



Politecnico
di Torino

DISAT

Science Connections Seminar



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She is Senior Researcher and head of the group “Synthesis” at ICTP-CSIC.

In the last 15 years her research has been focused in photopolymerization processes, functionalization of polymers, synthesis of fluorescent probes and antimicrobial polymers. She has been member of the core group of CSIC for the management of the research during COVID pandemics, being the coordinator of the line “EPIs: new materials for face masks and virucidal treatments of surfaces”. She has had several scientific responsibilities: Director of the Institute of Science and Technology of Polymers (CSIC), President of the Center for Organic Chemistry (CENQUIOR-CSIC), and currently she is Deputy President of the Association for the Development of Science and Technology (FOCITEC-Spain).

Fluorescent Probes for Sensing Processes in/with Polymers

Polymers are probably the most outstanding materials. They show an amazing versatility of properties, so they are employed for a huge variety of applications. They can be used as structural materials (for packaging, automotive industry, coatings, flooring, textiles, engineering materials,.....) or as functional materials, in which a specific function can be provided by the material (desalination membranes, intelligent polymers, drug delivery, information storage, sensors,.....).

Fluorescence spectroscopy is now a dominant methodology used extensively in the biomedical and materials fields. It is an extremely sensitive technique which is currently used in very different areas as a detection technique. Specifically, the use of molecules in which the structure is designed with a signalling unit which can be activated by a molecular recognition event or changes in their surroundings (fluorescent probes), can be used to construct sensors.

In this lecture, an overview of fluorescence spectroscopy as analytical technique will be given. An especial emphasis will be due to the use of fluorescent probes together with polymers to detect or quantify different processes, such as changes in material properties or the presence of analytes. The double aspect of the use of fluorescent probes for detecting processes inside a polymer material, or the use of polymers as support of fluorescence probes will be explained.

Wed. October 23rd 2024 | 11.30–12.30 | Aula Didattica @ DISAT