Project Report: Delivery of Organic Materials to Planets

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PURPOSE

The European Exo/Astrobiology Network Association, EANA, was created to coordinate the different European centres of excellence in exo/astrobiology or related fields already organised in national networks. The specific objectives of EANA are to bring together European researchers interested in exo/astrobiology programmes and to foster their cooperation, to attract young scientists to this quickly evolving interdisciplinary field of research, to create a website establishing a database of expertise in different aspects of exo/astrobiology, to interface the Network with European bodies such as ESA, ESF, the European Commission and with non European institutions active in the field and to popularise exo/astrobiology to the public and to students.

The European Exo/Astrobiology Network Association was formalized in May 2001 during the First European Workshop on Exo/Astobiology in Frascati, Italy. It is run by an Executive Council consisting of national members presently representing 12 European nations active in the field (Austria, Belgium, Denmark, France, Germany, Italy, Portugal, Spain, Sweden, Switzerland, The Netherlands, and the United Kingdom) on the basis of one representative per nation, and elected members in a number equal to the number of active nations.

Research areas

Exo/Astrobiology encompasses the disciplines of chemistry, biology, palaeontology, geology, atmospheric physics, planetary physics and stellar physics. Most aspects of this research require substantial resources in terms of analytical or simulation laboratory facilities, ground instrumentation, spacecraft and staffing. There are several centres of excellence in exo/astrobiology or related fields of research in Europe and several nations have established national networks that were not coordinated for the sharing of expertise and facilities on a European level. There was, thus, an obvious interest in the creation of a European Exo/Astrobiology Network.

Recent activities

First European Exo/Astrobiology meeting in Frascati

During the Frascati Workshop, from 21 to 23 May 2001, attended by 200 scientists, the national and international activities in Exo/Astrobiology were presented as well as the European achievements in the different fields

covered by Exo/Astrobiology: the ingredients of life and chemistry of primitive life, life in the extremes and terrestrial analogues for extraterrestrial habitats, extraterrestrial/extrasolar habitability, the nature of, and the search for life in the Solar System and beyond, and missions to search for life in the Solar System.

Both plenary, splinter and poster sessions generated lively discussions that cemented the European community. The scientific input has been published by ESA as an ESA Special Publication (SP−496, 2001).

Web site

EANA Web Page is under construction. It will be hosted as part of the ESA pilot Virtual Institute at ESTEC in Noordwijk, The Netherlands.

European Science Foundation (ESF) Scientific Network

The ESF Network Scheme aims to promote cooperation by means of mobility and the stimulation of scientific collaboration by individual scientists and their institutions.

EANA has submitted a proposal entitled ?The Limits of Planetary life: Origins and Distribution?. The final decision is still pending.

Network of Excellence of the European Commission 6th Framework Program

The purpose of Networks of Excellence is to strengthen and develop community scientific and technological excellence by means of the integration, at the European level, of research capacities currently existing or emerging at both national and regional levels. Each network will also aim at advancing knowledge in a particular area by assembling a critical mass of expertise. They will foster cooperation between capacities of excellence in universities, research centres, enterprises, including SMEs, and science and technology organizations. The activities concerned will be generally targeted towards long−term, multidisciplinary objectives, rather than predefined results in terms of products, processes or services.

EANA has submitted an Expression of Interest for a Network of Excellence in Astrobiology entitled ?European Astrobiology Space Science and Technology Network (EASSTN)?.

The decision is pending.

European Commission COST Action

In the framework of COST actions to foster cooperation in a specific research area, COST D27 "Origin of life and early evolution" has been approved in Bruxelles for a priod of 5 years. The main objective of this action is to develop the chemistry of the origins and early evolution of life with special attention to cosmochemistry, prebiotic chemistry of small molecules, origin and evolution

of biopolymers, origin of homochirality, self−organisation and compartimentation, self−replication and self−reproduction, information processes, directed evolution and origin of the genetic code.

Projects

Second European Exo/Astrobiology Workshop

The 2002 Workshop will be held in Graz from 16 to 19 September 2002. Special attention will be given to the planetology aspects of exo/astrobiology to acknowledge the expertise of the local organizers.

EANA Web Site

The Web Site will be completed and operational.

Extension of EANA

We anticipate including other European countries active in exo/astrobiology. In addition, during the Astrobiology Science Conference at NASA Ames in April 2002, it appeared to representives of NAI, ACA (Australian Centre for Astrobiology), UKAF (United Kingdom Astrobiology Forum) and EANA that it would be appropriate to create an international astrobiology group to facilitate international exchanges between the established bodies (i.e. organizations, societies and structures) dedicated to astrobiology and to harmonize the planning of joint astrobiology meetings.

General publications

Brack A., Horneck G., Wynn−Williams D. (2001). Exo/Astrobiology in Europe, *Origins Life Evol. Biosphere*, 31, 459−480.

Astrobiology. The Quest for the conditions of life. Eds. G. Horneck et C. Baumstark−Khan, Springer, Berlin (2001).

Exo/Astrobiology, Eds. P. Ehrenfreund, O. Angerer B. Battrick, ESA Special Publication SP−496 (2001).