MARIE SKŁODOWSKA-CURIE ACTIONS

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The project ACO (AstroChemical Origins) has two main objectives:

(1) to unveil the early history of the Solar System, using the chemical composition of today forming Solar-like planetary systems and comparing it with that of the Solar System primitive bodies;

(2) to train a new generation of researchers able to tackle this highly interdisciplinary problem, providing them with a wide-range of transferable skills, including the ability to communicate Science to a large audience.

This will be obtained by setting up:

(a) a coordinated network of PhD research projects which will be carried out by 17 ESRs under the supervision of members of the ACO Beneficiaries*;*

(b) a structured secondment network, to expose ESRs to alternative research environments;

(c) a significant exposure of ESRs to the non-academic sector, via PhD co-supervision, secondment, short visits and training from non-academic ACO Beneficiaries and Partners;

(d) specific courses at the host institutions as well as network schools with specialized interdisciplinary and transferable skills courses;

(e) international conferences open to the scientific community;

(f) several activities to make ACO network and its science known to the general public.

In order to achieve the ACO objectives, the proposed network is constituted by fourteen Beneficiaries, whose four from the non-academic sector, plus seven Partner Organisations, whose six from the non-academic sector.

Each Participating Organization will provide a complementary expertise indispensable to achieve of the ACO objectives:
(i) instrumental, observational, theoretical, computational, modeling, and experimental to reach the scientific goal and,
(ii) on informatics, scientific presentation and management, for completing the wide-transferable training.

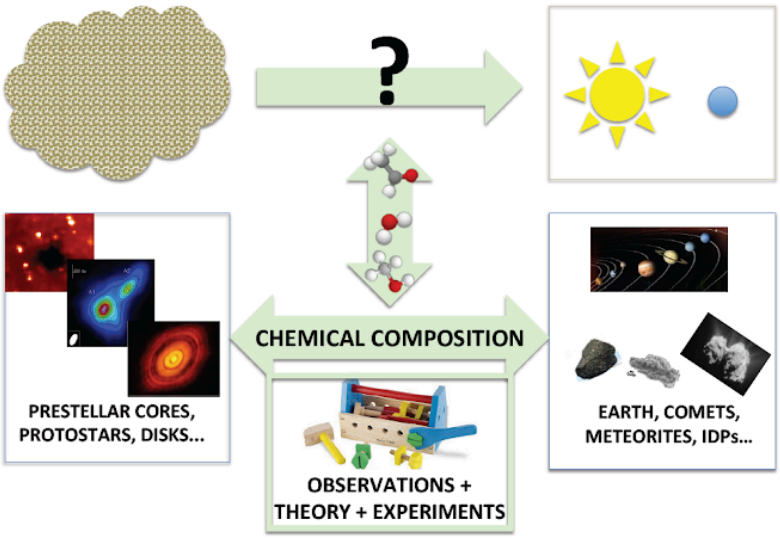

Figure 1: *Planetary systems are common product of star formation. Those detected so far show a large variety and none is like the Solar System, and not only because of the bias in their detection. What drives this diversity is unknown, but it is certainly due to the history of the system. The ACO project will use the chemical composition as a tool to reconstruct the early phases of the Solar System formation. On the one hand (left in the figure), we have the chemical composition of presently forming Solar-like systems, which are very sensitive to the environment and each step of the evolution. On the other hand (right in the figure), we have the chemical composition of the planets and most pristine objects of the Solar System.*