



**CICLO DE SEMINARIOS 2016-2017  
DEPARTAMENTO DE QUIMICA-FÍSICA I  
UNIVERSIDAD COMPLUTENSE DE MADRID**

**Viernes 11 de Noviembre de 2016 – 12:30 h  
Sala de la Antigua Capilla**

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**Engineering photoactive supramolecular architectures:  
lights, camera, action!**

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Nowadays, precise control of long-range order functional architectures over nano- to micro-meter scale still represents a challenge. Also, self-assembly through weak noncovalent interactions has been shown to provide a powerful bottom-up approach to organize molecules in supramolecular structures with properties superior to common bulk materials. During the first part of the talk, a class of platinum(II) complexes featuring metallophilic interactions will be presented.<sup>[1]</sup> Such molecules are able to self-assemble into either achiral<sup>[2]</sup> or chiral<sup>[3]</sup> highly luminescent fibers that show polarized light emission. Furthermore, their self-assembly capability have been employed for unraveling evolution of complex biomimetic assembly processes in and out of the thermodynamic equilibrium in real-time.<sup>[4]</sup> Finally, supramolecular approaches have been used for designing dynamic photoswitchable metallopolymeric materials able to form multiresponsive self-healable gels that display either mechanical actuation<sup>[5]</sup> or reversible phase transition<sup>[6]</sup> upon a suitable Photonic stimulus.

[1] A. Aliprandi, D. Genovese, M. Mauro, L. De Cola, *Chem. Lett.*, **2015**, *44*, 1152; [2] M. Mauro, A. Aliprandi, C. Cebrián, D. Wang, C. Kübel, L. De Cola, *Chem. Commun.* **2014**, *50*, 7269; [3] A. Aliprandi, C. Croisetu, M. Mauro, L. De Cola, *submitted*; [4] A. Aliprandi, M. Mauro, L. De Cola, *Nature Chem.* **2016**, *8*, 10; [5] E. Borré, J.-F. Stumbé, S. Bellemin-Laponnaz, M. Mauro, *Angew. Chem. Int. Ed.*, **2016**, *55*, 1313; [6] E. Borré, S. Bellemin-Laponnaz, M. Mauro, *Chem. – A Eur. J.*, **2016**, *doi: 10.1002/chem.201604321*.