



**Università
degli Studi
di Ferrara**

**Dipartimento
di Scienze Chimiche,
Farmaceutiche ed Agrarie**

Via Luigi Borsari 46, 17 I-44121 FERRARA – ITALY

AVVISO DI SEMINARIO

Martedì 20 Marzo 2024 alle ore 14:45 (aula 6 del complesso Macchiavelli) si terrà il seguente seminario:

Synthesis, characterization and use of “Off/On” fluorophores for cellular cartography

Prof. Michele Fiore

**Institut de Chimie et Biochimie Moléculaires
University of Lyon, Claude Bernard Lyon 1
ICBMS – UMR5246**

1 Rue Victor Grignard, F-69622 Villeurbanne Cedex, France

**Guest professor at the University of Siena, Department of Environmental Science, Via
Laterina 8, Siena, Italy
michele.fiore@univ-lyon1.fr**

Fluorescence microscopy is a key method to study protocells and cells on the molecular scale. Scientific efforts are currently being made to develop specific fluorescent probes for different applications. Xanthene (Fluoresceine, Rhodamine, Rhodol) based dyes have a pivotal role in this field thanks to their good biocompatibility, low toxicity, high quantum yields, and availability in a wide range of emission wavelengths. This work aims to prepare a new class of “off/on” fluorogenic molecules with specific emission wavelength ($\lambda_{em} \sim 510-520$ nm) by modifications on pre-existing xanthene-based structures or by *de novo* preparation from cheap building blocks in a few steps in large scale and good yields. With those compounds, we were able to monitor the activity of lysosomes inside cells orthogonally to other organelles and the nuclei. In addition, the mechanism of “off/on” has been used to monitor the presence of ATP and its quantification

Docenti, studenti e dottorandi (crediti riconosciuti per dottorandi: 1 CFU) sono invitati ad intervenire
(Prof. Alessandro Massi)