



## Post-doctoral fellow in high pressure studies of glasses with coherent X-rays

Glasses are mysterious materials. Fundamental blocks in many natural and technological processes, still, their properties keep puzzling a large community of scientists nowadays [1,2]. Historically, studies of the relaxation dynamics in glasses have been focused on the effect of temperature, owing in part to experimental convenience. Last decades have witnessed an increasing number of pressure studies on glass formers with the aim of shed some light on the many fascinating behaviours of out-of-equilibrium materials.

The post-doctoral fellow will take advantage of the new exiting possibilities offered by coherent x-rays at modern synchrotrons as ESRF (Grenoble, France) to perform new ground breaking experiments in glass formers at extreme conditions and in a previously unexplored dynamical range by using the X-ray Photon Correlation Spectroscopy (XPCS) technique [3] at high energy and in combination with *in-situ* high pressure and high temperature devices.

For this purpose, the post-doc will join the ID10 team at the ESRF to develop the appropriate set-up and data analysis tools.

The candidate should have a PhD in Physics, Materials Science or closely related science. Experience with high pressure science (diamond anvil cell), coherent X-rays or the study of out-of-equilibrium materials (glasses, gels ...) will be appreciated. We are seeking a self-motivated candidate with interest in fundamental research and team spirit. A background in computer programming (Python) is also desirable.

This work is funded by the European project ERC-StG CoherentGlasses located at the Institute Lumière Matière in Lyon. The successful candidate will participate to the group meetings in Lyon, will collaborate also to the projects of the other members of the group and she (he) will perform secondments in partner laboratories. Fluent English and good communication skills are required.

[1] P.G. De Benedetti and F.H. Stillinger, *Nature*, 410, 259 (2001).

[2] L. Berthier and G. Biroli, *Rev. Mod. Phys.* 83, 587 (2011).

[3] A. Madsen, A. Fluerasu and B. Ruta, *Structural Dynamics of Materials Probed by X-Ray Photon Correlation Spectroscopy* (Cham: Springer International Publishing) pp 1–21 (2015)

**Contract duration:** up to 3 years (18 months renewable for a further 18 months)

**Desired starting date:** Spring 2021

**Location :** ESRF – The european synchrotron, Grenoble & ILM, Université Claude Bernard Lyon 1

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