## Relaxation dynamics in a colloidal glass.

Marques F.A.M. (1), Angelini R. (2), Zaccarelli E. (2), Farago B. (3), Ruta B. (4), Ruocco G. (1)(5), Ruzicka B. (2)

- (1) Center for Life Nano Science, IIT@Sapienza, Roma
- (2) ISC-CNR, UOS Sapienza e Dipartimento di Fisica, Sapienza Università di Roma
- (3) Institute Laue-Langevin, Grenoble, France
- (4) European Synchrotron Radiation Facility, Grenoble, France
- (5) Dipartimento di Fisica, Sapienza Università di Roma

The aging dynamics of a colloidal glass [1] has been investigated in an unprecedentedly wide range of time and length scales through the combination of laboratory (multiangle Dynamic Light Scattering) and advanced (Neutron Spin Echo and X-ray Photon Correlation Spectroscopy) scattering techniques complemented by molecular dynamics simulations. The waiting time and wave vector dependence of microscopic and structural relaxation times covering both ergodic and nonergodic regimes have been monitored. The evidence of an unexpected complex dynamics is found with distinct behaviours for the two relaxation times across the glass transition [2].

[1]B. Ruzicka Nat. Mater. 10,56 (2010); R. Angelini Nat. Commun. 5:4049(2014). [4] F.A.M. Marques Soft Matter 11,466 (2015).