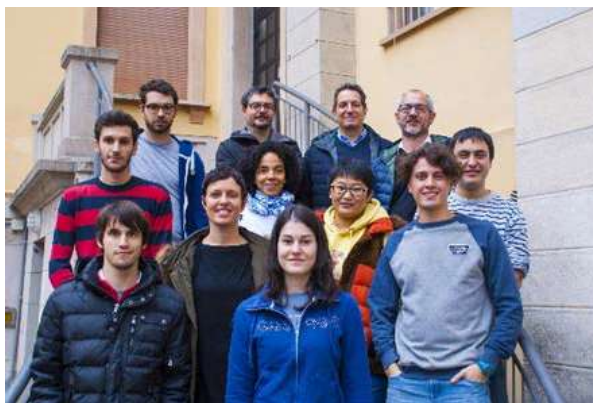


Organic Materials

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Organic synthesis towards functional materials is at heart of the group, whose research focuses mainly on the chemical functionalization of carbon nanostructures for solar energy conversion and biomedical applications, the use of nanocellulose as a platform for bio-inspired functional materials and the preparation of functional supramolecular gels. We often use the microfluidics toolbox to study reactions or surface absorption kinetics, the controlled functionalization of nanosystems or the batch-to-flow transposition of active pharmaceutical ingredients of industrial interest. Main characterization techniques for organic synthesis and materials, including high-field and solid-state NMR, NIR absorption, TGA and DSC thermal analysis, AFM-STM at ambient conditions, benchtop flow reactors and cleanroom facilities are commonly accessed by the group components.

- *The Renaissance of Fullerenes with Perovskite Solar Cells*, Nano Energy, **2017**, 41, 84-100.
- *A D- π -A organic dye - reduced graphene oxide covalent dyad as a new concept photosensitizer for light harvesting applications*, Carbon, **2017**, 115, 746-753.
- *Organic Functionalized Carbon Nanostructures for Functional Polymer-Based Nanocomposites*, Eur. J. Org. Chem. **2016**, 2016, 1071-1090.
- *Boosting perovskite solar cells performance and stability through doping a poly-3(hexylthiophene) hole transporting material with organic functionalized carbon nanostructures*, Adv. Funct. Mater., **2016**, 26, 7443-7453.
- *Tuning the Electron-Acceptor Properties of [60]Fullerene by Tailored Functionalization for Application in Bulk Heterojunction Solar Cells*, Asian J. Org. Chem., **2016**, 5, 676-684.