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ASTROBIOLOGY ROAD MAPPING (ASTROMAP) - A PROJECT WITHIN FP7 OF THE EUROPEAN COMMISSION

Abstract

Astrobiology and space exploration have received growing attention within the last phase of Framework Programme 7 of the European Commission, e.g., with EuroPlaNet (European Planetology Network), CAREX (Coordination Action for Research Activities on life in Extreme Environments), THESEUS (Towards Human Exploration of Space – a EUropean Strategy) and HAMLET (Human model MATROSHKA for radiation exposure determination of astronauts). For the 5th Call of the European Commission within FP7 the proposal "AstRoMap" was formulated and proposed under the coordination of INTA-CAB, and was accepted by the European Commission.

AstRoMap is executed within the following four steps:

1. Community consultation to reach and expand the European astrobiology community in order to perform a wide consultation on current and future research and space activities in astrobiology in relation with the AstRoMap roadmap definition process.

2. Organisation of four workshops to address astrobiological topics, specially tailored according to the European astrobiology community needs, i.e. (i) Origin of Solar system, (ii) Origin of organic compounds and steps to life, (iii) Physico-chemical boundary conditions for habitability, (iv) Biosignatures as facilitating life detection.

In addition, the following three cross-cutting activities will be discussed during the workshops: - Earth analogues: How can Earth analogues contribute to identify putative extraterrestrial habitats and technology tests? - Planetary protection: What are the conditions and requirements for planetary protection and planetary ethics? - Technology: What new technologies need to be developed for space missions designed to answer the questions defined in the workshops?

3. Astrobiology road-mapping: Based on the results and major conclusions elaborated during the workshops, an astrobiology roadmap will be constructed tailed to the European needs and competences.
4. Education and public outreach: Parallel to the workshop and consultation activities, AstRoMap will provide a comprehensive education and outreach program and disseminate the progress of AstRoMap through its web site (in progress).