Surface Supramolecular Chemistry

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The SSC Group's research activities deal with the thermo- and photoinduced on-surface synthesis of 2D materials starting from supramolecular assemblies of functionalized precursors, with a particular emphasis on the preservation of a high degree of long-range order throughout the process. The group manages an ultra-high vacuum chamber equipped with scanning tunneling microscopy (STM) and other surface science tools, interfaced with both single-wavelength and tunable laser sources for in-vacuum surface photochemistry with molecular resolution. An ambient STM/AFM instrument for solid/liquid and solid/air investigations complements the available equipment. The group has ongoing collaborations with several Italian and European groups active in the field of on-surface synthesis and molecular magnetism.

- *Metal-Free on-Surface Photochemical Homocoupling of Terminal Alkynes,* J. Am. Chem. Soc., **2016**, 138, 10151-10156.
- *Tunable Band Alignment with Unperturbed Carrier Mobility of On-Surface Synthesized Organic Semiconducting Wires,* ACS Nano, **2016**, 10, 2644-2651.
- *Molecules–Oligomers–Nanowires–Graphene Nanoribbons: A Bottom-Up Stepwise On-Surface Covalent Synthesis Preserving Long-Range Order,* J. Am. Chem. Soc., **2015**, 137, 1802-1808. (WOS highly cited paper)
- *Stereoselective Photopolymerization of Tetraphenylporphyrin Derivatives on Ag(110) at the Sub-Monolayer Level,* Chem. Eur. J., **2014**, 20, 14296-14304. (Hot Paper, Back Cover).
- *Tuning the catalytic activity of Ag(110)-supported Fe phthalocyanine in the oxygen reduction reaction,* Nat. Mater., **2012**, 11, 970-977.