INTERNATIONAL SCHOOL AND WORKSHOP ON ELECTRONIC CRYSTALS ECRYS-2014

August 11-23, 2014

http://lptms.u-psud.fr/ecrys/

Institut d'Etudes Scientifiques de Cargèse, Corse, France.

Organizers:

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ECRYS-2014 continue the series of tri-annual conferences ECRYS on Electronic Crystals, which have been organized since 1993 in France. The event will be held by the Institut d'Etudes Scientifiques de Cargèse, Corse, France (http://www.iesc.univ-corse.fr).

The international meeting will be organized in a format of the international research school. It will host about 100 scientists and PhD students. Each day, the program will integrate the research school and the leading edge scientific conference.

The ECRYS goal is to bring together scientists who are involved in related problems but are divided usually in several loosely-interacting communities oriented towards more focused schools and conferences.

ECRYS meetings provide cross-links between various studies of spontaneous structures formed by electrons in solids, with extensions to related systems such as charged objects in soft matter and biology, vortices in superconductors, ferroelectric and magnetic domains, mixed and spin-polarized states in superconductors, polaritons, excitons, and cold atoms. Unifying concepts and phenomena emphasize a complex of nonlinear nonstationary spacio-temporal effects; role of topological defects and microscopic solitons.

The notion of electronic crystals embraces numerous cases of spontaneous structural aggregation of electrons in solids. Depending on interactions, lattice deformations, spin involvement, and dimensionality, the electronic crystals acquire forms of charge and spin density waves, of interface and bulk Wigner crystals, charge ordered phases, stripes, modulations induced by high magnetic fields, interface and surface phases originated by high electric fields, charges in meso- and nanostructures, charged liquid suspensions, Coulomb interactions in soft and condensed matter.

As the cross-community meeting in the format of the international research school, ECRYS 2014 will attract and initiate young researches as well as PhD students and Post-Docs and will promote exchange of information within our inter-disciplinary field. The lectures will be complemented by a high level scientific counterpart of the program.

Main axes of the Program:

- Materials with electronic structures.
- Charge and spin density waves.
- Charge order, ferroelectricity, stripes.
- Superconductivity versus crystallization.
- Pinning and sliding: nonlinear and nonstationary effects, electronic glasses.
- Electronic solids at interfaces.
- The electronic spectra: ARPES, optics, tunneling.
- Nanostructures, local effects, stripes.
- High magnetic fields and spin effects.
- Space- and time-resolved probes.
- Transformations of cooperative electronic states by ultrafast pumping or electrostatic doping.
- Charges in soft matter and biology.

To appreciate the character of our meetings, please visit the website of the previous event https://www.equipes.lps.u-psud.fr/ECRYS2011/

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