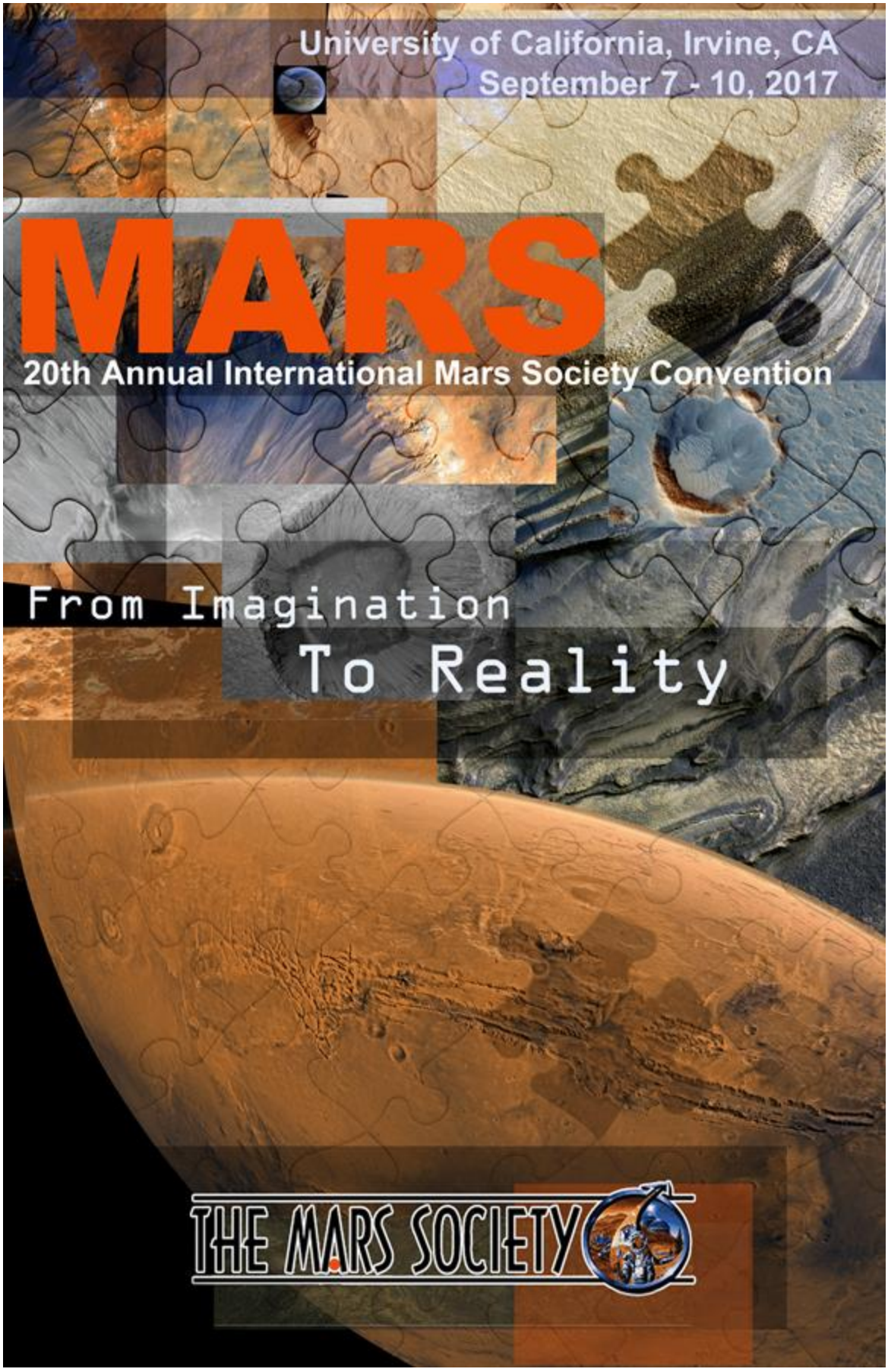
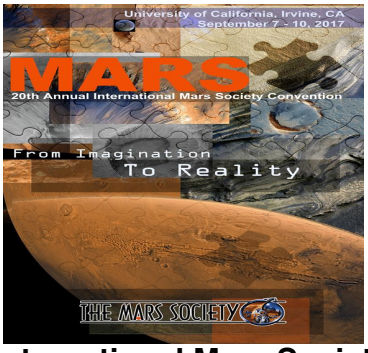

