

# **AUSTRALIAN ACADEMY OF SCIENCE**

## **National Committees for Science: ANNUAL REPORT TO COUNCIL on 2008 activities**

### **TASK FORCE FOR: MUSES C (Hayabusa)**

#### **CHAIR: Professor Trevor R. Ireland**

##### Members

Professor Trevor Ireland (Chair)

Dr Alex Bevan

Professor Iver Cairns

Dr Tezer Esat

Dr Marc Norman \*

Professor Ross Taylor, FAA

Professor Malcolm Walter, FAA

\* Dr Marc Norman will be on secondment to Johnson Space Center for two years. It has been proposed that Dr Mike Zolensky of NASA Johnson Space Center take up this position. Dr Zolensky is on the Hayabusa Science team and has been active in the recovery processes for the Genesis and Stardust Missions.

PERIOD COVERED IN THIS REPORT: 1 January - 31 December, 2008

**Please complete and return this form by 12 December 2008.**

NOTE: This report will be published on the Academy of Science website at [www.science.org.au/natcoms](http://www.science.org.au/natcoms)

### **MEETINGS OF THE TASK FORCE**

Owing to limited mission activity, the Task Force did not meet formally in 2008. Informal meetings of members occurred at the Australian Space Science Convention, and at The Australian National University.

TRI attended the Hayabusa Science Team Meeting in Tokyo ( November 10-11, 2008).

THE FOLLOWING MEETINGS ARE PROPOSED FOR 2009 (include date and place, if possible):

A Hayabusa Science Team Meeting may be organised at the Lunar and Planetary Science Conference, Houston in March 2009.

A Muses-C Task Force Meeting will be held in association with the visit of the Japanese recovery team in mid 2009.

**ACTIVITIES OF TASK FORCE – Please include comments on progress achieved on projected activities identified in your 2008 Business Plan. 2008 Business plans can be viewed at [www.science.org.au/natcoms](http://www.science.org.au/natcoms)**

Go to <http://www.science.org.au/reports/2008anrep.htm> National Committees tab, to view the Chairs' Reports on 2007 activities.

I SUBMIT THE FOLLOWING REPORT TO COUNCIL ON THE ACTIVITIES OF THE TASK FORCE IN calendar year 2008 (200-250 words):

The Hayabusa space craft continues its slow journey back to Earth. At this stage it has a relative velocity of 450 m/s with respect to Earth and is due back in June 2010.

In early November the Hayabusa Science Team met at JAXA in Sagami-ono. The main issue on the agenda was to cover aspects of the preliminary examination of the returned material. The first goal following return of the capsule will be to ascertain if any material has been collected. The capsule will be opened in a new dedicated facility at JAXA. The facility is equipped to allow cleaning of the outer surfaces in a room set up with a machine shop. The clean side of the facility includes a class 100 laboratory with a large vacuum chamber/clean vessel inside which the capsule will be opened.

The preliminary examination of any particles will be carried out in Japan. The initial inspection at JAXA will be followed by a period of analysis by two analysis teams. The preliminary examination will cover a range of tasks including particle analysis and composition (major elements), noble gas measurements, oxygen isotope analysis, and trace element analysis. As well as Japanese researchers, the Science Team includes Dr Mike Zolensky (NASA Johnson Space Center), Dr Scott Sandford (NASA Ames), and Professor Trevor Ireland (ANU) who are to be part of the preliminary examination in Japan.

The capsule is scheduled for re-entry on the evening of June 12-13, 2010, with arrival expected around midnight. Firing of the ion engines in 2009 will allow better calculation of arrival time and the error ellipse of the landing. A Japanese team will be in Australia to recover the capsule and transfer it to Japan. The Science Team will not be involved in the recovery of the capsule.

[Your Report, as presented here, will be published in April 2008, in the National Committees for Science section of the Academy's Annual Report for 2008-2009].

**Please complete and return this form by 12 December 2008 to:**

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