



Cargèse International School 2020

International School and Workshop on Electronic Crystals ECRYS-2020

August 17 - 29, 2020

<http://lptms.u-psud.fr/ecrys2020/>

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ECRYS meetings provide cross-links between various studies of spontaneous structures formed by electrons in solids, with extensions to related systems such as vortices in superconductors, ferroelectric and magnetic domains, mixed and spin-polarized states in superconductors, cold ions, charged objects in soft matter and biology. 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.

Main topics will include

- Charge and spin density waves
- Mott and excitonic insulators (including ultrafast techniques)
- Charge order, stripes, CDWs in high-T_c superconductors and other strongly correlated systems
- Layered systems (including ultrafast techniques)
- Density waves at magnetic fields, in Dirac & Weyl systems
- Inhomogeneous superconductivity: pair density waves and FFLO
- Coulomb and pseudo-Coulomb systems
- Electronic ferroelectricity and organic conductors
- Local probes and nano-scale
- Commutation of collective electronic states by external field

Eminent scientists in the field will animate the school. These include:

Behnia K. (ESPCI FR), Giamarchi T. (Univ. Genève CH), Kaiser S. (MPIFKF DE), Kanoda K. (Univ. Tokyo JP), Le Bolloch' D. (Univ. Paris-Saclay FR), Littlewood P.B. (ANL & Univ. of Chicago US), Mihailovic D. (JSI SO), Moessner R. (MPIKS DE), Okamoto H. (Univ. Tokyo JP), Pepin C. (CEA Saclay FR), Proust C. (Univ. Toulouse FR), Rosnagel K. (Univ. Kiel DE), Tranquada J. (BNL US)

Scientific Committee

Dressel Martin (Univ. Stuttgart DE), Forro Laszlo (EPFL CH), Littlewood Peter (ANL & Univ. Chicago US), Masino Matteo (Univ. Parma IT), Mihailovic Dragan (Inst. Josef Stefan SI), Monceau Pierre (Inst. Neel FR), Okamoto Hiroshi (Univ. de Tokyo JP), Sinchenko Aleksandre (Lomonosov Univ. RU), Staehler Julia (Fritz Haber Inst. DE), Tanda Satoshi (Univ. Sapporo JP), Tranquada John (BNL US), Yeom Han Woong (Univ. Pohang KR)

Organizer Committee

Serguei Brazovskii, Natasha Kirova, Sylvain Ravy, Emmanuel Trizac (CNRS / Univ. Paris-Saclay, FR)

Application and registration

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Deadline for abstract submission : 2020, April 15



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