

Job description: Senior Post-Doc in engineering of optoelectronic organic devices for smart-system sensors

The Institute for the Study of Nanostructured Materials (ISMN) of the National Research Council (CNR) in Bologna (Italy) is opening a senior post-doctoral position within the “*Flexible and Wearable Organic and Hybrid Electronics and Photonics*” Research Topic http://www.ismn.cnr.it/index.php?option=com_k2&view=item&id=452:flexible-and-wearable-organic-and-hybrid-electronics-and-photonics&Itemid=555&lang=en&Itemid=558 under the supervision of Dr. Stefano Toffanin.

Job responsibilities will include the coordination of the workgroup in ISMN in Bologna committed in the implementation of the H2020-ICT-2017-1 MOLOKO project (Grant Number 780839) that is formally starting from January 1st 2018 and coordinated by CNR.

The main objective of MOLOKO (*Multiplex photonic sensor for plasmonic-based Online detection of contaminants in milk*) project is the manufacturing, implementation and validation of a self-managing and automatic miniaturized integrated photonic sensor to be used as process analytical instrumentation for fast-response on-site monitoring of interest analytes for security and quality within milk supply chain. These challenging objectives are achieved by integrating within the same device platform forefront technologies as organic photonics, nanoplasmonics, immunoassay diagnostics and microfluidics. The MOLOKO miniaturized integrated photonic sensor is expected to guarantee fast, low-cost, robust, quantitative and high-sensitive multiplexing detection for the rapid acceptance screening of the analytes of interest. The inherent versatility of the sensor guarantees disruptive effectiveness in multiple real settings applications

The interested persons will be subject to pass a public examination. An internationally competitive salary within what is contemplated by Italian Legislation for this type of position in Public Research Institution will be offered to the selected candidate.

Desired skills and experience

We are looking for highly motivated people with a strong background in fabrication of optoelectronic devices mainly based on organic semiconductors (small molecules and/or polymers) such as field-effect transistors, light-emitting diodes and photodiodes. Job responsibilities will include the engineering of organic light-emitting transistors as photonic components to be integrated into advanced smart optical systems for environmental health and food safety diagnostics within the framework of the as-started H2020 European Project MOLOKO.

The organic, inorganic and hybrid materials implemented in the device architectures will be processed by means of both dry (i.e. thermal vacuum sublimation) and wet (i.e. spin-coating, doctor-blade, slot-die) techniques.

The candidates are expected to demonstrate solid capacity and will in working in team, in interacting with academic and industrial partners according to a shared day-by-day activity schedule and in pursuing scientific and technical targets by means of application-driven validation methodology.

Eligible applicants are required to have a PhD in Materials Science, Physics, Chemistry or Electrical Engineering, and at least two years of experience in the research field. We value scientists who

can interact effectively with an interdisciplinary team, have a high degree of independence and take accountability for their project.

About the employer

CNR is the largest Italian research institution. ISMN is a CNR research institute on nanostructured materials for molecular electronics and photonics. ISMN is internationally renowned for its multidisciplinary research in conjugated materials, organic and hybrid optoelectronic and photonic devices. ISMN-Bologna was ranked by the European Union at top position among European centres of excellence in the field of organic semiconductors and nanotechnology.

CNR-ISMN has generated 4 spinoff companies in the field of opto-electronics organic devices, spintronics, nanofabrication and drug delivery technologies. ISMN is involved in technological transfer to SMEs of growth equipment and of organic LEDs and FETs fabrication in national and international programmes.

ISMN has published more than 500 papers on conjugated materials, and holds several international patents.

In order to comply with Italian Law (art. 23 of Privacy Law of the Italian Legislative Decree n. 196/03), the interested person is kindly asked to give his/her consent to allow CNR-ISMN to process his/her personal data.

Please also note that, pursuant to art.7 of Legislative Decree 196/2003, you may exercise your rights at any time as a party concerned by contacting the CNR-ISMN, located in Bologna Via Gobetti 101.

Applications and requests of additional information should be addressed to:

Stefano Toffanin
ISMN-CNR
Istituto per lo Studio dei Materiali Nanostrutturati
Via P.Gobetti, 101
40129 Bologna, ITALY
Tel +39 051 6398514
Fax +39 051 6398540
e-mail: s.toffanin@bo.ismn.cnr.it