Marie Sklodowska Curie European Program Initial Training Networks

(Call identifier:H2020-MSCA-2015-ITN, Topic: MSCA-ITN-2015-ETN, Action: MSCA-ITN-ETN)

Project acronym: COMPLETE; Grant agreement no. 675675
Project full title:

Cloud-MicroPhysics-Turbulence-Telemetry: An inter-multidisciplinary training network for enhancing the understanding and modeling of atmospheric clouds

Clouds are the largest source of uncertainty in weather prediction, climate science, and remain a weak link in modeling atmospheric circulation. This is rooted in the fact that clouds depend on the physical and chemical processes over a huge range of scales, from the collisions of micron-sized droplets and particles to the airflow dynamics on the scales of thousands of meters. Since ambiguities related to representation of clouds in climate models prevail, explorative observations are still needed. The challenge is on the one hand to establish connections across this range of scales, from aerosol and particle microphysics to macro-scale turbulent dynamics in clouds, and on the other to combine knowledge and training across vastly different scientific and engineering disciplines. The aim of COMPLETE is to develop an inter/multidisciplinary training network that will prepare high-potential early stage researchers (ESRs) with both scientific and industrially-oriented skills that will advance our understanding in these multi-scale complex natural phenomena. COMPLETE will vastly improve Europe's position as a global leader in technology, science and innovation to address climate change challenges. The training programme will combine the scientific investigation of specific aspects of cloud physics and related turbulent dynamics with training in key professional skills. This comprises an exceptional experimental programme that includes field experiments, laboratory and numerical simulations, the design and development of advanced fast temperature probes, velocity MEMS and innovative atmospheric mini radio-sondes; all aimed at the production of new, Lagrangian based, cloud fluctuation datasets, required to reduce the fragmentation of results and knowledge in this field.

In the frame of this project, the Politecnico di Torino shall reserve **2 positions for the PhD program in Physics and 2 positions for the PhD program in Electrical, Electronics and Communication Engineering.**