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Postdoctoral position in single-cell dynamics and cancer persistence

The group "[Statistical Physics of Cells and Genomes](#)" invites applications for an experimental postdoctoral position focused on the intersection of single-cell dynamics, cell cycle arrests, and cancer persistence. Our team combines theoretical physics and quantitative biology, and the goal of this project is to leverage advanced microscopy techniques to address fundamental questions in single-cell dynamics with relevance to cancer treatment.

The postdoc will lead experimental investigations into the reversibility of G0 and G1 cell cycle arrests in cancer and non-cancer cell lines, using cutting-edge advanced microscopy techniques quantitative phase microscopy (PHASICS), fluorescence exclusion (FxM), single-cell lineage tracking, and single-molecule tracking (SMT). The project aims to explore the coupling between mass, volume, and macromolecular density in these arrested states. Collaborations with the Piel lab (Curie Institute, Paris) and the Mazza lab (San Raffaele University, Milan) will provide opportunities for specialized training and co-development of the experimental approaches.

The postdoc will work closely with our group, which brings expertise in mathematical modeling and data analysis. This collaboration offers unique cross-disciplinary opportunities to apply and learn predictive modeling methods to interpret experimental results, generate testable hypotheses, and integrate quantitative data into mechanistic frameworks.

Applicants should hold a PhD in biophysics, bioengineering, cell biology, or a related field. The ideal candidate is an independent researcher with expertise in microscopy, single-cell analysis, and cellular dynamics. Familiarity with FxM, PHASICS, and SMT is desirable, but ample training opportunities with our collaborators will be available. The position is based at [IFOM](#), leveraging its state-of-the-art imaging facilities and interdisciplinary environment.

For application details, please contact SPCG_call@ifom.eu