



«ETTORE MAJORANA» FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE
TO PAY A PERMANENT TRIBUTE TO GALILEO GALILEI, FOUNDER OF MODERN SCIENCE
AND TO ENRICO FERMI, THE "ITALIAN NAVIGATOR", FATHER OF THE WEAK FORCES



INTERNATIONAL SCHOOL OF LIQUID CRYSTALS

17th Course: ORGANIC NANOMATERIALS FOR ELECTRONICS AND PHOTONICS

ERICE-SICILY: 13 – 20 APRIL – 2010

Sponsored by the: • Italian Ministry of University and Research • Sicilian Regional Government • EU: ONE-P Project

PROGRAMME AND LECTURERS

Organic field effect transistors investigated by scanning probe microscopy techniques

• C. ALBONETTI, CNR Bologna, IT

Material synthesis (polymers) and applications

• M. ANDERSSON, Chalmers University of Technology, SE

Nano-scale metal particles: from laboratory to application

• L. ASHFIELD, Johnson Matthey, Reading, UK

Morphological analysis of multifunctional materials: thin films and nanostructures

• F. BISCARINI, CNR Bologna, IT

Transient photocurrent measurements: a tool for characterization of electric charge transport in organic semiconductors

• G. BRATINA, University of Nova Gorica, SI

Photoelectron spectroscopy studies of organic-organic and hybrid interfaces

• S. BRAUN, Linköping University, SE

Exploring polymorphism in organic semiconductors

• A. BRILLANTE, University of Bologna, IT

Quantum chemistry for organic electronics

• J. CORNIL, University of Mons, BE

Design and photophysical properties of triplet emitters for electroluminescent devices

• L. de COLA, Westfälische Wilhelms University Münster, DE

Spintronics with organic semiconductors

• V.A. DEDIU, CNR Bologna, IT

Process development – from Lab to production scale

• M. ELBS, BASF, Basel, CH

Functional compounds for organic electronics: synthetic logic of materials design

• G. FARINOLA, University of Bari, IT

Technology transfer models turning knowledge onto competitive advantage

• A. FURLANI, INNOVA Roma, IT

Discotic liquid crystals: from synthesis to alignment

• Y. GEERTS, Université Libre of Bruxelles, BE

Finite element modeling of microstructures in soft-lithography based printing process

• P. GRECO, SCRIBA Nanotecnologie Bologna, IT

Organic light emitting diodes: from basics to applications

• B. LÜSSEM, Technische University Dresden, DE

Observing the nanoscale by x-ray scattering

• M. MEEDOM NIELSEN, University of Copenhagen, DK

Applications and exploitation of printed, flexible and large area electronics technologies

• L. OCCHIPINTI, ST Microelectronics Catania, IT

Molecular Electronics. From molecules to devices

• C. ROVIRA, CSIC Barcelona, ES

Polymeric donor materials for bulk heterojunction organic solar cells

• U. SCHERF, Bergische University Wuppertal, DE

Probing soft interfaces with neutron reflection

• M. SFERRAZZA, Université Libre of Bruxelles, BE

Charge transport physics of high mobility organic semiconductors

• H. SIRRINGHAUS, University of Cambridge, UK

Bringing semiconducting polymers to order

• N. STINGELIN-STUTZMANN, Imperial College London, UK

Obtaining soft matter molecular organizations via computer simulations

• C. ZANNONI, University of Bologna, IT

PURPOSE OF THE COURSE

Over the last years, enormous technological achievements have been made in the field of organic electronics and photonics and some applications such as light-emitting diodes and flexible electronic paper displays are now in an advanced stage of commercialisation. However new functional organic materials are still missing to enable the next generation of applications. ONE-P (Organic nanomaterials for Electronics and Photonics) is a European project of 28 partners that aim to develop the missing high-performance, low-cost multifunctional materials and their fabrication technology thanks to the synergy between academic and industrial research and the integration of complementary competences.

Within three years of activity, ONE-P will set the knowledge basis for long-term industrial development and exploitation by materials suppliers and end-users.

One of the explicit deliverables of ONE-P is also to organize a School with the aim of providing appropriate training and an interdisciplinary introduction to young researchers in the Nanoscience and Nanotechnology for Electronics and Photonics. The first School will bring together top specialists of the ONE-P consortium that will lecture on topics that in many cases they have themselves pioneered, providing participants a clear view of this rapidly developing field.

Topics will cover all aspects related to organic electronics and photonics, ranging from theory, synthesis, characterization, processing, device fabrication, value chain, applications and markets. Lecturers external to the ONE-P community will be invited to broaden the scope of opinions on applications and markets. Feedback from students will be collected (Organizing Committee: Luca Muccioli, Silvia Orlandi, Paolo Pasini).

APPLICATIONS

Persons wishing to attend the Course should apply in writing to:

- Dr. Paolo PASINI
Istituto Nazionale di Fisica Nucleare – Sezione di Bologna
Via Ilerio 46 – 40126 BOLOGNA, Italy
email: pasini@bo.infn.it
email: orlandi@fci.unibo.it
email: luca@fci.unibo.it

specifying:

- full name, address, age, nationality;
- academic qualification, present position and affiliation;
- specific interest in the Course.

POETIC TOUCH

According to legend, Erice, son of Venus and Neptune, founded a small town on top of a mountain (750 metres above sea level) more than three thousand years ago. The founder of modern history — i.e. the recording of events in a methodic and chronological sequence as they really happened without reference to mythical causes — the great Thucydides (~500 B.C.), writing about events connected with the conquest of Troy (1183 B.C.) said: «After the fall of Troy some Trojans on their escape from the Achaei arrived in Sicily by boat and as they settled near the border with the Sicanians all together they were named Elymi: their towns were Segesta and Erice.» This inspired Virgil to describe the arrival of the Trojan royal family in Erice and the burial of Anchises, by his son Aeneas, on the coast below Erice. Homer (~1000 B.C.), Theocritus (~300 B.C.), Polybius (~200 B.C.), Virgil (~50 B.C.), Horace (~20 B.C.), and others have celebrated this magnificent spot in Sicily in their poems. During seven centuries (XIII-XIX) the town of Erice was under the leadership of a local oligarchy, whose wisdom assured a long period of cultural development and economic prosperity which in turn gave rise to the many churches, monasteries and private palaces which you see today.

In Erice you can admire the Castle of Venus, the Cyclopean Walls (~800 B.C.) and the Gothic Cathedral (~1300 A.D.). Erice is at present a mixture of ancient and medieval architecture. Other masterpieces of ancient civilization are to be found in the neighbourhood: at Motya (Phoenician), Segesta (Elymian), and Selinunte (Greek). On the Aegadian Islands — theatre of the decisive naval battle of the first Punic War (264-241 B.C.) — suggestive neolithic and paleolithic vestiges are still visible: the grottoes of Favignana, the carvings and murals of Levanzo.

Splendid beaches are to be found at San Vito Lo Capo, Scopello, and Cornino, and a wild and rocky coast around Monte Cofano: all at less than one hour's drive from Erice.

More information about the «Ettore Majorana» Foundation and Centre for Scientific Culture can be found on the WWW at the following address:
<http://www.ccsem.infn.it>

Closing Date for Applications 12 April 2010

- PLEASE NOTE
Participants should arrive in Erice on April 13, not later than 5 pm.