

Dr. Emerson GIOVANELLI

Maître de conférences. Lille University. Villeneuve d'Ascq, France. *Since 2018*.

Ph. D. in Chemistry – Specialized in organic synthesis and nanomaterials

Research experience

- 2014 – 2017** **Post-doctoral fellow.** *Chemistry of Low-Dimensional Materials Laboratory, IMDEA Nanociencia* institute. Madrid, Spain.
- Liquid-phase exfoliation of lamellar transition metal chalcogenides.
 - Chemical manipulation and functionalization of 2D nano-objects.
- 2010 – 2014** **Post-doctoral fellow.** *Laboratoire de Physique et d'Etude des Matériaux (LPEM, CNRS), Ecole Supérieure de Physique et de Chimie Industrielles de la Ville de Paris (ESPCI Paris)*. Paris, France.
- Quantum dot functionalization by zwitterion-based multidentate ligands for bioimaging.
 - Design and synthesis of colloidal core/shell quantum dot/gold nanohybrids for exciton/plasmon coupling.
- 2005 – 2008** **Ph.D. student.** Service of Molecular Labeling & Bio-organic Chemistry, Life Sciences Division, *Commissariat à l'Energie Atomique (CEA)*. Industrial partnership with *Pierre Fabre* Laboratories. Saclay (Paris area), France.
- New paths toward vinflunine, an anticancer fluorinated *Vinca* alkaloid derivative produced by *Pierre Fabre*.
 - Mechanistic study of the industrial synthesis using deuterium labeling.

Teaching experience

- 2016** **Temporary lecturer.** Saint Louis University, Madrid Campus. Madrid, Spain.
Introduction to nanosciences and nanotechnologies.
- 2010 – 2014** **Temporary lecturer.** *Ecole Sup. de Physique et de Chimie Industrielles de la Ville de Paris (ESPCI Paris)*. Paris, France.
Crystallography, solid state and inorganic materials chemistry, organic compounds characterization.
- 2004 – 2005** **Temporary lecturer.** *Ecole Nationale Supérieure de Chimie de Paris (Chimie ParisTech)*. Paris, France.
Basics of organic chemistry, heteroelement chemistry and synthesis strategies.

Education

- 2008** **Ph.D.** in organic chemistry. *Paris-Sud XI* University. *With honors*. Orsay (Paris area), France.
- 2003** **Master's degree** in organic and bioorganic chemistry. *Pierre et Marie Curie-Paris VI* University. *With honors*. Paris, France.
- 2003** **Chemistry engineer degree.** *Ecole Nationale Supérieure de Chimie de Paris (Chimie ParisTech)*. Paris, France.

Awards and grants

- 2015** **AMAROUT II grant** for transnational mobility (Marie Curie Action, FP7-PEOPLE-2011-COFUND (291803)).
- 2004** Chimie ParisTech Alumni Association **Award for Excellence**.

