

## Séminaire de Chimie Théorique

Salle Conférence, 3eme Est, bat. A12

Lundi 27 Février à 14:00

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### Dr. David Casanova

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## Photophysics of Naphthalene Dimers Controlled by the Oxidation of the Sulfur Bridge

In this presentation I will discuss the photophysics of naphthalene dimers covalently linked by a sulfur atom. I'll explore and rationalize how the oxidation state of the sulfur-bridging atom directly influences the photoluminescence of the dimer by enhancing or depriving radiative and non-radiative relaxation pathways. In particular, I'll discuss how oxidation controls the amount of electronic transfer between naphthalene moieties and the participation of the  $SO_n$  bridge in the low-lying electronic transitions. I will identify the important parameters originating the non-radiative decay of the excited dimers and the associated molecular mechanisms.

The obtained results and conclusion are general enough to be extrapolated to other sulfur-bridged conjugated dimers, therefore proportionating novel strategies in the design of strong photoluminescence organic molecules with controlled charge transfer.

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