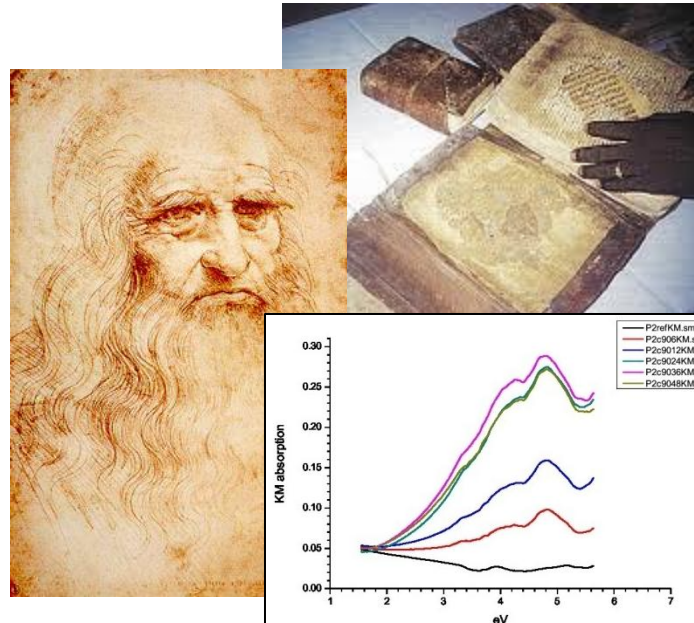


### RESEARCH ACTIVITY

- Study of materials for cultural heritage, made in cellulose (manuscripts, books, documents, drawings), by means of non-destructive optical experiments (absorption, reflection, luminescence) in the UV-Vis and infrared ranges.
- First-principles simulations of the optical properties of pure cellulose, and of cellulose with oxidized groups and impurities.

### Non-invasive, non-destructive experimental techniques + theoretical ab-initio methods



### RESULTS/PRODUCTS

Experimental and theoretical studies for the identification of the oxidized groups (chromophores) present in cellulose degraded fibers and responsible for the yellowing of ancient paper.

### RESEARCH GROUP

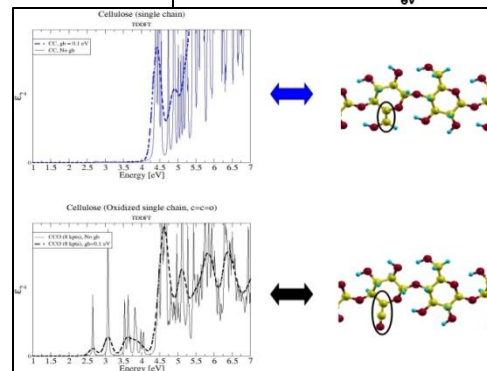
#### CNR-ISC

Mauro Missori

#### University of Rome Tor Vergata and NAST center

Olivia Pulci

Adriano Mosca Conte



### OUTCOMES

- Characterization of the optical properties of cellulose: artificially degraded samples, and ancient paper from XV century
- Quantitative and qualitative identification of the chromophores responsible for the yellowing of paper.
- Study of the Leonardo Da Vinci self-portrait, and identification of its conservation conditions.