Publications

- E. Burzurí, M. Vera-Hidalgo, **E. Giovanelli et al.**, “Simultaneous Assembly of van der Waals Heterostructures into Multiple Nanodevices”, *Nanoscale* **2018**, 10 (17), 7966-7970.
- R. Frisenda, J. O. Island, J. L. Lado, **E. Giovanelli et al.**, “Characterization of highly crystalline lead iodide nanosheets prepared by room-temperature solution processing”, *Nanotechnology* **2017**, 28 (45), 455703.
- R. Frisenda, **E. Giovanelli**, P. Mishra *et al.*, “Dielectrophoretic assembly of liquid-phase-exfoliated TiS₃ nanoribbons for photodetecting applications”, *Chem. Commun.* **2017**, 53 (45), 6164-6167.
- **E. Giovanelli**, A. Castellanos-Gomez, E. M. Pérez, “Surfactant-Free Polar-to-Nonpolar Phase Transfer of Exfoliated MoS₂ Two-Dimensional Colloids”, *ChemPlusChem* **2017**, 82 (5), 732-741.
- A. J. Molina-Mendoza / **E. Giovanelli**, W. S. Paz *et al.*, “Franckeite as a naturally occurring van der Waals heterostructure”, *Nat. Commun.* **2017**, 8, 14409.
- M. M. Bernal, L. Álvarez, **E. Giovanelli et al.**, “Luminescent transition metal dichalcogenide nanosheets through one-step liquid phase exfoliation”, *2D Materials* **2016**, 3 (3), 035014.
- M. Tasso, M. K. Singh, **E. Giovanelli et al.**, “Oriented Bioconjugation of Unmodified Antibodies to Quantum Dots Capped with Copolymeric Ligands as Versatile Cellular Imaging Tools”, *ACS Appl. Mater. Interfaces* **2015**, 7 (48), 26904-26913.
- M. Tasso, **E. Giovanelli**, D. Zala *et al.*, “Sulfobetaine-Vinylimidazole Block Copolymers: A Robust Quantum Dot Surface Chemistry Expanding Bioimaging’s Horizons”, *ACS Nano* **2015**, 9 (11), 11479-11489.
- F. Eloi, H. Frederich, A. Leray, S. Buil, X. Quélin, B. Ji, **E. Giovanelli et al.**, “Unraveling the time cross correlations of an emitter switching between two states with the same fluorescence intensity”, *Optics Express* **2015**, 23 (23), 29921-29928.
- B. Ji, **E. Giovanelli**, B. Habert *et al.*, “Non-blinking quantum dot with a plasmonic nanoshell resonator”, *submitted to Nature Nanotech.* **2015**, 10 (2), 170-175.
- S. Bouccara, A. Fragola, **E. Giovanelli et al.**, “Time-gated cell imaging using long lifetime near-infrared-emitting quantum dots for autofluorescence rejection”, *J. Biomed. Opt.* **2014**, 19 (5), 051208-1-051208-7.
- **E. Giovanelli** / L. Moisan, S. Leroux *et al.*, “Synthesis of fluorinated catharanthine analogues and investigation of their biomimetic coupling with vindoline”, *Org. Biomol. Chem.* **2013**, 11 (35), 5885-5891.
- K. D. Wegner, P. T. Lanh, T. Jennings, E. Oh, V. Jain, S. M. Fairclough, J. M. Smith, **E. Giovanelli et al.**, “Influence of Luminescence Quantum Yield, Surface Coating, and Functionalization of Quantum Dots on the Sensitivity of Time-Resolved FRET Bioassays”, *ACS Appl. Mater. Interfaces* **2013**, 5 (8), 2281-2892.
- **E. Giovanelli**, L. Moisan, S. Leroux *et al.*, “Synthesis of Difluorocatharanthine and Investigation of its Biomimetic Coupling with Vindoline”, *Chem. Eur. J.* **2013**, 19 (4), 1170-1173.
- **E. Giovanelli**, E. Muro, G. Sitbon *et al.*, “Highly Enhanced Affinity of Multidentate versus Bidentate Zwitterionic Ligands for Long-Term Quantum Dot Bioimaging”, *Langmuir* **2012**, 28 (43), 15177-15184.
- **E. Giovanelli**, S. Leroux, L. Moisan *et al.*, “On the Elucidation of the Mechanism of *Vinca* Alkaloid Fluorination in Superacidic Medium”, *Org. Lett.* **2011**, 13 (15), 4116-4119.
- **E. Giovanelli**, E. Doris, B. Rousseau, “Straightforward conversion of alcohols into dibenzenesulfonimides”, *Tetrahedron Lett.* **2006**, 47 (48), 8457-8458.

Patents

- N. Lequeux, T. Pons, **E. Giovanelli**, “Enhanced affinity ligands”, **2013**, WO 2013/182707 A1.
- L. Moisan, S. Comesse, **E. Giovanelli et al.**, “Fluorinated catharanthine derivatives, their preparation and their utilisation as *Vinca* dimeric alkaloid precursors”, **2008**, WO 2008/034882 A1.