Perovskite Material Engineering for Sustainable Optoelectronics Innovation

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Seminar Room, h. 11:00
Polo F.Ferrari 2 – via Sommarive 9 - Trento

The exploitation of organohalide perovskites (OHPs) in optoelectronics signified, ever since 2012, one of the most important leaps that the related scientific community has ever experienced. The great impact of this class of materials is mainly due to the unique set of optoelectronic properties combined with the promise of low cost techniques for their production. The progresses imposed by OHPs to many optoelectronic fields have been so fast, that many aspects of such emerging technologies have very little been explored. In particular the intelligent design of the material final properties is not so easy to achieve, being the OHPs formation process based on weak interactions, in addition the stability of the materials thus of the related devices have scarcely been granted. Based on in-depth investigations and material engineering, in my group we have developed strategies to achieve a fine control of OHPs formation for application in different classes of optoelectronic devices.

Biography
Silvia Colella is researcher at the Physics Department of Salento University, and associated researcher at the Institute of Nanotechnology of CNR (Nanotec) in Lecce, from 2013. After receiving her PhD in Nanoscience in 2010, she worked at the “Institut de science et d’ingénierie supramoléculaires” (ISIS) in Strasbourg and at BASF SE in Ludwigshafen. Currently her research activity focuses on the exploitation of halide perovskites for optoelectronics. Since 2008 she has published more than 50 papers on the development of novel photovoltaic and optoelectronic materials and devices. Some of these works contain referential results for the community focusing on the halide perovskite exploitation.

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