



The Abdus Salam  
International Centre  
for Theoretical Physics

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## ICTP - LEMSUPER Conference on

# MECHANISMS AND DEVELOPMENTS IN LIGHT-ELEMENT BASED AND OTHER NOVEL SUPERCONDUCTORS

24 - 26 September 2013  
ICTP, Miramare, Trieste, Italy

### LEMSUPER

Light element molecular superconductivity:  
an interdisciplinary approach



Superconducting materials with abundant and environmentally friendly elements are of vital importance for the future. At a fairly high rate, a variety of systems and materials appear where superconductivity emerges, involving organics and common light elements, and alkali or field doping of insulators. The underlying physics and concepts appear to differ and are in many cases still under intense debate. There is a need to understand the existing, and possibly design new superconducting systems with higher transition temperatures, based particularly on molecular systems of light elements. This proposal builds on an existing EU-Japan Project (LEMSUPER) focusing on alkali doped light element superconductors beyond alkali fullerides, particularly doped polycyclic aromatic hydrocarbons (picene, phenanthrene, coronene, dibenzopentacene,...) as well as field doped interface systems, but extends to include other systems of high current interest, and other physically related systems. A strong emphasis of this meeting will be to bring forth the latest experimental novelties in this field and beyond to the attention of the theoretical community.

#### **PARTICIPATION**

Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the Conference. As it will be conducted in English, participants should have an adequate working knowledge of that language. Although the main purpose of the Centre is to help research workers from developing countries, students and research scientists from all countries are warmly welcome to attend.

As a rule, travel and subsistence expenses of the participants should be borne by the home institution. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available for some participants who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only for those who attend the entire activity. There is no registration fee.

#### **LEMSUPER MIDTERM REVIEW (closed meeting)**

On Monday 23 September, the day preceding the open Conference, all members of the EU-Japan LEMSUPER Project and Advisory Board are invited to meet for the mid-term review of the Project.

#### **HOW TO APPLY FOR PARTICIPATION**

The application form can be accessed from the activity website  
[http://cdsagenda5.ictp.it/full\\_display.php?email=0&ida=a12209](http://cdsagenda5.ictp.it/full_display.php?email=0&ida=a12209)

Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

**Prospective participants are encouraged to input, besides their personal data, a title and abstract of a proposed contribution, to be considered by the Conference Directors as possible oral contributions, or as posters.** Participation of young researchers active in the field is warmly encouraged.

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IAEA  
International Atomic Energy Agency

#### **DIRECTORS**

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#### **LOCAL ORGANIZER**

Erio Tosatti (ICTP/SISSA)

#### **SPEAKERS**

J. Akimitsu (Aoyama Gakuin)  
H. Alloul (Orsay)  
H. Aoki (Tokyo)  
D. Arcon (Ljubljana)  
G. Baskaran, (Madras and Waterloo)  
J. Garcia-Barriocanal (Madrid)  
M. Fabrizio (SISSA)  
C. Felser (Dresden)  
P. Gallagher (Stanford)  
M.S. Golden (Amsterdam)  
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K. Prassides (Durham)  
B. Raveau (Caen)\*  
M. Rosseinsky (Liverpool)  
G. Saito (Nagoya)  
K. Tanigaki (Sendai)

(\* To be confirmed)

**DEADLINE**  
for requesting participation

**15 June 2013**