Date: 21/11/2020

Opening for a post-doc position to work on DNS of COVID-19 related flows

Applications are invited for the position of a post-doctoral research fellow, to work on a project entitled "Direct numerical simulation of cough/sneeze/speech flows for understanding transmission dynamics of COVID-19-type infections". This is a multi-institutional project involving researchers from IISc-Bengaluru, ICTS-TIFR-Bengaluru, JNCASR-Bengaluru and Nordita (KTH)- Stockholm. For more details, see https://link.springer.com/article/10.1007/s41403-020-00106-w

The project involves

- To carry out direct numerical simulations (DNS) for cough/sneeze/speech flows using an available code, on a supercomputer housed at one of these institutes.
- To modify the existing code to include the dynamics of individual liquid droplets, including gravitational settling and phase change, and to parallelize the modified code.
- To carry out a study on the computed results to improve our understanding of these flows, and to develop physics-based models.

Required qualifications/skills are as follows:

- PhD in Mechanical/Aerospace/Chemical Engineering or in Physics with the PhD topic being in computational and theoretical fluid dynamics.
- Strong understanding of fluid dynamics, turbulence and moist thermodynamics.
- Good expertise in numerical programming, code parallelization and running codes on a supercomputer.
- Strong publication record.
- Excellent writing and communication skills.

The Postdoctoral Fellow will be expected to make independent and rapid progress.

Those interested are encouraged to apply to the Raman Post-doc program at IISc (https://iisc.ac.in/post-docs/) or the ICTS post-doctoral fellowship program (https://www.icts.res.in/academic/postdoctoral-fellowships). These fellowships are highly competitive and only outstanding candidates will be considered.

For informal queries on the position and the project, contact Dr. Sourabh S. Diwan (sdiwan@iisc.ac.in) / Prof Rama Govindarajan (rama@icts.res.in).