EUROPEAN SCIENCE FOUNDATION
SETTING SCIENCE AGENDAS FOR EUROPE

EUROCORES Programme
European Collaborative Research

SONS 1 & 2

Self-Organised NanoStructures

Self-Organised NanoStructures (SONS) is a EUROCORES Programme of the European Science Foundation (ESF). It aims to create and build up a European knowledge base that will lead to fundamental science breakthroughs and enable future technological applications of SONS.

SONS are complex supramolecular structures that can assemble themselves through competing interactions between their components and their applications are ranging from magneto-opto-electronics, to catalysis and nano-medicine.

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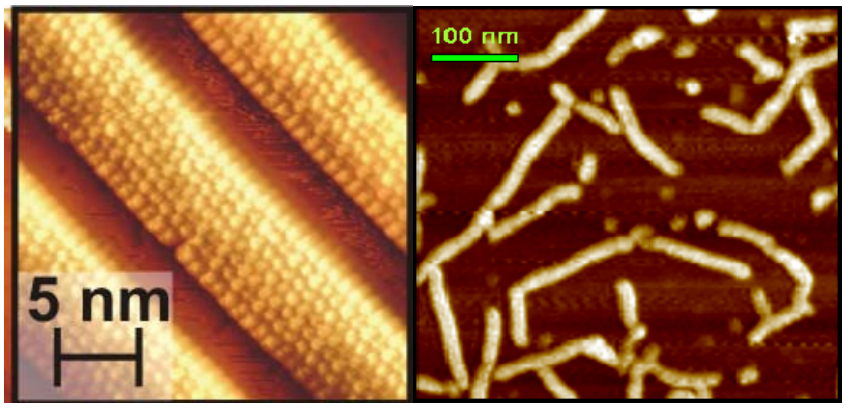
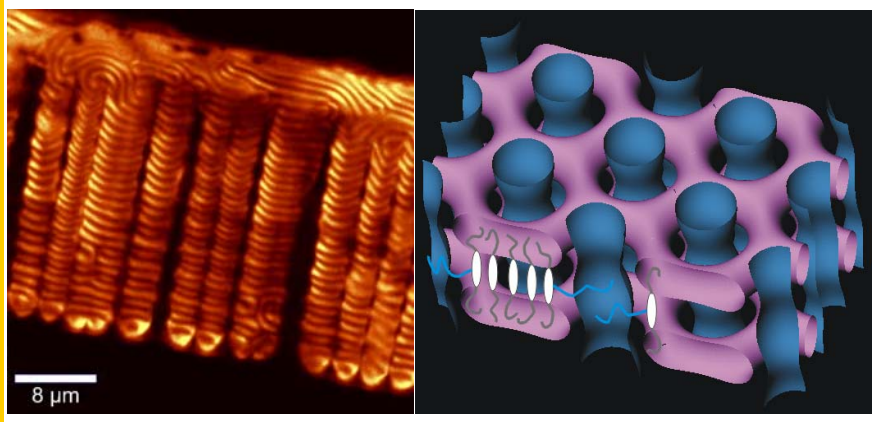


Left: STM image of C_{60} assemblies on Au(334) (MOL-VIC); **Right**: AFM image of self-assembled rigid rail-like nanostructures made of DNA parallelograms (BIONICS)



Left: The figure shows the director field of a self-organized cholesteric liquid crystal structure that appeared in a porous template. The image was obtained by fluorescence confocal polarizing microscopy and indicates the local orientation of the rod-like molecules (LC-NANOP); **Right:** Reconstructed electron density map of the channelled layer liquid crystal phase: the blue isoelectron surfaces enclose the polar channel-like domains (high electron density) and the pink surface encloses the low-density aliphatic regions. The layers in between are composed of aromatic rod-like units (SCALES)

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