

A Series of Articles in 'THE INVENTION' Magazine to Cover Many Facts of Mars

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Japan Institute of Invention and Innovation (JIII) publishes 'THE INVENTION' monthly to encourage invention and the spread of intellectual property rights for practical use. Upon the 101st anniversary of founding the magazine, they renewed the cover and magazine design, including contents and projects. One aim is to increase and broaden readership by introducing current scientific topics. Therefore, in January of 2006 we started the series of articles 'Mother Mars'.

We have introduced a variety of researches and experts engaged in space and Mars science to increase readers' understanding and appreciation of the science and technology. As writer for this series I have interviewed the experts, and attempt to navigate the many angles of information, with the ultimate goal to answer the question: Can humans live on Mars?

In December 2003, the efforts to put Mars explorer 'Nozomi' into orbit was abandoned, and Japan's efforts towards Mars exploration collapsed. However, successful twin Mars space probes (launched by NASA) in 2003, and a Mars reconnaissance orbiter launched in 2006 have resulted in a continuous stream of data. According to NASA, their 'Phoenix' project (to be launched in 2007) will dig into Mars' surface approximately 50 cm. to examine the frozen ground, as well as the atmosphere up to 20km. Plans are in place to continue exploration with a 'Mars Science Laboratory', 'Scout Mission', and 'Sample return project' in 2009. Launches for space probes are planned about every two years, and the dream of manned exploration is not entirely out of the question.

The day when humans actually go to Mars is not too far distant. This writer believes that Japanese experts' support and cooperation will be necessary or even crucial by then. In order to determine how much Japanese research can contribute to Mars science by investigating various aspects with the researchers and experts in this 'Invention magazines' series of articles, and using multidirectional connections linking researchers, experts, science, and Mars I am introducing to readers Japan's bright technology for the future of space and Mars science.

Below is a brief introduction to the persons and Mars-related themes we have covered in our 'Mother Mars' series till now.

January 2006: Mamoru Mohri (Japan Museum of Science and Emerging Future Technology, Astronaut/Director) Fusion of Science and Art, and the movie 'Mission to Mars'.

February: Toshiro Ikegami (Kyoto City Institute of Arts, Professor.) An architectural approach to design a 'space futon', and designs for resource recycling for a Martian city.

March: Kei Kurita (Earthquake Research Institute, Univ. of Tokyo, Professor) A Martian topography study.

April: Akihiro Ikeshita (Space Artist) Martian CG works.

May: Kyoichi Sasazawa (Reporter, Yomiuri Shimbun) Mars base experience.

June: Akane Kitahara (Space Adventure Japan office representative) A space trip, and the realization of a Mars trip.

July: Shingo Shimoda (RIKEN researcher) AI (artificial intelligence) of robots for space or Martian explorers.

August: Ayako Matsuoka (JAXA Assistant Professor) Magnetic field studies of Mars and Mercury.

September: Sho Sasaki (National Astronomical Observatory Professor) Surface of asteroid Itokawa and space weathering by 'HAYABUSA', the prospects of Mars study in Japan.

October: Asahiko Taira (Director of JAMSTEC/the Head of CDEX) Movie 'Japan Sinks', What we need to know before humans can live on Mars.

November: Masamichi Yamashita (JAXA Professor) Self-sustaining agriculture on Mars.

December: Mayumi Arai (Science Writer) A look back on one year of 'Mother Mars'. Martian appeal.

March 2007: Natsuhiko Inoue (JAXA psychologist) Psychological support for a human Mars trip.