



Il Dipartimento di Scienze Chimiche accoglie il dott. Luka Đorđević che terrà un seminario dal titolo:

Photocatalytic supramolecular soft matter

Martedì 31 gennaio 2023, ore 16.00 Aula H, Dipartimento di Scienze Chimiche, Via Marzolo, 1.

In the field of artificial photosynthesis, self-assembly is an attractive strategy that utilizes noncovalent interactions to mimic the alignment and organization of light-harvesting machinery found in plants. Although recently there has been much progress in the chemistry of supramolecular polymers for harvesting sunlight, most systems are limited to the aqueous photocatalytic production of hydrogen. Therefore, efforts are still needed to develop artificial photosynthetic systems for the great challenge of CO_2 reduction (especially with nonabundant metals) and/or production of liquid fuels.

To obtain supramolecular materials for production of solar fuels, the design of monomers is crucial. The monomers utilized are chromophore amphiphiles that, on one hand, encode the light-harvesting ability to drive photocatalytic reactions and, on the other hand, spontaneously self-assemble in aqueous solutions. This talk will describe two separate strategies to use self-assembled materials to photocatalytically produce either (i) carbon monoxide and methane starting from carbon dioxide or (ii) hydrogen peroxide from water and oxygen.



Il Direttore del Dipartimento Michele Maggini