

## **iMARS PHASE II:SCIENCE AND CURATION PLANNING FOR MARS SAMPLE RETURN.**

C. L. Smith<sup>1</sup>, T. W. Haltigin<sup>2</sup> and the iMARS Phase II Science/Earth Operations sub-team<sup>3</sup>. <sup>1</sup>Dept. of Earth Sciences, The Natural History Museum, London, SW7 5BD. C.L.Smith@nhm.ac.uk. <sup>2</sup>Canadian Space Agency, 6767 route de l'Aéroport, Saint-Hubert, Québec, J3Y 8Y9, Canada. timothy.haltigin@asc-csa.gc.ca. <sup>3</sup>R. de Groot, H. Amundsen, C Conley, T. W. Haltigin, A-M. Harri, E. Hauber, G. Kminek, O. Korablev, D. Koschny, B. Marty, L. May, S. McLennan, M. Meyer, R. Orosei, S. Siljeström, C. L. Smith, N. Thomas, J. L. Vago, A. C Vandaele and L. Zelenyi

**Introduction:** The international Mars Architecture for the Return of Samples (iMARS) team was chartered in 2006 by the International Mars Exploration Working Group (IMEWG) to develop a plan for an international Mars Sample Return (MSR) mission potentially occurring between 2018-2023. iMARS Phase I work took place in 2007-2008 and resulted in a consensus on the architecture for an international mission and suggestions for the next steps of campaign definition [1]. MSR mission(s) remain a high priority in our exploration of Mars and a number of important developments have occurred since the iMARS Phase I work. In early 2014, IMEWG reconstituted iMARS with the objectives of incorporating developments since 2008 and expanding on the scientific management aspects of returned Martian samples. We report here on our recommendations for progressing towards campaign implementation, specifically relating to the science management plan.

**Recommendations:** Following from Phase I work, we have proposed the development of an International MSR Science Institute (IMSI) as part of campaign governance. The IMSI provides the foundation to four main themes of the scientific and curatorial activities envisaged for an MSR campaign, these are - *Organisation*: the organizational structure including responsibilities of key members. *Management* including scientific leadership, IMSI membership and funding models. *Operations & Data* which outlines the science implementation plan including preliminary examination workflow and sample allocation process. *Curation* plan including sample tracking and routing procedures and long-term archiving recommendations.

**References:** [1] iMARS Working Group (2008) Preliminary Planning for an International Mars Sample Return Mission. Report of the International Mars Architecture for the Return of Samples (iMARS) Working Group.