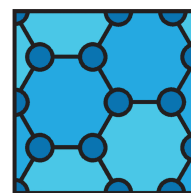


# NANOSCIENCE SEMINARS 2025



MARCH 11<sup>TH</sup> - 14.30 @ AULA A AND TEAMS

## THE SOFT SIDE OF MATTER: EXPLORING THE FASCINATING WORLD OF MICROGELS

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**ABSTRACT:** Microgels, a notable class of soft colloids, consist of particles formed by crosslinked polymer networks. They have attracted significant attention due to their unique properties, including deformability, elasticity, and potential interpenetrability. Additionally, their responsiveness to environmental stimuli makes them attractive for various applications. Here, aqueous suspensions of microgels based on the thermosensitive poly(N-isopropylacrylamide) (PNIPAM) and the pH-sensitive poly(acrylic acid) (PAAc) were synthesized and systematically investigated to understand their complex phase behavior.

Changes in external parameters affect the softness of the microgel particles, thereby influencing their structural, dynamical, rheological, and thermodynamic properties. A comprehensive approach, employing multiple experimental techniques, is used to explore the overall behavior of these microgels.

**Dr. Roberta Angelini** is Senior Researcher at the National Research Council (CNR), Institute for Complex Systems (ISC), Sapienza University of Rome. She is an expert in soft matter physics, focusing on the structure and dynamics of complex fluids, including colloidal suspensions, microgels, and polymeric networks. With a background in experimental condensed matter physics, her research combines scattering techniques, rheology, and calorimetry to explore the behavior of soft and responsive materials. She has led and collaborated on numerous international projects and serves as a key member of scientific organizations in the field.

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Strong expertise in the experimental investigation of soft matter and in the study of structure and dynamics of complex systems through laboratory techniques such as dynamic light scattering and large scale facilities techniques, such as X-ray and neutron scattering.