

Seminar:



Wednesday, November 23rd 2022, h 15:00

Aula A, DiFC, Via Archirafi 36, Palermo

Seminar "LaBAM" group

Marco Cannas, Department of Physics and Chemistry – Emilio Segrè, University of Palermo

Title: Some light on our research!

The seminar aims to present the research activity of the "Laboratory Roberto Boscaino of Advanced Materials" (LaBAM) group, with particular attention to innovative materials for light-based technologies and their applications. The study of light-matter interaction, crucial for understanding the microscopic origin of many optical phenomena, is presented through some model examples:

- *Light emission by nanoparticles;*
- *Light propagation in optical fibers;*
- *Conversion of light into other forms of energy.*

Simonpietro Agnello, Department of Physics and Chemistry – Emilio Segrè, University of Palermo

Title: Is 2D Physics frontier physics?

The "recent" discovery of purely two-dimensional (2D) materials has broken expectations of theoretical physics and has started studies for physics at the two-dimensional nanoscale. The physical properties of some materials such as graphene and the semiconductors of transition metal compounds today highlight the potential of these solid systems both for basic physics and for advanced technology applications and will be illustrated in the seminar.

Alice Sciortino, Department of Physics and Chemistry – Emilio Segrè, University of Palermo

Title: Seeing the invisible: the zero dimension as a source of light.

Reducing the size of an object to the nanoscale up to the creation of so-called Quantum Dots introduces new physical properties that do not occur on the macroscopic scale. Of all the features, the optical properties are most affected by these changes. In the seminar will be shown some examples of zero-dimensional materials with extraordinary photophysical properties that can be used in multiple applications.