University of California, Irvine, CA
September 7 - 10, 2017
MARS
20th Annual International Mars Society Convention
From Imagination
To Reality
THE MARS SOCIETY



20th Annual International Mars Society Convention
University of California, Irvine – Irvine, CA
September 7 - 10, 2017

Thursday, September 7

9:00am - Opening Plenary
Dr. Robert Zubrin - President, The Mars Society

9:30am - Plenary
Dava Newman - Former Deputy Administrator, NASA

10:00am - Plenary
George Whitesides - CEO, Virgin Galactic

10:30am - Plenary
Vera Mulyani - CEO, Mars City Design

11:00am - Plenary
Loretta Hildalgo-Whitesides - Author & Consultant, Virgin Galactic

11:30am - Plenary
Scott Moreland - MSL & Mars 2020 Team, JPL

12:00pm - 1:00pm - Lunch Break

Thursday, September 7

1:00pm - 5:00pm - Session Tracks:

	Technology Track 1	**Technology Track 2**	**Careers Track 1**	**PP Track 1**
1:00	**Morgan Irons;** The Deep Space Ecology	**Shyam Nair, Allen Frederick I. A.,**	TBA	**Bruce Cordell;** Human Spaceflight to

	Three-Zone Model: Results of Recent Experimentation with Ecological and Environmental Mechanisms and Demonstration of Key Concepts of Operation for Quasi-Closed Eco-Agricultural Systems	**Abhisek Balasubramaniam;** Arachnidan 6 Wheeled All Terrain Explorer Equipped with a 7 DOF Robotic Arm		Mars as a Self-Organized Critical System
1:30	**James French;** Optical Mining - A New Approach to Obtaining Space Resources for Mars	**S. Bahram Sadighian;** Horizontal Takeoff and Landing to Low Earth Orbit		**Dr. Michael Waltemathe;** May we Live in Interesting Times… Extrapolating Historical Data of Societal and Religious Change Toward Space Exploration
2:00	**John E. Parks;** Look to the Sea: Applying Knowledge and Lessons from the Management of Earth's Oceans for Permanent Human Habitation on Mars	**Doug Plata;** The Moon: A Stepping Stone to Mars?		**James Heiser;** The Civilizational Continuity and the Martian Frontier
2:30	**T. Gordon Wasilewski;** Acquisition of Water from Western Utopia Planitia Subsurface: Theoretical Analysis of Sampling and Production Technologies	**Ted Ground;** "Step One", an Auspicious D-Type NEO Multiple Mission: Destination Deimos 2020		**Marvin Hilton;** Exploring Mars to Civilize Earth
3:00	**Thibault Paris;** Design and Building of a 3D Printed Pressurized Martian Spacesuit	**Kent Nebergall;** Near Term Space Settlement Risk Reduction Missions		**Doug Plata;** What is the Business Case for Mars Settlement?
3:30	**Matthew Forir;** The Case for the use of Electrical Resistivity on Mars	**Art Harman;** Cis-Lunar? Why a Lunar Surface Base Will Get us to Mars - and a Lunar Orbital Station Won't		**Craig Davidson;** Why NASA will Never get us to Mars
4:00	**Julian Zea;** A Self-Sufficient Mars	**Aswath Suresh;** Exploration-Probe to		**Kent Nebergall;** Rapid Space

	Colony	Jupiter Moon Europa		Development: Grand Challenges and Vast Opportunities
4:30	**Ronald Hattie,** The Cost per Pound to Orbit	**Aswath Suresh;** Innovative Human Mars Mission with Vertical Farming		**Art Harman;** A New Hope - President Trump's Space Policy

5:00pm - 7:00pm - Dinner Break

7:00pm - Panel
Sci Fi Greats - The Human Future in Space
Greg Benford
David Brin
Larry Niven
Jerry Pournelle

Friday, September 8

9:00am - Plenary
Jaakko Karras - Engineer, New Technology, JPL

9:30am - Plenary
Greg Benford - Author & Astrophysicist, UC Irvine

10:00am - Plenary
Paul Davies - Director, Beyond Center for Fundamental Concepts in Science

10:30am - Plenary
John Grotzinger - Former Project Scientist, MSL, NASA

11:00am - Plenary
Robert Pappallardo - Project Scientist, Europa Clipper, JPL

11:30am – Skype Session
Cast Members, Nat Geo MARS Series

12:00pm - 1:00pm - Lunch Break

Friday, September 8

1:00pm - 4:30pm - Session Tracks:

