

Training Opportunity for Irish Trainees

Reference	Title	Duty Station
IE-2018-SCI-00	Systematic analysis of synergies in science operations across ESA missions	ESAC

Overview of the unit's mission:

As part of the Science Operations Department in the Directorate of Science, the Mission Operations Division is responsible during the operations phase (from completion of in-orbit commissioning to the start of post operations) for (a) the overall management of the Directorate's missions and (b) the execution of the science operations of the Directorate's missions.

Overview of the field of activity proposed:

Different missions tend to work independently of one another and have very little cross-team exchanges. On the one hand, it is natural for this structure to come about, because each mission is headed by a different person who is responsible for forming their own team, and running their operations on their own budget. On the other hand, it makes little sense from a global perspective, because there is certainly a great deal of work that is replicated many times across different missions, which naturally implies that the overall efficiency of the department cannot be improved without establishing guidelines and putting in place mechanisms for cross-mission communications and sharing of work in development and operational strategies. Recent efforts to provide cross-mission support infrastructure has been well received. However, it is on a voluntary basis, and it provides a purely technical support: it does not address the fundamental challenge of improving communications and identifying synergies between missions and teams.

For this purpose, it would be necessary to perform a detailed, systematic analysis of the activities and needs of each mission at different stages, and based on this analysis, create a framework to maximise synergies, cooperation, exchange, development, and operational work across all missions. This would be divided in four phases:

Phase 1 would be detailed survey of all the activities of each mission through discussions with team members.
 Phase 2 would be the analysis of these results to identify general categories, commonalities, differences, etc.
 Phase 3 would be the conception of a framework to maximise synergies and exchanges between team work.
 Phase 4 would be the refinement and validation of the framework with all the missions and teams.

Exploration of software tools to help in the implementation should also be included. The final product would be a report containing the details of the work performed in each phase, and the conclusions on the proposed framework.

Required education:

Master's degree in science or engineering discipline.
 Strong analytical, interpersonal communication, organisational, and writing skills are all essential.