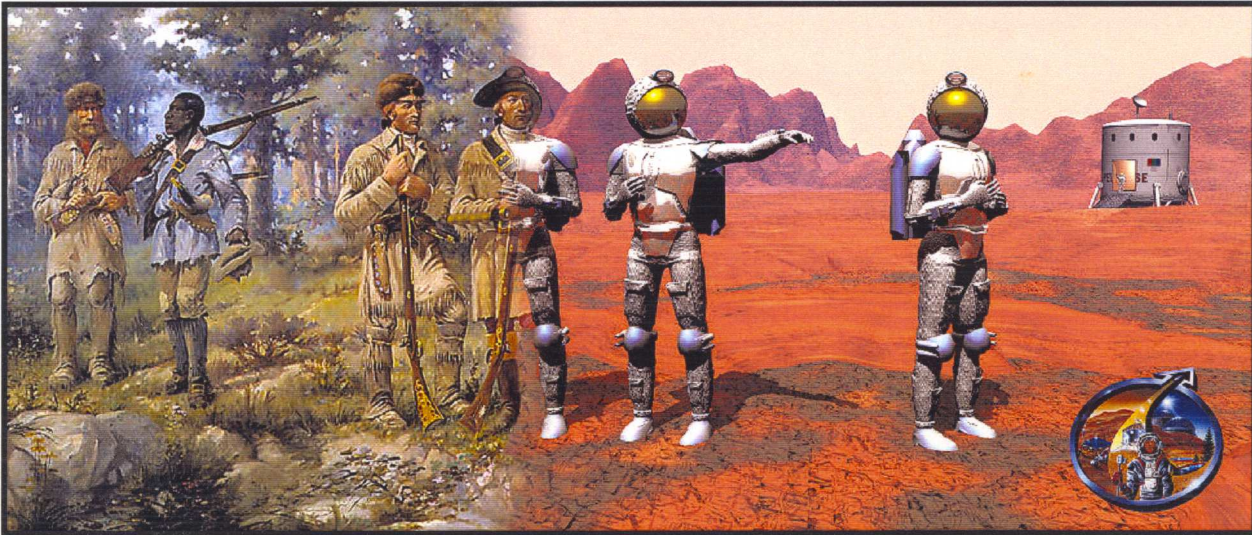
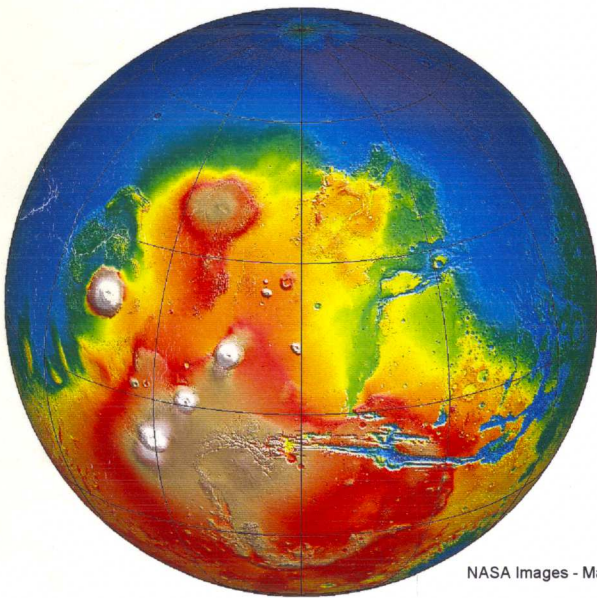


