



# DOCUMENT

## Announcement of Opportunity for Interdisciplinary Scientists in the Mars Express mission

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## 1 INTRODUCTION

### 1.1 Purpose and scope

The purpose of this Announcement of Opportunity (AO) is to solicit the participation of the scientific community in the role of Interdisciplinary Scientists (IDSs) in the Mars Express (MEX) Programme, to foster the data exploitation and augment the overall scientific return of the mission. The present AO follows a previous call issued in 2001.

MEX is the ESA mission that, since its arrival at Mars in 2004, has been exploring the surface, the atmosphere and the plasma environment of the planet as well as Phobos and Deimos. The mission operations are approved until the end of 2016, with indicative approval until the end of 2018, subject to an intermediate review to be performed in 2016.

ESA aims to appoint up to three new IDSs. The IDSs will be appointed for a period of three years, renewable. ESA will not fund the activities of the IDSs (travel, etc.) and each proposer is responsible for securing his/her own funding from other sources.

The schedule for this AO cycle is given in Table 1.

**Table 1: AO schedule and deadlines**

Date	Event
15 October 2015	Release of this AO
15 November 2015 at noon (CET)	Mandatory Letter of Intent due
15 December 2015 at noon (CET)	Proposals due
1 <sup>st</sup> quarter 2016	Appointment of IDSs

### 1.2 Documentation package

[AO-D1] Mars Express Science Management Plan; ESA/SPC(97) 40

[AO-D2] Mars Express. The Scientific Payload; ESA SP-1240, 2004

[AO-D3] Mars Express. The Scientific Investigations; ESA SP-1291, 2009

### 1.3 Mission summary and IDS tasks

A mission summary is included in Sections 1 and 2 of [AO-D1]. A more detailed description of the MEX science objectives, payload, and scientific investigations during the mission can be found in [AO-D2, AO-D3]. These documents are valid with two exceptions: the short wavelength part of the OMEGA SWIR channel (0.93 – 2.73  $\mu\text{m}$ ) and the SPICAM UV channel are currently non-operational.



The MEX Science Management Plan (SMP) [AO-D1] defines the top-level scientific management of the mission, and describes the respective roles of the parties involved, the data products, the data products delivery scheme and the data rights. It also defines modes of participation of the scientific community in the MEX Programme, including IDSs that can be appointed for specific tasks in support of the multidisciplinary nature of the MEX scientific objectives.

IDSs should contribute to the mission by covering broad science themes and taking part in the analysis of data from different MEX instruments, putting them in a broad context. IDSs may also wish to undertake specific and time-limited tasks in areas such as modelling of the planet and its environment and science planning.

The present AO is open for up to three IDS positions on specific scientific areas:

- *Mars aeronomy, plasma environment and its interaction with solar wind* with emphasis on the use of data collected by MEX and by other missions operating at Mars;
- *Critical analysis of the climatology data sets* derived from MEX observations (e.g., temperature, dust loading, abundance of minor species) with the eventual goal of their archiving in an online database;
- *Mars atmosphere evolution* in the context of comparative planetology of terrestrial planets.

The IDSs, as part of their role, will have to actively participate in the MEX SWT works, including attendance at regular SWT meetings. In coordination with relevant instrument PIs, the IDSs will be granted early access to the data relevant to their research and will have to provide adequate support to the communication activities of ESA.

## **2 APPOINTMENT REQUIREMENTS AND CONDITIONS**

This call for IDSs for the MEX mission is open to the international scientific community. While Principal Investigators (PIs) and Co-PIs are excluded from this call, Co-Investigators of the MEX instrument teams are eligible for IDS positions.

The proposals should demonstrate the candidate's expertise in one or more of the MEX core science fields [AO-D2, AO-D3] and the expected contribution to the mission science in general and with specific concern to the scientific areas indicated above. The proposals should also include an explicit mention of the time commitment to the IDS activities (the expected commitment should be of order of 0.2–0.4 FTE) and the endorsement and support from the head of the applicant's institution to their application. The applicants shall guarantee participation in the SWT meetings (a maximum of 2 meetings per year is expected) and in any other activity associated to the IDS appointment.

The proposals will be evaluated through an independent peer review process. MEX PIs involved in the science areas listed above will be invited as observers in the selection process. The successful candidates will be appointed as IDSs by the Director of Science and Robotic Exploration, for a period of three years. The IDS appointment is *ad personam*.



Each IDS will be required to submit a short annual report of his/her MEX IDS related activities to ESA. At the end of the three-years period, the Director of Science and Robotic Exploration will decide whether to extend the appointment for a further term. Should an IDS position become vacant, it may be filled by competitive selection via a new AO process.

### **3 LETTER OF INTENT**

Prospective proposers must submit a mandatory Letter of Intent (LoI) by the deadline indicated in Table 1. Proposals not preceded by a corresponding LoI will not be considered. LoIs are limited in length to 2 A4 pages (minimum font size 11 pt), and their purpose is to allow ESA to prepare for the evaluation process.

Letters of intent must be structured to contain the following information:

- Proposal title;
- Name and contact information of proposer;
- Synthetic description of the scientific objectives;

It is understood that the proposal's content may evolve between submission of the LoI and submission of the actual proposal.

### **4 CONTENTS OF THE PROPOSAL**

Proposals submitted in response to the AO are limited in length to 14 A4 pages (minimum font size 11 pt), and must contain the following information:

- A cover letter stating the proposal title, proposer's name and affiliation and explicitly mentioning the proposer's title, position, institute, address, telephone number and e-mail address (max. 1 page).
- A brief curriculum vitae also including the 10 most relevant publications (max. 2 pages).
- A description of the scientific expertise relevant to the MEX science objectives described in [Ao-D1] (max. 2 pages).
- A description of the scientific areas of interest and the proposed contribution with respect to the scientific areas listed in Section 2, and a statement concerning the time availability (max. 8 pages).
- A Letter of Endorsement, signed by the proposer's Head of Institute, with the endorsement to the proposer's application and the explicit support with respect to the proposed activities and the availability of facilities and infrastructure, as needed to the proposer for the accomplishment of the IDS tasks (max. 1 page).



## **5 EVALUATION CRITERIA**

The following criteria will be used (in no particular order) in assessing and evaluating individual proposals:

- Candidate's competence and experience relative to the MEX science objectives;
- The level to which the proposal identifies specific competences and addresses the contribution to the areas indicated in Section 2 emphasising the intended exploitation of Mars Express data;
- Adequacy of the time that the candidate intends to devote to activities related to the IDS role;
- Adequacy of resources available to the candidate to carry out activities related to the IDS role.

## **6 LETTERS OF INTENT AND PROPOSALS SUBMISSION**

Letters of Intent and Proposals must be submitted electronically in PDF format (file size cannot exceed 5 MB) to the following e-mail address:

`mex-ids-ao@cosmos.esa.int`

according to the deadlines listed in Table 1.

Proposers will receive confirmation upon successful receipt of their Letters of Intent and Proposals.

Further queries should be addressed to:

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## ACRONYMS

AO	Announcement of Opportunity
CET	Central European Time
Co-I	Co-Investigator
Co-PI	Co-Principal Investigator
ESA	European Space Agency
FTE	Full Time Equivalent
IDS	Interdisciplinary Scientist
LoI	Letter of Intent
MEX	Mars Express
PI	Principal Investigator
SMP	Science Management Plan
SPC	Science Programme Committee
SRE	Science and Robotic Exploration Directorate
SWT	Science Working Team