



MARS INSTITUTE

## **Northwest Passage Drive Expedition – 2010 Background Information**

### **The Mars Institute**

The Mars Institute is an international, non-governmental, non-profit research organization dedicated to advancing the scientific study, exploration, and public understanding of Mars. The organization investigates similarities and differences between the Earth, Mars and other planetary bodies, and develops concepts, technologies, and strategies for the future exploration of Mars by robotic systems and humans. Research at the Mars Institute focuses not only on Mars, but also on the Moon, Deep Space, Near-Earth Objects, and Mars's moons Phobos and Deimos, viewed as stepping stones towards the human exploration of Mars. The Mars Institute is committed to conducting high quality peer-reviewed research and sharing the knowledge and benefits of space exploration with students and the general public worldwide.

### **The Haughton-Mars Project**

The Haughton-Mars Project (HMP) is an international multidisciplinary field research project centered on the scientific study of the Haughton meteorite impact crater and surrounding terrain on Devon Island, High Arctic, viewed as an “analog” for Mars and other planetary bodies. The HMP supports a Science program focused on comparative studies between the Earth, Mars and the Moon, and an Exploration program focused on developing new technologies and strategies for the human and robotic exploration of space. Research at HMP is supported by NASA and the Canadian Space Agency, other government agencies in the US and Canada, and private partners. The HMP was initiated, and is directed by, Mars Institute planetary scientist Dr Pascal Lee. The *Northwest Passage Drive Expedition* is an integral part of the Haughton-Mars Project.

## **The Haughton-Mars Project Research Station**

The Haughton-Mars Project Research Station (HMPRS), located at 75°25.95' N, 089°51.75' W, is the Haughton-Mars Project's base camp, and the final destination of the *Northwest Passage Drive Expedition*. The HMPRS is a state-of-the-art modular arctic research base with living, field research, working, logistical, and basic medical support facilities. The station offers high-bandwidth high-speed field communications and networking capabilities, including 24/7 internet access. Although currently operated only during the Summer, the HMPRS is capable of supporting year-round research operations. The HMPRS is currently the largest privately-operated polar research station in the world. The HMPRS is managed and operated by the Mars Institute in collaboration with the SETI Institute.

## **The Field Team**

### **Dr. Pascal Lee, Expedition Leader, Humvee Commander**

Dr. Pascal Lee is chairman of Mars Institute and a planetary scientist at the SETI Institute. He is based at NASA Ames Research Center in Moffett Field, California, where he is Director of the Haughton-Mars Project (HMP). Dr. Lee has extensive experience living and conducting research in the Arctic and Antarctica. In 1988, he wintered over in Antarctica for 402 days. He has led all HMP field campaigns on Devon Island in the Arctic since the beginning of the project 14 years ago. He recently served as scientist pilot in the first field test of NASA's new "Small Pressurized Rover", a concept vehicle for future long-range human exploration on the Moon and Mars.

On the *Northwest Passage Drive Expedition* (NWPDx), Dr. Lee has overall responsibility for the expedition's planning and implementation, and serves as commander of the *Moon-1 Humvee Rover*. He is also the Principal Investigator (PI) of the NWPDx's research program.

### **John W. Schutt, Expedition Field Guide, Humvee Pilot**

John Schutt is a geologist and world-renowned polar guide and mountaineer from Bellingham, Washington. A veteran of more than 44 field campaigns in the Arctic and Antarctica, he is the Chief Field Guide of the US NSF/NASA Antarctic Search for Meteorites program and also the Chief Field Guide and Base Camp Manager for the Haughton-Mars Project (HMP) on Devon Island, High Arctic.

On the *Northwest Passage Drive Expedition*, Mr. Schutt is in charge of field gear preparation, navigation, and field resource management, and serves as pilot of the *Moon-1 Humvee Rover*.

### **Joe Amarualik, Expedition Scout, Snowmobile Pilot**

Joe Amarualik is a highly experienced field guide and Arctic land and sea-ice expert from Resolute Bay, Nunavut. He is a Canadian Ranger and successfully guided the Mars Institute's previous *Mars-1 Humvee Rover* over 35 km of sea-ice from Cornwallis Island to Devon Island in May 2003.

On the NWPDX, Mr. Amarualik is responsible for assessing sea-ice conditions, route finding, and wildlife encounter management. He pilots the lead snowmobile ahead of all other vehicles of the expedition.