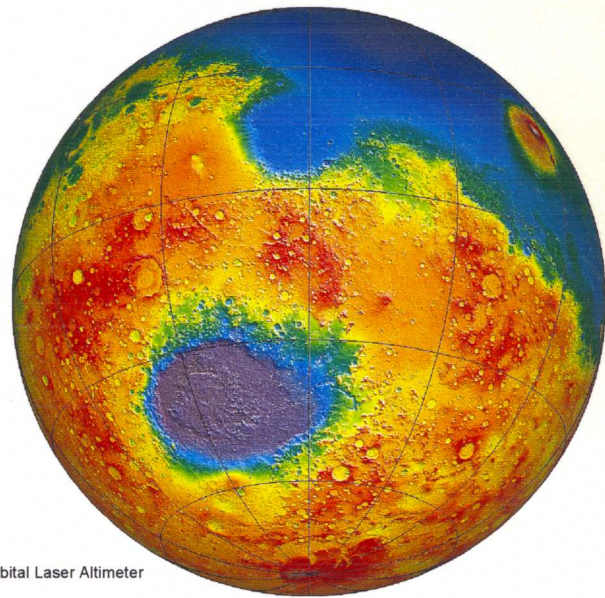
# SIXTH INTERNATIONAL MARS SOCIETY CONFERENCE



Left from "Lewis and Clark at Three Forks" by Edgar S. Paxson, 1912, courtesy of the Montana Historical Society - Right ©2002 by R.D. "Gus" Frederick



NASA Images - Mars Orbital Laser Altimeter



**AUGUST 14-17, 2003**  
**HILTON HOTEL, EUGENE, OREGON**

# International Mars Society Conference 2003

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Schedule of Events

**Thursday, August 14, 2003**

## Preliminaries

- 7:00 - 8:00 am for Vendor and Exhibitor set-up, Conference Center Lobby
- 8:00 - 9:00 am - Registration, Conference Check-in, and Welcome.  
Conference Center Lobby

## Plenary Sessions - Playwrights' Hall

- 09:00 - 9:45 am - Welcoming Address - **Dr. Robert Zubrin**, President
- 09:45 - 10:00 am - Who's Who at HQ
- 10:00 - 11:00 am - **Dr. William Clancey** - NASA's Intelligent Systems Research at MDRS
- 11:00 - 12:00 pm - **Greg Bear** - Biosphere 21.5

## Special Events

- 6:00 pm - 8:00 pm - Reception, Playwright's Hall, O'Neil & Williams

***FREE and Open to the Public.***

- 8:00 pm - 10:00 pm - Evening Plenary - Playwright's Hall, O'Neil & Williams  
'Envisioning a New World - The Potential for Social Evolution on another Planet'  
Panel Discussion with **Greg Bear, Bill Hartman, Mary Turzillo, Robert Zubrin** and more.

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## Track Locations:

**Track 1:** Playwrights' Hall, Hellman: Mars Exploration Strategies

**Track 2:** Composers' Hall, Bloch: Analog Research

**Track 3:** Composers' Hall, Sousa: Outreach Activities

**Track 4:** Composers' Hall, Joplin and Seeger: International Cooperation/Law and Governance

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<b>Time</b>	<b>Track 1 Mars Exploration Strategies</b>	<b>Track 2 Analog Research</b>	<b>Track 3 Outreach Strategies</b>	<b>Track 4 International Cooperation/Law and Governance</b>
1:00 pm	A.A. Gonzales - Development of a Useful Mars Airplane Exploration Concept at NASA Ames	Shannon Rupert Robles - A Proposal for a Mars Analog Microbial Observatory	Brian Enke - Mars in the News: Top 30 Stories from 2002 - 2003	Declan O'Donnell - The International Space Development Authority: Structure and Philosophy
1:30 pm	Anthony Muscatello - METAMARS - Methane Aromatics on Mars, an Update	Thom Stone - Internet-Based Telephony for Manned Mars Explorations	George Whitesides - Yuri's Night: A Global Platform for Popular Mars Outreach	Nicolas Turcat - European Space Initiative
2:00 pm	Ron Bennett - using Wind Energy to Pull a Surface Rover on Mars -	Debi-Lee Wilkinson - The Arctic Tortoise	Ned Chapin - BEOweb: A World Wide Web Resource to Promote Solar System Exploration and Settlement	Martin Schwab - Chinese Manned Space Flight: Project 921
2:30 pm	Edward Brown - Spacecraft Computer System Design Considerations for a Piloted Mission Pt 2	Stan Piechocinski - Potential Capabilities and Uses of an Integrated Data Logging Device during a Human Mission	David Livingston - How Best to Create a Visionary Connection with the Public to Facilitate Space Development	J.J. Hurtak - New Space Legislation Need for Protection of Martian Resources
3:00 pm	Robert McGown - Mars Meteor Survey	Chad Rowland - The University of Michigan Mars Rover Team	Kevin Sloan - Mars Outreach Initiative	Declan O'Donnell - When is Space Development for Human Habitation Feasible?
3:30 pm	Silvano Colombano - Cooperative Exploration of	Ned Chapin - Information Systems Gear in Mars Analog	Charles Leatherwood - "The Next Giant Leap", a	David Livingston - Leadership and the Code of Ethics for Off-

