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PIANO NAZIONALE
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JOB OPENING: POST-DOCTORAL POSITION in COMPUTATIONAL FLUID DYNAMICS

This postdoctoral project focuses on the role of hydrodynamical stresses in the fragmentation process of modeled micro-plastics in realistic flow conditions.

In particular, the research consists in performing Direct Numerical Simulations (DNS) of a turbulent suspension of fiber-like small fragments, by means of a Eulerian–Lagrangian approach. The goal is to compute the dynamics and statistical properties of fragments dispersed in the turbulent flow, and study how turbulent velocity gradient statistics impact their fragmentation rate.

This post-doctorate is founded by Italian Ministry of University and Research within the PRIN PNRR project “BREAKUP - Numerical and Experimental Investigation of Small Plastics Breakup in Complex Flows”.

The project is a collaboration between numerical modeling (developed at CNR NANOTEC, Lecce, Italy) and experimental investigation (developed Dept of Chemical Engineering, Univ. Federico II in Naples, Italy). Moreover, it is built up on a network of collaborations which includes Politecnico di Torino and the Dept. of Physics at the University of Rome Tor Vergata.

Job Information and Requirement

We are looking for an enthusiastic Post-doctoral fellow with an excellent background in fluid dynamics and computational physics. You have PhD in (applied) physics, mechanical engineering or mathematics. As an interested candidate, you should preferentially have a background in multiphase fluid dynamics, computational fluid dynamics and parallel programming.

The scientific environment at CNR NANOTEC is extremely diverse and stimulating. It hosts interdisciplinary research activities, from material fabrication to advanced photonics and nano-biotechnology, connected to a strong international network. The Institute is located in the campus of University of Salento (Unisalento), in the city of Lecce.

The position is for 18 months (possible extension up to 24 months), with a starting date ranging from May to June 2024.

The application should include: a CV, a brief research statement with motivations for the position, the names of two referees, and a copy of your PhD thesis (pdf file).

Applications should be sent to: [alessandrasabina.lanotte \(at\) cnr.it](mailto:alessandrasabina.lanotte@cnr.it)

Deadline for the application: 15 April 2024.