

Course: Catalysis from small molecule activation to complex supramolecular systems

Duration: 24 hours

Teacher(s): SARTOREL Andrea, RIGODANZA Francesco, ROSA-GASTALDO Daniele

Curriculum: Chemical Sciences

Description: The course will focus on the most recent developments of catalysis for small molecule activation and for organic synthesis via complex supramolecular systems. Fundamentals on the activation of oxygen, reactivity of C-H bonds, and thermochemistry of carbon dioxide will be initially given.

Attention will be then given to photosynthetic catalysis, in particular to multiphoton redox catalysis on small single molecules and how catalytic properties can be tuned spanning from single molecule to complex supramolecular assemblies, including potential applications and implications for catalytic design. Participants will gain a comprehensive understanding of the mechanisms and innovative approaches employed in these catalytic processes.

Verification method: presentation and discussion of a research article related to the arguments of the course

Additional information: *(guest speakers, practical sessions, etc)*