

# International Thematic School on EXCITONICS for PHOTONIC APPLICATIONS

EXCITONS in LOW-DIMENSIONALITY / DISORDERED SEMICONDUCTORS  
AND THEIR APPLICATIONS IN THE DETECTION and EMISSION OF LIGHT

Ecole thématique du CNRS



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Les Houches Physics School, Chamonix Mont Blanc Valley, France

**Organic semiconductors** have become important players in photonics within the last decades: they enabled flexible or printable devices, such as OLED displays or organic solar cells. But in the realm of materials that can be chemically tuned and solution-processed, there have been some newcomers in the field recently: hybrid **perovskites** or **colloidal semiconducting nanoparticles** for instance.

Besides the fact that all these materials have common applications in the emission and detection of Light, and have similar processing/characterization techniques, these are **excitons** who play here a central role in the light/material interaction.

**Because the field is exciting and new, there is a need to make a pause and get back to fundamental questions.** What are excitons in those systems? How can we characterize them and harvest them in photonic devices?

**16 outstanding lecturers will cover a broad spectrum going from the theory of excitons and their characterization to the most advanced excitonic photonic devices :**

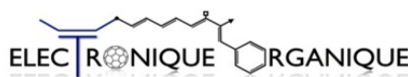
**Chihaya Adachi** (Kyushu University, Japan), **Natalie Banerji** (University of Fribourg, Switzerland), **Sergei Baranovski** (Marburg University, Germany), **Jérôme Cornil** (Mons University, Belgium), **Emmanuelle Deleporte** (ENS Paris Saclay, France), **Vladimir Dyakonov** (Würzburg University, Germany), **Jacky Even** (INSA Rennes, France), **Mark Fox** (University of Sheffield, UK), **Noel Giebink** (Pennsylvania State University, USA), **Stéphane Kéna-Cohen** (Polytechnique Montréal, Canada), **Emmanuel Lhuillier** (UPMC Paris, France), **Xavier Marie** (INSA Toulouse, France), **Thuc-Quyen Nguyen** (UC Santa Barbara, USA), **Peter Reiss** (CEA, France), **Graham Turnbull** (Univ. of St Andrews, UK), **Richard Williams** (Wake Forrest University, USA).

Attending a thematic school is a unique opportunity to learn, share and connect with top leaders in the field. The School is open to all researchers and PhD students without restriction of age, status or nationality.

**Application deadline (short motivation letter + abstract for a poster): January 22, 2018**

**Keywords :**

Excitons in semiconductors, charge and exciton transport, organic semiconductors, hybrid perovskites, colloidal quantum dots, LEDs, lasers, PV cells, scintillators...



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