecke, Rik Van Deun *Journal of Materials Chemistry C*, **2019**, *7*, 11207-11214; DOI: 10.1039/C9TC03698A. IF: 8.067;
24. **Ultraefficient Cascade Energy Transfer in Dye-Sensitized Core/Shell Fluoride Nanoparticles** Jing Liu, Anna M. Kaczmarek, Flavia Artizzu,* Rik Van Deun, *ACS Photonics*, **2019**, *6*, 659-666. DOI:

10.1021/acsp Photonics.8b01465. IF: 7.077;

25. **Novel tetrakis lanthanide β -diketonate complexes: Structural study, luminescence properties and temperature sensing** Dimitrije Mara, Flavia Artizzu, Brecht Laforce, Laszlo Vincze, Kristof Van Hecke, Rik Van Deun, Anna M. Kaczmarek, *Journal of Luminescence*, **2019**, 213, 343–355. DOI: 10.1016/j.jlumin.2019.05.035. IF: 4.171;
26. **Strong Upconversion Emission in CsPbBr₃ Perovskite Quantum Dots through Efficient BaYF₇: Yb, Ln Sensitization** Min Zeng, Shalini Singh, Zeger Hens, Jing Liu,* Flavia Artizzu,* Rik Van Deun, *Journal of Materials Chemistry C*, **2019**, 7, 2014–2021. DOI: 10.1039/C8TC06063K. IF: 8.067;
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SELECTED COMMUNICATIONS TO CONFERENCES

International Conferences

- **Chair** of a session in Spectroscopy at the International Conference on f-Elements (ICFE-11), Strasbourg (France) August 23-26, 2023
- **Energy and charge transfer pathways at the organic-lanthanide interface**, at the 10th International Conference on f-Elements (ICFE-11), Strasbourg (France) August 23-26, 2023 (**Invited oral communication**)
- **Luminescent lanthanide materials: a road to quantum efficiency**, China Platform AcademicForum 2021, “Sino-Belgian Seminar on Organometallic and Inorganic Functional Materials”, Organisers: Prof. Francis Verpoort, Ghent University & Dr. Yu Baoyi, Beijing University of Agriculture & Prof. Dr Jing Liu, Southwest University. September 15, 2021 (**Invited oral Communication**)
- **Controlling energy transfer routes in dye-sensitized lanthanide-based nanoparticles for enhanced emission** SPIE Photonics West 2020, Moscone Center, San Francisco (CA, US), February 2-6, 2020 (Oral communication).
- **Lanthanide-based 2D-layered MOFs with high NIR-emission quantum yield**, CRF-2 Chemical Research in Flanders conference, 14-16 October 2019 (oral communication).
- **From Molecular complexes to a «Molecule-on-a-Particle» Approach Toward Optical Amplification in the NIR**, at the 10th International Conference on f-Elements (ICFE-10) Swiss Federal Institute of Technology Lausanne (EPFL), September 3-6, 2018 (**Invited oral communication**).
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- **Near-Infrared Emitters based on Erbium-Quinolinolates** Flavia Artizzu, Paola Deplano, Maria Laura Mercuri, Luca Pilia, Angela Serpe, PHOTO-COST D35 workshop, 17-20 May 2010, Prague (CZ).
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- **Dual Emissive (visible and near-infrared) Properties of Lanthanide (Er, Yb) quinolinolato Complexes,** Department of Chemistry, University of Pisa, 13.07.2013