



## **Symposium PHOTO-COST 2010**

### ***"Controlling photophysical properties of metal complexes: Toward molecular photonics"***

**will be held on May 17-19 2010  
at the J. Heyrovský Institute of Physical Chemistry  
in Prague, Czech Republic**

This meeting is organized as a result of rapid developments in the field of metal-based molecular materials for optoelectronics, from concepts to applications.

#### ***Aim and Scope***

This symposium is intended to provide an overview of the development of coordination and organometallic compounds for optoelectronic materials. The scientific program will be arranged over the following broad headings of metal-based molecules and molecular materials designed for

- Nonlinear optics (second and third order)
- Photoluminescence (sensors, bio-imaging) and electroluminescence (OLEDs, WOLEDs)
- Photochromism and thermochromism
- Sensitizers for light-energy conversion
- Excited state character and structural dynamics

The recent rapid growing interests of molecular materials for photonic and optoelectronic applications (OLED devices, solar cells, optical data memory...) creates a pressing need for a forum to discuss the fundamentals, including synthesis, photophysics, and theory associated with European activities within this field. Metal-based compounds offer a large variety and control of molecular and supramolecular structures, and hence diversity in electronic and optical properties by virtue of the metal center, which can give rise to new functional and multi-functional materials.

The aim of this symposium is to gather researchers and students working on various aspects of this scientific area, to bring together scientists interested in fundamental

photophysics and its applications and to promote greater collaborative ventures within a field that is necessarily truly multidisciplinary, transcending the traditional boundaries within chemistry and its frontiers with other disciplines.

*Topics to be covered*

### **Optoelectronic Materials**

Recent advances of novel metal-based molecular triplet emitters as the emissive layer for the fabrication of high-efficiency organic light-emitting diodes (OLEDs and WOLEDs).

### **Luminescent Chemosensors and Biolabels**

The development of luminescent metal complexes capable of showing selective binding and molecular recognition properties to substrates of environmental and biological interests, such as ions, volatile organic compounds (VOCs), oxygen, gases and vapours, solvents, DNA and proteins.

### **Photochromic and Photoswitching Materials**

Metal complexes capable of exhibiting photochromic and photoswitching behaviour via photoinduced *trans-cis* isomerization or ring-opening/closing processes, which may find applications in optical switches, memory and storage... Complexes which respond sensitively to temperature changes through thermally-activated population of excited states.

### **NLO-phores : chromophores for non-linear optics**

Recent advances in metal-complexes including lanthanides as quadratic and cubic NLO chromophores, as precursors of supramolecular organized NLO materials, towards applications in biological imaging....

### **Excited state character and structural dynamics**

Characterization of electronic excited states, dynamic and structural factors determining photophysical properties, and structural dynamics of intersystem crossing

The conference will be held at the J. Heyrovský Institute of Physical Chemistry in Prague, Czech Republic ([www.jh-inst.cas.cz](http://www.jh-inst.cas.cz)). The venue will provide a nice environment with ample opportunities for informal discussions.

No conference fee will be charged to any participant. The size of the meeting is limited to 70-80 participants. COST D35 and ESF DYNA will provide a number of bursaries to cover travel and subsistence costs. The bursaries will be allocated by the organizing committee based on the scientific quality and relevance of submitted contributions, in accordance with the COST rules.

The organizers invite all prospective participants to submit the preliminary registration form by **15 November 2009**.

### ***Invited speakers***

**Dr. Elena Lalinde**, Departamento de Química-Grupo de Síntesis Química de La Rioja, UA-CSIC, Universidad de La Rioja, 26006 Logroño, Spain  
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**Prof Dr. Danuta Wrobel**

Faculty of Technical Physics, PUT, ul. Nieszawska 13A, 60-965 Poznań, Poland  
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*"Metallic porphyrin-fullerene systems as photosyntetizers for organic photovoltaics"*.

**Dr Paola Ceroni**

Dipartimento di Chimica "G. Ciamician",  
Photochemical nanosciences Laboratory,  
Faculty of Sciences of the University of Bologna  
Via Selmi 2, 40126 Bologna, Italy

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Research interest: Photophysical, photochemical and electrochemical properties of supramolecular systems, dendrimers, host-guest systems, catenanes, and rotaxanes. Photoinduced electron and energy transfer reactions.

### ***Organizing committee***

**Dr. Véronique Guerchais, scientific organizer**

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### ***Important dates***

- November 15th 2009, Pre-registration
- March 15th 2010, Registration confirmation and Deadline for abstracts
- April 15th 2010, Notification of Acceptance of abstracts and confirmation of financial support