	Rough Martian Terrains with the "Scorpion" legged robot	Research	Proposal for a Traveling Museum Exhibit based on the Mars Direct plan	Earth Commerce and Space Development
4:00 pm	Ron Bennet - Results of Design and Testing using Wind Energy to Pull a Surface Rover on Mars	Jan Osburg (presented by Robert Zubrin) - Enhancing Mars Society Outreach through Amateur Radio during FMARS 2003	Phil Turek - On the Road to Mars with Earth Mars Ambassadors	Timothy Hopkinson - A Russian Financed Space Race to Mars
4:30 pm	Penn State Mars Society (Tilenius Scholarship Winners) - Modularly Adaptable Rover and Integrated Control System	Paul Wooster - Mars Gravity Biosatellite Program Overview	Tom Hill - A Multi-Topic Outreach Presentation	Edward Dodds - An Opportunity to Promote Solar System Exploration
5:00 pm	Open	Martin Schwab – The Case for the Negev Desert as a Mars Analog Test Site	Tam Czarnik - 'Local Boy Makes Good' - Ohio's Successes as a Template for Chapter Activities	Open

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Schedule of Events

**Friday, August 15, 2003**

## Preliminaries

- 8:00 am - 9:00 am - Registration, Conference Check-In and Welcome, Conference Central Lobby

## Plenary Sessions - Playwrights' Hall

*Family Day at The International Mars Society Conference*

*Special one day rates available Friday, August 15th.*

*The Morning plenaries, featuring Mars Mission Chief Dr. Albert Haldemann, and Shuttle Astronaut Dr. John Grunsfeld are free and open to the public.*

*The Evening film and concert event is also free and open to the public.*

- 9:00 am - 10:00 am: **Dr. Albert Haldemann** - The Science and Spirit of Opportunity
- 10:00 am - 12:00 am: **Dr. John Grunsfeld** - Special Family Session with [Astronaut John Grunsfeld](#)

## Evening Special Events - - - Free and Open to the Public

- 7:00 pm - 8:00 pm - **The FMARS Adventure:** Video Presentation - Playwrights' Hall
- 8:30 pm - 10:00 pm - **Concert with the Extremophiles** - Location to be announced

## Track Locations:

- Track 1:** Playwrights' Hall, Hellman: [Educators' Day](#) ---Special Day Pass \$25.00
- Track 2:** Composers' Hall, Joplin and Seeger: Space Elevators for Mars Access and Other Innovative Technologies
- Track 3:** Composers' Hall, Sousa: Life Support Systems for Mars
- Track 4:** Composers' Hall, Bloch: Mars Society Analog Crew Reports

Time	Track 1	Track 2	Track 3	Track 4
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	<b>Educatorsí Day</b>	<b>Space Elevators for Mars Access/Innovative Technologies</b>	<b>Life Support Systems for Mars</b>	<b>Mars Society Analog Crew Reports</b>
12:30 pm	Don Scott - NASA Aerospace Education Specialist From Montana to Mars	Lunch	Lunch	Lunch
1:00 pm	Cont.	Chris Hirata with Derek Shannon (presenting) - Mechanics of Space Elevators	Richard Sylvan - Temperature Control of the Inner Planets	Tony Muscatello - The Mars Desert Research Station: The Experience of Crew 12
1:30 pm	Cont.	James Antifaev - High-Strength Composites for Mars Exploration	John Barainca - Civil Air Patrol Cadets at the MDRS	Nancy Wood - Strategies for Searching the Martian Microenvironments for Evidence of Life: The Expedition One Experience
2:00 pm	Cont.	Michael J. Laine - Overview of the Space Elevator and Mars Applications	Gary Fisher - Project Greenhab	Jan Osburg (presented by Robert Zubrin) - Measuring Ionospheric Conditions using Amateur Radio Equipment during FMARS 2003
2:30 pm	Cont.	Bruce Mackenzie - Impact of a Space Elevator on Mars Base Support	Zach Adams - The Philosophy of Technical Survival	William Clancey - Automating CapCom: Geologists Assisted by Computer ĀAgentsí at MDRS
3:00 pm	Cont. - there will be a 10 minute break between presentations	John B. Barber - Passive Magnetic Support System Using High Speed	J.E. Brandenburg - Hydrogen Economies	Debi-Lee Wilkinson - Lifestyles of the Mars Explorers

