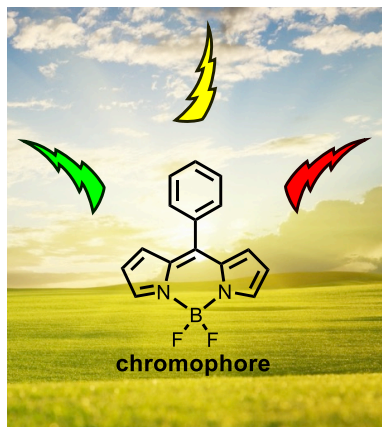


## Isolated chromophoric assemblies organized and controlled from a peptide scaffold.

The main goal of this project is the development, synthesis and characterization of a chromophoric architecture that, in our opinion, might have positive and interesting outcomes on the scientific community.



The term chromophore is intended for all the chemical compounds that present a color, phenomenon arising from the specific interaction of those structures with light. In some cases, a chromophore can present a fluorescence and it is known as fluorophore. With specific manipulations it is possible to modify and tune the behavior of chromophores based on the needs e.a. it is possible to change the wavelength, and thus the color, of the emission (fluorescence).

In the picture on the left it is schematized the structure for a family of chromophores, BODIPY, that will be employed in this project.

We are planning to extend the knowledge on the possible combinations of different BODIPY chromophores designed in a specific environment that will grant us the possibility to selectively control the behavior of such entities. The potential outcomes derivable for what we are planning to investigate will be of great interest for the scientific community bringing a novel example of architecture acting as controlling tool. Moreover, chromophores are considered of great interest for the academic world and, more importantly, for the general community since they find applications in basically every aspect of life. Specifically, the research on bodipy chromophores, booming in the last years, has pushed eventually finding concrete uses in biomedicine as fluorescent markers labelling proteins and DNA<sup>[1]</sup>, and in other fields ranging from photovoltaic devices<sup>[2]</sup> to selective detectors of toxic contaminations in water<sup>[3]</sup>.

### Literature

[1] A. Loudet, K. Burgess, *Chem. Rev.*, **2007**, 107, 4891-4932.

[2] J. Bañuelos, *Chem. Rec.*, **2016**, 16, 335-348.

[3] A. Maity, U. Ghosh, D. Giri, D. Mukherjee, T. K. Maiti, S. K. Patra, *Dalton Trans.*, **2019**, 48, 2108-2117.