

AVVISO DI SEMINARIO

*La dott.ssa Silvia Marchesan
Università di Trieste*

Giovedì 5 Ottobre ore: 12:00

Nell'aula seminari del Dipartimento di Scienze e Tecnologie
Chimiche

Terrà un seminario dal titolo:

**The supramolecular dance of heterochiral
tripeptides**

Proponente; Prof. F. Ricci

The supramolecular dance of heterochiral tripeptides

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Unprotected tripeptides are attractive building blocks for supramolecular hydrogels, however, predictions of their self-assembly behaviour is a very challenging task.¹ Appropriate choice of amino acid chirality is emerging as a useful tool to favour tripeptide conformation and self-organisation into hydrogel biomaterials at physiological conditions.²⁻³ Indeed, change of stereoconfiguration at a single carbon atom can lead to dramatic consequences, for the system can appear as a solution (homochiral tripeptide) or gel within seconds (heterochiral stereoisomer).⁴ As we gain knowledge in the field, principles of heterochiral peptide supramolecular behaviour are being revealed to allow rational design of new building blocks of this kind.⁵ Immediate applications lie in the area of functional materials, especially biomaterials, or towards antimicrobial hydrogels.⁶

We aim to achieve further understanding in the role of homochirality and heterochirality in the peptide world, as we develop further examples of these supramolecular systems, thanks to thorough characterisation by means of rheometry, transmission electron microscopy, atomic force microscopy, attenuated total reflectance-infrared spectroscopy, circular dichroism, single-crystal X-ray diffraction, molecular dynamics in explicit water, and more.

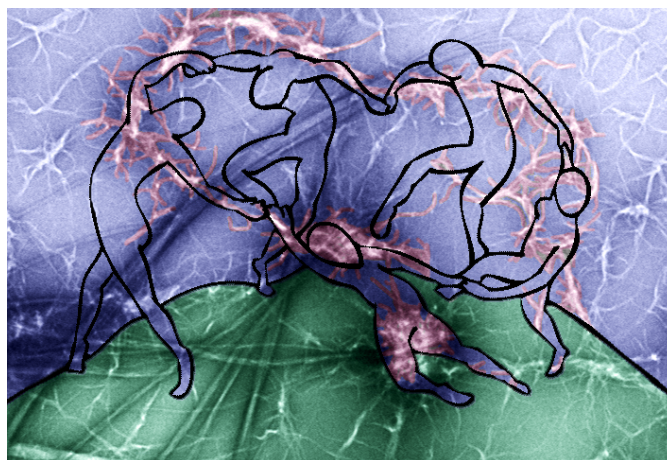


Fig.1. Artistic representation of self-assembling heterochiral peptide dance based on TEM micrograph.

References

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Acknowledgements

The authors would like to acknowledge funding from the Italian Ministry of Education, University and Research (MIUR) SIR program (HOT-SPOT project, grant n. RBS114A7PL for SM). Part of the research was conducted at the XRD1 beamline at the Elettra synchrotron in Trieste, Italy.