		Launch Sleds	on Mars	
3:30 pm	Chris Mckay , NASA Ames and Barbara Sprungman, Aerospace Education Consultant - Wings Over Mars: Airplanes for the Red Planet	J. E. Brandenburg - Breakthrough: Big G, the vacuum Bernoulli Equation and Propulsion Using Gravity Modification	Robert McGown and Dareth Murray - Observing Mars	Maarten Sierhius - A Software Agent Architecture of Supporting EVAs on Mars tested at MDRS
4:00 pm	Cont.	Giorgio Gaviraghi - Odissea Rossa: An Interplanetary Transportation System for the Mars Mission	Bruce Mackenzie – Memorial Flower Gardens on Mars	Roger Thompson - Crew 11, MDRS: Mars Analog Crew Experiences, Then and Now
4:30 pm	Gus Frederick, Oregon Public Education Network, and Steve Holman, Oregon Science Teachers Assoc. CEMSS: Advanced Life Support on a Tight Budget	Edward N. Brown - The Case for the Orbital Space Plane - A Stepping Stone to the Next Generation Human Rated Interplanetary Spacecraft	Open	Troy Wegman - Detecting Specific Enzymatic Activity as an Analog for the Search for Life on Mars
5:00 pm	Cont.	Robert Zubrin - Space Nuclear Power: Where We Need it, and Where We Don't	Open	Shannon Rupert - Expedition One to the MDRS

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Schedule of Events

**Saturday, August 16, 2003**

## Preliminaries

- 8:00 am - 9:00 am - Registration, Conference Check-In and Welcome, Conference Central Lobby

## Plenary Sessions -

- 9:00 am - 10:00 am: **Dr. Chris McKay** - Making Human Exploration of Mars Biologically Reversible
- 10:00 am - 11:00 am: **Elon Musk** - The Falcon Launch Vehicle - A Starting Point for Revolutionizing Access to Space
- 11:00am - 12:00 pm: [Dr. William Hartmann](#) - A Traveler's Guide to Mars

## Special Events

- 1:00 pm - 4:30 pm - Steering Committee Meeting - Studio BC
- 7:00 pm - 11:00 pm - Annual Mars Society Banquet. Seating starts at 6:30PM - Playwrights' Hall
- 10:00 pm - ?? - Star Party with the Eugene Astronomical Society at the Top Floor of the Parcade Parking Structure, 7th Ave. and Willamette Street

## Track Locations:

- **Track 1:** Playwrights' Hall, Hellman: Launch Architecture and Propulsion Systems
- **Track 2:** Composers' Hall, Bloch: Biomedical Research Relative to Mars Exploration
- **Track 3:** Composers' Hall, Joplin and Seeger: Public Policy, Funding Alternatives and Mars Exploration
- **Track 4:** Composers' Hall, Sousa: The Significance of the Martian Frontier and Philosophical Implications of Mars Exploration

Time	Track 1 Launch Architecture	Track 2 Biomedical Research	Track 3 Public Policy,	Track 4 The Significance	Steering Committee Meeting -
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	<b>and Propulsion Systems</b>	<b>Relative to Mars Exploration</b>	<b>Funding Alternatives and Mars Exploration</b>	<b>of the Martian Frontier and Philosophical Implications of Mars Exploration</b>	<b>Open to Mars Society Members, Limited Seating</b>
1:00 pm	Tom Hill - A Utility Vehicle for Space Operations	Tam Czarnik - MDRS Crew 11 Medical Sims	Paul Contursi - Redefining the Mars Sample Return Mission	Jim Beyer - How the Mars Society Saved the Planet	Continues
1:30 pm	James Snead - Innovative, Near-Term Options for Expanded Manned Space Logistics	Jan Osburg (presented by Steve McDaniel) - The MASCOT Experiment – Measuring Cognitive Crew Performance During FMARS 2003	David Livingston - Economic Benefits of Space Development	James Heiser - Examining the Prospects for a Red Planet Renaissance	Continues
2:00 pm	Richard Sylvan - Shuttle Replacement I	Brent J. Bos - Crew Performance in a Simulated Mars Habitat	Brian Enke - Public Perception of Mars Mission Economics: Seperating Fact from Fiction	R.J. Pfammatter - A Piloted Flight to Mars	Continues
2:30 pm	Richard Sylvan - Shuttle Replacement II	Tom Hill - The Mobile Mars Emergency	Marvin Hilton - The Real Reason for Exploring Mars	James Heiser - “The Heavens Declare the Glory of God”: A Theological perspective on the Exploration and Colonization	Continues

