

Advances in SPM for Organic Electronics

A one-day course on advanced Scanning Probe Microscopy techniques aimed to probe physical properties of organic electronics materials, nanostructures, devices.

Date: 10 June 2014

Venue: San Geminiano, University Conference Center, Modena (Italy)

Chairpersons: Andrea Alessandrini, Fabio Biscarini, (UNIMORE) Ricardo Garcia (CSIC Madrid), Paolo Samorì (Université de Strasbourg and ISIS).

Lecturers:

Cristiano Albonetti (CNR ISMN Bologna)

Ricardo Garcia (CSIC Madrid, Spain)

Gabriel Gomila (IBEC, Barcelona)

Philippe Leclère (Université de Mons, Belgium)

Paolo Samorì (Strasbourg, France)

Vincenzo Palermo (CNR ISOF Bologna)

Meeting Overview

The “Advances in SPM on Organic Materials” course is a forum for graduate students, post-docs, and young scientists already acquainted with standard SPM or with knowledge on their features, and that want to enter or progress into advanced SPM techniques. The School wants to stimulate the interest towards the potential and perspectives of these techniques into organic electronics, discuss cutting edge ideas and new results based on SPM techniques applied to organic electronics materials and devices.

The tutorial lectures will overview the principles, latest progress and challenges of SPM techniques beyond imaging, as tools for investigating the physical properties of organic devices, including self-organization and growth phenomena of organic thin films, interfacial phenomena, charge transfer and transport, mapping of voltage and E-field distribution, and measurement of relevant properties like bio-recognition, electrostatic potential and capacitance at the biological/organic device interface. Applications of the techniques to devices like field effect transistors, photovoltaic cells, bio-sensors during operations will be presented.

Program

Morning session (Chair, Andrea Alessandrini)

- 9:00 am – 10.00 am: **Ricardo Garcia** (Madrid): tentative title “High resolution Force Microscopy of organic semiconductors and bio/organic electronics interfaces”
- 10:00 am – 11.00 am: **Cristiano Albonetti** (CNR, Bologna): tentative title “Electrostatic Force Microscopy of organic field effect transistors and ultra-thin organic semiconductor layers”
- 11:00 am - 11:30 am: Coffee Break (with Poster session)

- 11:30 am – 12:30 am: **Gabriel Gomila** (IBEC, Barcelona): tentative title “Quantitative Electrostatic Force Microscopy for dielectric measurements in electrolyte solutions”
- Lunch: 12:30 am – 2:00 pm

Afternoon session (Chair: *Fabio Biscarini*)

- 2:00 pm – 3:00 pm: **Paolo Samorì** (Univ. Strasbourg & ISIS): “STM at the organic liquid/solid interface”.
- 3:00 pm – 4:00 pm: **Philippe Leclère** (Univ. Mons): “High Resolution SPM on Low Dimensional Organic Semiconductors: (photo)conducting AFM for photovoltaics and AFM on nanofibrils for FET and WOLED”.
- 4:00 pm – 4:30 pm: Coffee Break Poster
- 4:30 am – 5.30 am: **Vincenzo Palermo** (CNR, Bologna): “Scanning Kelvin Probe Microscopy of organic semiconductors for photovoltaics and graphene”
- 5:30 pm – 6:00 pm: Wrap-up discussion (moderators F. Biscarini and A. Alessandrini)
- Poster Session 6:00 pm - 7:30 pm, with beverages and snacks

Application Instructions

The meeting will feature 6 one-hour lectures by scientists experts of SPM, one poster session and a round table with Q/A. A proactive participation by attendees is encouraged through 15-minute discussion for each lecture. All applicants must include an abstract of the poster.

Registration

Registration is done on the ICOE 2014 web site, although is independent of the ICOE 2014 conference. Registration fee is 75 € before deadline, and 100 € after deadline or at the conference site, and includes lunch, coffee breaks, and aperitif. A certificate of attendance will be released.
