Elena ZABOROVA
Assistant Professor of Chemistry, Aix Marseille University

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Education

2007-2010	**Ph.D.** in Organic Chemistry "*Selective polydifferentiation of cyclodextrins : illustration of their inherent pseudo-chirality, synthesis of new patterns and catalysts*", Sorbonne Université (Paris)

Scientific activities

Since 2014	**Assistant Professor**, Aix-Marseille University
2013-2014	**Post-Doctoral Researcher** Dr. E. Shultz – ICMMO / Dr. O. David – ILV, Paris-Saclay Université, Orsay and Versailles (*Multimodal Cyclic Chiral Catalysts)*
2012-2013	**Post-Doctoral Researcher** Dr. N. Leclerc – ICPEES / Dr. S. Mery – IPCMS, University of Strasbourg (*Synthesis of donor materials for organic photovoltaics)*
2011	**Post-Doctoral Researcher** Prof. A.-J. Attias – Sorbonne Université, Ivry-sur-Seine (*Design of new Janus tectons for supramolecular self-assembly on gold)*

Administrative and teaching responsibilities

2018-present	Head of the second year of Licence of Chemistry Luminy

Research Interests

Synthesis and photophysical investigation of functional dyes, and their application in organic electronics.

Scientific Production

34 papers in peer reviewed journals

Selected recent publications:

1. C. Tonnelé, M. Catherin, M. Giorgi, G. Canard, D. Casanova, F. Castet, E. Zaborova, F. Fages, *"Optoelectronic properties of a self-assembling rigidly-linked BF_2-curcuminoid bichromophore"*, Dyes Pigm., 2022, 207, 110677, doi.org/10.1016/j.dyepig.2022.110677
2. B. Salgues, R. Sarkar, M. Luthfi Fajri, Y. Alejandra Avalos-Quiroz, A.-D. Manick, M. Giorgi, N. Vanthuyne, Y. Carissan, C. Videlot-Ackermann, J. Ackermann, G. Canard, J.-L. Parrain, B. Le Guennic, D. Jacquemin, Muriel Amatore, Laurent Commeiras, Elena Zaborova, and Frédéric Fages, *"Synthesis and Electron Accepting Properties of Two Di(benz[f]indenone)-Fused Tetraazaanthracene Isomers ",* J. Org. Chem. 2022, 87, 5, 3276, doi.org/10.1021/acs.joc.1c02942
3. A. J. Gillett, C. Tonnele, G. Londi, G. Ricci, M. Catherin, D. M. L. Unson, D. Casanova, F. Castet, Y. Olivier, W. M. Chen, E. Zaborova, E. W. Evans, B. H. Drummond, P. J. Conaghan, L.-S. Cui, N. C. Greenham, Y. Puttisong, F. Fages, D. Beljonne, *"Spontaneous exciton dissociation enables spin state*

interconversion in delayed fluorescence organic semiconductors", Nat. Commun., 2021, 12, 6640, doi.org/10.1038/s41467-021-26689-8
4. M. Catherin, O. Uranga-Barandiaran, A. Brosseau, R. Metivier, G. Canard, A. D'Aleo, D. Casanova, F. Castet, E. Zaborova, F. Fages, Exciton Interactions, "Excimer Formation, and [2 pi+2 pi] Photodimerization in Nonconjugated Curcuminoid-BF_2 Dimers", Eur. J. Chem., 2020, 26, 3818, doi.org/10.1002/chem.201905122
5. A. D. Manick, B. Salgues, J. L. Parrain, E. Zaborova, F. Fages, M. Amatore, L. Commeiras, "Access to Fluorenones Using Benzocyclopentynone Surrogate as Partner for the [2+2+2] Cycloaddition Reaction", Org. Lett., 2020, 22, 1894, doi.org/10.1021/acs.orglett.0c00235
6. J. C. Ribierre, Z. Li, X. Liu, E. Lacaze, B. Heinrich, S. Mery, P. Sleczkowski, Y. M. Xiao, F. Lafolet, D. Hashizume, T. Aoyama, M. Uchiyama, J. W. Wu, E. Zaborova, F. Fages, A. D'Aleo, F. Mathevet, C. Adachi, "A solvent-free and vacuum-free melt-processing method to fabricate organic semiconducting layers with large crystal size for organic electronic applications", J. Mater. Chem. C, 2019, 7, 3190, doi.org/10.1039/c8tc04834g
7. O. Uranga-Barandiaran, M. Catherin, E. Zaborova, A. D'Aleo, F. Fages, F. Castet, D. Casanova, *"Optical properties of quadrupolar and bi-quadrupolar dyes: intra and inter chromophoric interactions"*, Phys. Chem. Chem. Phys., 20, 24623, 2018, doi.org/10.1039/c8cp05048a
8. H. Ye, D. H. Kim, X. K. Chen, A. S. D. Sandanayaka, J. U. Kim, E. Zaborova, G. Canard, Y. Tsuchiya, E. Y. Choi, J. W. Wu, F. Fages, J. L. Bredas, A. D'Aleo, J. C. Ribierre, C. Adachi, "Near-Infrared Electroluminescence and Low Threshold Amplified Spontaneous Emission above 800 nm from a Thermally Activated Delayed Fluorescent Emitter", Chem. Mater., 2018, 30, 6702, doi.org/10.1021/acs.chemmater.8b02247
9. D.-H. Kim, A. D'Aleo, X.-K. Chen, A.D.S. Sandanayaka, D. Yao, L. Zhao, T. Komino, E. Zaborova, G. Canard, Y. Tsuchiya, E. Choi, J. W. Wu, F. Fages, J.-L. Bredas, J.-C. Ribierre, C. Adachi, "High-efficiency electroluminescence and amplified spontaneous emission from a thermally activated delayed fluorescent near-infrared emitter", 2018, 12, 98, doi.org/10.1038/s41566-017-0087-y

National Research Network Coordination Activities

2018-2021	Partner of AMidex Project (emergence, TASC)
2015-2019	Partner of ANR project (CHALCONES)