

# Aurora Science Workshop

Birmingham, UK

6<sup>th</sup>-7<sup>th</sup> April 2005

## Proposed Agenda

*(version 3.0 March 24<sup>th</sup> 2005)*

## Introduction

This document outlines the objectives; form and planning for a one and a half day workshop to which the European and International Mars science community is invited. This note identifies:

- The objective of the workshop
- Its structure
- The proposed location
- Details about organisation

## Workshop Key Question

*Taking account of: existing study work; scientific need; technological readiness; and financial feasibility, what does the European and International scientific community today believe should be the robotic mission(s) to Mars that should be undertaken in the first phase of the European Exploration programme 'Aurora'?*

The emphasis of the workshop is on the robotic missions feasible up to the 2013 timeframe, thus excluding the implementation of a Mars Sample Return mission. However, the workshop will include consideration of preparatory activities needed to develop a sustainable Mars exploration programme, and will therefore take into account how activities undertaken up to 2013 fit into an overall mission roadmap including a sample return mission. The international context shall also be an important consideration.

**Day 1**

Time	Content	Comments
14:00	Introduction and Welcome BNSC + ESA (D. Sacotte / D. Southwood)	<b>Chairs / Rapporteurs:</b> 2 co-chairs: J.P.Swings and D.Parker  5 rapporteurs : A. Coradini, G. Horneck, J.P.Bibring, J.P. Mercader, M.Sims.
14:15	Background, Purpose, Scope and Structure of Workshop  ESA speaker –D. Sacotte	<ul style="list-style-type: none"> <li>• Explain objective</li> <li>• Explain context and schedule for decisions (bilaterals, C/Min, etc)</li> <li>• Explain focus on mission to 2013</li> </ul>
14:30	Status report on Aurora  ESA speaker – D. Vennemann	<ul style="list-style-type: none"> <li>• Describe roadmap</li> <li>• Status of MSR for this workshop</li> <li>• International context; status of NASA planning; feedback from NASA science conference</li> </ul>
15:00	Status of ExoMars  B. Gardini/J.Vago	<ul style="list-style-type: none"> <li>• Objectives</li> <li>• Technical status</li> <li>• Programmatic (Cost &amp; Schedule)</li> <li>• Science status</li> <li>• ExoMars as 'science facility'</li> <li>• Importance for Exploration</li> </ul> Options: <ul style="list-style-type: none"> <li>• ExoMars:Rover +orbiter + orbiter science</li> <li>• ExoMars lite: no Orbiter / carrier only + rover</li> </ul>
16:00	Break: tea-coffee	<ul style="list-style-type: none"> <li>• 15 minutes</li> </ul>
16:15	Precursor double Lander mission C.Pillinger & T. Spohn (+ TBD?)	<ul style="list-style-type: none"> <li>• Objectives</li> <li>• Technical status</li> <li>• Programmatic (Cost &amp; Schedule)</li> <li>• Science status</li> <li>• PI mission or facility</li> <li>• Importance for Exploration</li> <li>• Possible mission options</li> </ul>
17:15	Planning for Day 2	<ul style="list-style-type: none"> <li>• Explain process</li> <li>• Assign participants to splinter workgroups</li> <li>• Distribute mission dossiers</li> </ul>
17:30	Close day 1	<ul style="list-style-type: none"> <li>• Time for hotel check-in etc.</li> </ul>
19:00	Cocktail Reception at the 'Thinktank'	

**Day 2**

Time	Content	Comments
09:00	Welcome and Reminder of Procedures ESA/BNSC	<ul style="list-style-type: none"> <li>Check for questions of clarification from attendees</li> </ul>
09:30	Split into 6-8 workgroups, ~ 25 people each	<ul style="list-style-type: none"> <li>Each group to select a Facilitator to channel discussions</li> <li>Coffee/tea available in rooms or in foyer areas</li> </ul>
12:30	Lunch	<ul style="list-style-type: none"> <li>Informal buffet</li> </ul>
13:30	Reconvene Feedback from workgroups 8 x 10 minutes or 6 x 15 minutes	<ul style="list-style-type: none"> <li>Power point presentations from each group (template will be provided)</li> </ul>
15:00	Break tea/coffee	
15:15	Debate	<ul style="list-style-type: none"> <li>Moderated by Co-chairs</li> </ul>
16:00	<ul style="list-style-type: none"> <li>Comments and conclusions of rapporteurs, to be summarised in: 3 bullet points each</li> </ul>	<ul style="list-style-type: none"> <li>Workshop shall be the basis of a short report and recommendations from ESF, to be input to SSWG, LPSAG, EPAC etc.</li> </ul>
16:15	Concluding remarks of Chairmen	<ul style="list-style-type: none"> <li>Explain next steps</li> </ul>
16:30	Close day 2	

## Day 2 Workgroup Breakout Sessions

### Objective

The purpose of the Day 2 workgroup sessions shall be to discuss the issues raised in the first day's presentations in a structured process, in order to answer the Workshop key questions.

Style: Facilitated workgroups of about 25 people (30 max)

### Inputs

1. Day 1 briefings on mission options
2. Short (e.g. 2 page) executive summary data sheets on Day 1 mission options
3. View graph pack containing the questions and blank tables to complete

### Process

- Split the attendees into equal sized groups;
- All groups address same set of questions and objectives;
- Randomly selected groups (e.g. alphabetically) to minimise bias;
- Brainstorming with ideas capture (storming); discussion (forming); summarising (forming)

Output: Completed power point viewgraph pack with conclusions of group.

### Key Questions

1. In order to prioritise the mission(s) to be undertaken in the Aurora programme up to 2013, each group shall evaluate the merit of each mission according to the following criteria:
  - a. The scientific merit of the mission proposed in relation to the Exploration Programme goals; (Weight 30%)
  - b. The relative scientific merit of the mission proposed (i.e. Science/EURO); (Weight 30%)
  - c. The timeliness (time criticality) of the mission science, with respect to the international context; (Weight 20%)
  - d. The importance of the mission's technology to a long-term programme of European planetary exploration (both Mars and rest of solar system); (Weight 20%)
2. Use the weighting factors AND the relative cost data that has been provided to rank the mission options, identifying any critical assumptions that you have made in reaching your decision.
3. In addition, each group may suggest other possible mission options or sub-options compatible with launch up to 2013.
4. Each group shall provide a short note (1 page max) on the European priorities to prepare for participation in an international Mars Sample Return Mission to be undertaken in a post-2013 timeframe.

## Venue Details and useful links

'Lakeside Centre' at Aston University

<http://www.abs.aston.ac.uk/newweb/conferenceaston/lakeside/>

Compulsory Registration link (until 31 March 2005):

[www.congrex.nl/05m22](http://www.congrex.nl/05m22)

Evening Reception at the 'ThinkTank' museum of science and technology

<http://www.thinktank.ac/>

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