### **Jesse Weaver, Expedition Technician, Snowmobile Pilot**

Jesse Weaver is an ace ATV and Humvee mechanic from Seymour, Tennessee. He is Field Technician and Lead Field Assistant on the Haughton-Mars Project on Devon Island. The *Northwest Passage Drive Expedition - 2010* is his fifth Arctic campaign.

On the NWPDX, Mr. Weaver is responsible for preparing, maintaining and repairing all vehicles. He pilots the trailing snowmobile, carrying most of the emergency supplies or the expedition and closing the column of vehicles.

### **Jean-Christophe Jeuffre, Expedition Documentary Director**

Jean-Christophe Jeuffre is a filmmaker, screenwriter, and producer based in Los Angeles, CA, and Paris, France. He is co-founder of Jules Verne Adventures ([www.julesverne.org](http://www.julesverne.org)), a non-profit organization dedicated to exploration, filmmaking, and education, and is co-director of the annual Jules Verne Festival, the largest film festival event in Paris. He is a member of the prestigious French Explorers Club.

On the *Northwest Passage Drive Expedition*, M. Jeuffre is director of a new documentary being produced by Jules Verne Adventures in collaboration with the Mars Institute.

### **Mark Carroll, Expedition Documentary Cameraman**

Mark Carroll is a conservation photographer and documentary filmmaker based in Nashville, Tennessee. He founded Outerside ([www.outerside.com](http://www.outerside.com)) on the simple notion that creating remarkable images has the power to inspire and effect change.

On the *Northwest Passage Drive Expedition*, Mr. Carroll is director of photography for the documentary directed by Jean-Christophe Jeuffre and produced by Jules Verne Adventures in collaboration with the Mars Institute. He will also help with field logistics and the expedition's Education and Public Outreach activities.

## The Science Team

In addition to Dr. Pascal Lee, the Science Team behind the *Northwest Passage Drive Expedition* includes:

**Dr. Christian Haas** of the University of Alberta, Principal Investigator of the Sea-Ice Thickness Measurement Experiment,

**Dr. Andrew Schuerger** of the University of Florida, Principal Investigator of the Astrobiology and Planetary Protection Experiment,

**Dr. Marcelo Vasquez** of the National Space Biomedical Research Institute, Principal Investigator of the Space Radiation Experiment,

**Dr. Peter Thomas** of Cornell University, Co-Investigator in the Planetary Geology Analogues Experiment,

**Dr. Andrew Abercromby** and **Dr. Michael Gernhardt** of NASA Johnson Space Center, Co-Investigators in the Human Exploration Studies Experiment,

**Dr. Chris McKay** and **Dr. Terry Fong** of NASA Ames Research Center, Co-Investigators in the Human Exploration Studies Experiment, and

**Dr Stephen Braham** of the Mars Institute and Simon Fraser University, Co-Investigator in the Human Exploration Studies Experiment.

## The Support Team

Field operations during the *Northwest Passage Drive Expedition* are supported remotely from Mars Institute (MI) headquarters at Moffett Field, CA, and from MI's office in Vancouver, British Columbia.

Key Support Team members include:

**Dr. Stephen Braham**, Associate Director and Chief Field Engineer of the Haughton-Mars Project, who serves as "Flight Director" in the mission's daily operations.

**Marc Boucher**, CEO of Mars Institute and Expedition Management Software developer;

**Kira Lorber**, HMP Logistics Manager and *Northwest Passage Drive Expedition* Education and Public Outreach Liaison.

## Partners and Official Sponsors

Partners and official sponsors of the Mars Institute *Haughton-Mars Project* and *Northwest Passage Drive Expedition* include NASA, Canadian Space Agency, Air National Guard, SETI Institute, Simon Fraser University, National Space Biomedical Research Institute, Cornell University, University of Alberta, University of Florida, AM General, ARB, Bassett Petroleum Distributors of Yellowknife, Bombardier, First Air, Hamilton Sundstrand, Kikiak of Kugluktuk, Kitnuna of Cambridge Bay, Mattracks, Mountain Hard Wear, Musk Foundation, Pelican Signs, Pull-Pal, RTL Robinson Enterprises, Schokolade Cafe, Sorel, SpaceRef Interactive, and Jules Verne Adventures.

For more information, please visit [www.marsinstitute.info](http://www.marsinstitute.info) or [www.marsonearth.org](http://www.marsonearth.org) or contact:

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