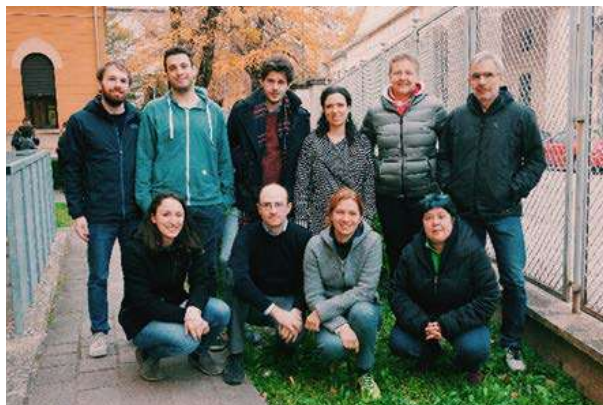


Laser Spectroscopy and Nanophotonics

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The group has a long standing experience in the investigation of inter- and intra-molecular charge and energy transfer, fast coherent and incoherent dynamics, and nonlinear optical response in complex systems like molecular crystals, molecular aggregates, metal and semiconductor nanoparticles. Recently optical properties of properly synthesized nanostructured materials, like core-shells, spherical nanoparticles and metallic substrates have been investigated, with particular attention to the near-field spectral distribution, in view of application as optical sensors, and to the nanoparticles-proteins/cells interactions. Nonlinear optical properties of these materials have also been exploited for the realization of optical devices, like optical limiters, nanolasers and microfluidic circuits.

- *Correlated Fluctuations and Intraband Dynamics of J-Aggregates Revealed by Combination of 2DES Schemes*, J. Phys. Chem. Lett., **2016**, 7, 4996-5001.
- *Oxidation effects on the SERS response of silver nanoprisms arrays*, RSC Adv., **2017**, 7, 369-378.
- *Mechanistic insight into internal conversion process within Q-bands of chlorophyll a*, Sci. Rep., **2017**, 7, 11389/1-7.
- *Spectroscopic insights into carbon dot systems*, J. Phys. Chem. Lett., **2017**, 8(7), 2236-2242.
- *Bridging Energetics and Dynamics of Exciton Trapping in Core-Shell Quantum Dots*, J. Phys. Chem. C, **2017**, 121(1), 896-902.