	Technology Track	**Technology Track**	**Medical Track 1**	**Outreach Track 1**

	3	4		
1:00	**Anthony Muscatello;** Mars Atmospheric Capture and Processing	**Eric Robinson;** Green Launch	**Susan Jewell, Matteo Borri, Nicholas Jewell, Matthieu Komorowski, Sheryl Bishop, Emmy Jewell;** Developing Telesurgery-Teleanesthesia Protocols, Integrating 3D Printing of Surgical Tools, and Testing Viability of 3D Virtual Reality Technologies During Simulation Training for Non-Medical Astronaut in a Mars Analog Environments	**Philippe Clermont, Richard Heidmann;** Mars Colonization: from Prospect to Project
1:30	**Miguel Cooper;** Human Exploration of Mars 2027-2056	**Thomas E. Markusic, PhD;** An Incremental Strategy for Mars Colonization Part I: Material Supply Fleet	**Joseph Clift;** Do Astronauts Dream of Catching Cosmic Sheep?	**Adam Lupsha;** Speaking Martian to Earthlings - A Primer on Using PR and Storytelling Principles to Pitch Your Science
2:00	**Craig Davidson;** Improving the SpaceX Mars Colonization Plans	**Darrin Taylor;** Free Delivery With Your Order	**Dr. Jose Antonio Soto, MD;** MARS: Hikers Wanted	**Mary Turzillo;** Mars: Humanity's Evolving Vision
2:30	**Craig Davidson;** The SharkFin Magnetic Sail	**Miguel Cooper;** The Path for a Human Mission to Mars: Target Year 2032	**Christoph Lahtz;** Space Biology is the Key to Establish Celestial Sustainable Human Settlements	**Yalda Mousavinia;** A Collaboration Platform that Will Take us to Mars
3:00	**Dr. Joseph Parker;** Advanced Propulsion Systems for the Colonization of Mars	**Joe Lingren, Kiva Villegas, Wesley Yu;** Low-Mass EDL Designs for Manned Mars Missions	**William Gardiner;** Better Martians, Better Humans: Will Genetic Therapy Allow Better Living on Both Mars and Earth	**Peter Detterline, Gary Becker;** Two New Astronomical Observatories at MDRS
3:30	**Antonio Bellmunt;** Terraforming Mars with the Creation of a MagnetoSphere as the First Step	**Michael Bouchard;** The Coming Communication Crisis	**Bill Hargenrader, Jeff Pernell, Ron Sparkman;** Healthy Eating on Mars: Stepwise Local	**Jan Millsapps, PhD;** How to Get (More of Us) to Mars

			Approach to Whole-Foods (M:SLAW)	
4:00	**George Lordos;** Evaluating the Sustainability of Long Term Manned Mars Campaigns Using a Physical Economics Framework	**Abigail Riggs;** The Use of Geophysical Techniques to Locate and Monitor Potential Martian Aquifers	**PP Edward Heisler;** The US Should End the Ban on NASA Working with China	**James Melton, PhD;** Top 10 Ways to be a Mars Messenger
4:30	**Michał Hałon;** Mars Rover Design with SKA Robotics	**Mikolaj Owczarzak;** Augmented Reality and Telepresence Technologies in Future Mars Exploration Missions	**PP Henry Stirk;** Free Mars	**James Burk;** Mars Society Internet Task Force - Conquering Cyberspace for Mars

5:00pm - 7:00pm - Dinner Break

7:00pm - Debate
Does the Deep Space Gateway Have Merit?

8:00pm - Panel
Panel - The SpaceX Plan for Mars

9:00pm – Special Presentation
Mars in Film

Saturday, September 9

9:00am - Plenary
Carol Stoker - Planetary Scientist, Ames Center, NASA

9:30am - Plenary
Mike Elsperman - Space Science & Advanced Utilization, Boeing

10:00am - Plenary
Mars 160 Crew Presentation

10:30am - Skype Session
Dr. Mohammed Naser Al-Ahbabi, PhD. - Director-General, UAE Space Agency

11:00am - Panel
Social & Philosophical Implications

12:00pm - 1:00pm - Lunch Break

1:00pm - 4:30pm - Session Tracks:

	Technology Track 5	**Technology Track 6**	**STEM Track 1**	**PP Track 2**
1:00	**Holger Isenberg;** Practical Color Calibration for Mars Surface Images	**Robert Madsen;** Virtual Reality - Simulating the Simulation	**Bob Barboza;** Occupy Mars Learning Adventures Fellowship Programs for Middle and High School Students	**Dr. Michael Waltemathe, Elke Mergny;** Who Wants to Go?! - Motivational Factors for Mars-Exploration in a Transnational Sociological Perspective
1:30	**David Kutas, Alexis Koulidis, Monica Stancu;** Extraterrestrial Drilling Operations - A Fundamental Research	**Dan Gillies, Ryan Olcott;** Selective Laser Melting of MMS-1 and MMS-2 Martian Regolith Simulant in a Low Cost Testbed	**Nicholas, Jewell, Emmy Jewell, Susan Jewell, Mark Kaushal;** A 21st Century S.T.E.A.M.E.D TM Academy Creating Experiential Learning with Exponential Technologies Offering VR/AR Astronautic Programs and Fully Immersive “Real-time” Simulators for Training NextGen Analog Astronauts, Imagineers, and Astropreneurs	**Mohsen Marefat;** Social Implications of Mars Exploration
2:00	**David Kutas, Alexis Koulidis, Monica Stancu;** Semi-Automatic Mini Rig - Rover for Drilling Operations on Mars	**Gerald Black;** Nuclear Fusion: Clean, Safe and Cheap Energy and the Next Giant Leap in Space Propulsion	**Matthew Luttenberger;** M.A.R.S. University	**Brent Lane;** New World/New Worlds: Parallels in the Evolution of Enterprise-based Exploration Financing from the 16th and 21st Centuries

2:30	**Garri Rebatta Urquizo;** How Would it be to Construct with a 3D Printer?	**Matteo Borri;** Pneumatic Survey System for Martian Atmosphere	**Zach Whitten;** Whittenberg Country School Parallax Robots	**Dr. Martin Fowler;** The Time is Right for a Martian Covenant
3:00	**Kurt Chankaya;** The Human Factor: Manned or Unmanned - Some Thoughts on Mission Resilience	**Andrew Whallum;** Dive to Mars	**Ivo Georgiev;** Marsian School	**Amir Notea, Frederico Monaco, Irene Lia Schlacht, Antonio Del Mastro;** Socially Organizing Large Scale Mars Missions: What we can Learn from Earthlings
3:30	**Kurt Chankaya;** The Use of Atmospheric in-situ Resources for Radiation Protection on the Surface of Mars	**Art Harman;** Don't Destroy ISS in 2024 - Privatize it!	**Mark Cusimano, Steven Shields;** Mars Regolith Simulant as a STEM Education Resource	**Robert Riccardi,** ON/TO MARS! - A Private Funding Proposal for Mars Landing/Exploration/Outpost Leading to a Permanent Settlement
4:00	**Prasad Falke;** What Improvements to the Deep Space Network are Needed to Support Manned Missions to Mars?	**Art Harman;** Mars Flyby - Do it in the 2020s, not the 2030s		**Danny Quintana;** Space and Ocean Exploration, the Alternative to the Military-Industrial Complex
4:30	**Kambiz Eqbal;** An Approach through "Energy Offering Methods" throughout the Human Establishment in the Martian Environment; Providing Feasible/ Most Efficient Scenarios to Every Operational Stage	**Vinod Sridhar;** Mars Electromagnetic Radiation Shielder (MERS)		**John Stone;** How to Fund a Private Expedition to Mars

5:30pm - 6:00pm - Break

6:00pm - 11:00pm Mars Society Banquet

Song: Rise to Mars

Banquet Speaker: Anousheh Ansari - First Female Private Space Explorer

Mars Society Awards Ceremony

Remarks by Dr. Robert Zubrin, Mars Society President

Sunday, September 10

9:00am - Plenary
Darlene Lim - Geobiologist, Ames Center, NASA

9:30am - Plenary
Geoffrey Landis - Author & Planetary Scientist, NASA

10:00am - Plenary
TBD - Lockheed Martin Mars Mission

10:30am - Plenary
The University Rover Challenge

11:00am- Plenary
The University Rover Challenge

11:30am - Closing Remarks
Dr. Robert Zubrin, President, The Mars Society