**Laboratoire PPSM – UMR CNRS 8531**

Photochimie et Photophysique Supramoléculaires et Macromoléculaires

# Séminaire PPSM

**Lundi 24 Juin 2013 - 11h00**

**Salle de conférence du Pavillon des Jardins**

## Professeur Soo-Young PARK

Department of Materials Science and Engineering, College of Engineering, Seoul National University, Corée du Sud

Invité par : Pierre Audebert

# «New Strategies for Fluorescence Manipulation: Intermolecular π-Interaction Issues»

Controlling the intermolecular interaction of π-conjugated molecules via rational molecular design of primary chemical structure is to make innovation in molecular electronics and photonics. In this work, I will demonstrate novel molecular design strategies developed in my group which give unique and peculiar control on the molecular stacking, energy transfer, electron transfer, patterning, and sensing. Keywords for the topics to be covered in this presentation are as follows: molecule with elastic twist, aggregation-induced emission, piezochromic fluorescence, frustrated energy transfer, molecular pixel, supramolecular exciplex, organic heterojunction, switching of photoinduced electron transfer, solvent vapor annealing, time-gated sensing to list a few.

*Selected Recent Publications:*

1 S. Kim, S.-J. Yoon, S. Y. Park, "Highly Fluorescent Chameleon Nanoparticles and Polymer Films: Multi-Component Organic Systems that Combine FRET and Photochromic Switching", *J. Am. Chem. Soc.*, 134(29), 12091-12097, (2012).

2 B.-K. An, J. Gierschner, S. Y. Park, "π-Conjugated Cyanostilbene Derivatives: A Unique Self-Assembly Motif for Molecular Nanostructures with Enhanced Emission and Transport", *Acc. Chem. Res.*, 45(4),544-554, (2012).

3 J. E. Kwon, S. Y. Park, "Advanced Organic Optoelectronic Materials: Harnessing Excited-State Intramolecular Proton Transfer (ESIPT) Process", *Adv. Mater.*, 23(32), 3615-3642, (2011).

4 S.-J. Yoon, J. W. Chung, J. Gierschner, K. S. Kim, M.-G. Choi, D. Kim, S. Y. Park, "Multistimuli Two-Color Luminescence Switching via Different Slip-Stacking of Highly Fluorescent Molecular Sheets", *J. Am. Chem. Soc.*, 132(39), 13675-13683, (2010).

5 J. W. Chung, S.-J. Yoon, S.-J. Lim, B.-K. An, S. Y. Park, "Dual-Mode Switching in Highly Fluorescent Organogels: Binary Logic Gates with Optical/Thermal Inputs", *Angew. Chem. Int. Ed.*, 48, 7030-7034, (2009)

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