				of Mars	
3:00 pm	Corey Brown - LOX/Methane Expander Cycle Rocket Engine	Open	Jesus Raygoza B. - Going to Mars? Philosophical Paradigms Must be Shifted	Danny Quintana - Martian Peace: Why We Must Explore the Oceans and Space	Continues
3:30 pm	Rod Kendrick - Proposed Modifications to the Delta IV Heavy	Open	Thomas Olson - The Colony Fund - An Idea Whose Time has Come	James Weber - Faith, Science, Mysticism and Mars	Continues
4:00 pm	Thomas James - Review of Heavy-Lift Launch Vehicle Concepts Based on the Space Shuttle External Tank	Open	Brian Hanley - Blueprint for Private Funding of Mars Missions and Colonization	Continued	Continues
4:30 pm	Martin Dowd - Split Mission with Aerobraking	Open	Gary Fisher - The Mars Society Prize Mutual Fund	Open	Break
5:00 pm	J.E. Brandenburg - Mars X Reloaded	Open	Open	Open	Break

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Schedule of Events

**Sunday, August 17, 2003**

## Preliminaries

- 8:00 am - 9:00 am - Registration, Conference Check-In and Welcome, Conference Central Lobby

## Plenary Sessions - Playwrights' Hall

- 9:00 am - 10:00 am - **Tom Hill** - The Kepler Prize: Earth Return Vehicle Design Competition
- 10:00 am - 11:00 am - **Carol Stoker** - Drilling for Life on Mars, the MARTE Analog Experiment
- 11:00 am - 12:00 am - **Patt Czarnik** - Political Action Strategy for The Mars Society

## Special Events

- 5:00 pm - 6:00 pm - Closing Plenary - Playwrights' Hall

## Track Locations:

- Track 1:** Playwrights' Hall, Hellman: Martian Geological and Biological Studies
- Track 2:** Composers' Hall, Joplin and Seeger: Spacesuits
- Track 3:** Composers' Hall, Bloch: MDRS and FMARS Crew Member Panel Discussion
- Track 4:** Composers' Hall, Sousa: Political Action for the Mars Society and Chapter Activism

Time	Track 1 Martian Geological and Biological Studies	Track 2 Spacesuits	Track 3 MDRS and FMARS Crew Member Panel Discussion	Track 4 Political Action for the Mars Society and Chapter Activism
1:00	P. Douglas Archer	Tam	Robert Zubrin -	Richard Sylvan -

pm	- Determining Favorable Environments for Engolithic Growth from Physics Considerations	Czarnik - Building a Better MarsSuit	The Mars Society's Analog Research Station Program - An Overview	Georgia Mars Society Latency Project: Improved Efficiency of Mars Exploration using Local Marsbased Controllers
1:30 pm	Gregory Retallack - Martian Soils and Paleosols	J. Dowding - Spoken Dialogue Systems in Space Suits	William Clancey - Discussion with MDRS and FMARS Crew Members – Open to all conference attendees	Carlos Glendor - Mars Society Participation at the 2003 National Space Conference
2:00 pm	David J. Thomas - Effects of Very High CO2 Atmospheres on Cyanobacterial Photosystem Activity	Spacesuit-Mars Working Group - Mission Statement and Near Term Plan	Continues	Patt Czarnik - Political Action for The Mars Society: Panel Discussion
2:30 pm	Bryce Walden– Mars at the Beach	Chris Vancil - An Analog Suit Upgrade: Helmet Backplane	Continues	Continues
3:00 pm	J.E. Brandenburg - The New Mars Synthesis: A New Concept for Mars Climatic History	Chris Vancil - A Future Need for Analog Suit Diversity	Open	Continues
3:30 pm	Robert Clark - Theories on Liquid Water and Possible Organic Pigmentation	Open	Open	Continues
4:00 pm	continued	Open	Open	Open
4:30 pm	Break	Break	Break	Break