THE MARS SOCIETY

PERU CHAPTER

TEAM PERU VI

TEAM LATAM III

MARTIAN ANALOG MISSIONS

MDRS SEASON 2018-2019

UTAH'S DESERT, UNITED STATES

PROGRAMS GUIDE

The Mars Society - Peru Chapter
Lima, Peru
peru.marssociety.org
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Pictures taken by
Crew 126—Team Peru I
Crew 140—Team Peru II
Crew 150—Team Peru III
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PRESENTATION

Mars has been an object of great interest for mankind since the epoch of the first civilizations, it has inspired hundreds of stories and also the desire of the man to explore beyond his homeworld. Today, this desire to inhabit Mars is bigger than ever due to the ammount of studies that have been done in the last decades, giving us hope about the possibility, not only to visit it, but to colonize it eventually. In order to achieve this goal, scientists, engineers and a plethora of professionals worldwide develop projects that focus on solving the aspects regarding the survival, activities and long-term settling of the humans that will embark on that adventure.

These studies and tests are not performed directly on Mars, there exists places on Earth called “extraterrestrial analogs”, that means, places on Earth which have some characteristics that are similar to those we can find in other places in the Universe. Most of these analogs are “martian analogs”, each one with a set of features that makes it similar to Mars. Among these, we can point out a number of them where organizations as The Mars Society, have created analog habitats where human crews simulate and analize the factors involved with the human performance on environments of isolation such as it is expected for a real extraterrestrial misión to another planet. Examples of these habitats are MDRS (Utah, US), FMARS (Devon Islad, Canada), and in the near future MARS PJ (Arequipa Peru).

The objective of this handbook is to provide applicants for Team Peru and Team Latam programs with a general overview of how the program is structured, since the first stages, in which the crew members are selected to the simulation itself; and also to provide them with inspiration for their applications going through every past crew that has participated of this program.

Written by Adolfo Ubidia-Incio

THE MARS SOCIETY

The Mars Society (TMS) is a non-profit, volunteer-driven organization whose main objective is to promote the human exploration and settlement of the planet Mars. It was established in 1997 led by Robert Zubrin. It has grown to over 5000 members in more than 50 countries worldwide.

The Mars Society's goals include

- Development of Mars Direct mission plan to send humans to Mars
- The Mars Analog Research Station Program (MARS), which includes stations in Mars-like environments as the Flashline Mars Artic Research Station (FMARS) and the Mars Desert Research Station (MDRS).
- Projects as The Mars Society Analogue Pressurized Rover: A competition to design a pressurized rover vehicle that could be used in Mars, the Mars Gravity Biosatellite, to design a satellite that would provide artificial partial gravity of 0.38 G), the Mars Balloon mission Archimedes, and others.
- Promote teaching of STEM related subjects in schools.
- Host annual conferences on Mars exploration worldwide.
- Actively support NASA, ESA and other space agencies in their on-going exploration of Mars.

MARS DESERT RESEARCH STATION (MDRS)

The Mars Desert Research Station is a group of connected facilities where crews of six or seven people live for periods of two to three weeks while simulating that they are in a real mission on Mars. This habitat is the second of four planned habitats operated by TMS. It was built in the early 2000s and its continuously implemented to provide with the needed facilities.

As this analog is still on our planet, not all the martian conditions can be emulated, nevertheless, it is still a useful place to test equipment, and strategies for an eventual mission to Mars.

SIMULABLE	NOT SIMULABLE
ENVIRONMENT	
Desert with soils rich in ferrous oxides, a similar history to that of martian deserts (former seafloor)	Gravity: Mars gravity is only 0.37 times as strong as Earth's.
Temperature variations between day and nigth that can go from 0°C to 40°C in the same day (Although in Mars it can change more than a hundred degrees from day to night).	UV radiation: In Mars there is no ozone layer or other natural means to protect against solar and cosmic radiations.
Very low relative humidity. Most wáter in Mars is frozen so there isn't much wáter in the atmosphere but transiently during summer.	Atmospheric pressure: Mars has lost most of it's atmosphere. Nowadays its size is about 10% of Earth's atmosphere and the pressure is a hundredth of Earth's. (check: water triple point).
	Astronomy: in Mars you can see its satellites Phobos and Deimos, and also Earth and the Moon.
DAILY LIFE	
Use of protective EVA suits everytime crewmembers need to leave the station for an EVA. Not needed if traveling between structures as they are connected.	Complete envronmental isolation: Some structures are not completely isolated (e.g. GreenHab) since they are being contunuously enhanced.
Food: Based in what can be taken to space in long term journeys. Includes dry and dehydrated food. Cans with preserved food and others that can last for several days or weeks without spoiling.	Some of the provided products may not be transportable to Mars due the changes experimented during the launch, and entry to Mars. This has to be considered for any Project proposal regarding nutrition.
Limited communications: No cellphone signal, small amount of internet data, mostly reserved for communication with CapCom and Mission Support.	Communicatios delay: Communications with Mars should have a delay of 5 to 25 minutes depending on the position of Earth and Mars during the two year period in their orbits. Communications at MDRS are immediate.
	Simulation is suspended in case of an accident.
INVESTIGATION AND EXPLORATION	
Every project has to be evaluated by a committee of professionals from áreas related to the project.	Some equipment may not work under Mars conditions in the same way they do in martian analogs due to the environmental differences.
Every project has to be performed under an environment of simulation.	Utah's desert present zones that are less similar to Mars than others, these present vegetation that can cover áreas near the Hab during spring. It is advisable to review the different zones to identify the different zones, specially for projects related with the search of life on Mars
There exist strict protocols for the performance of Extra Vehicular Activities.	

MDRS CAMPUS

The ‘campus’ is composed of six structures that have been added to the station progressively since it was originally built.

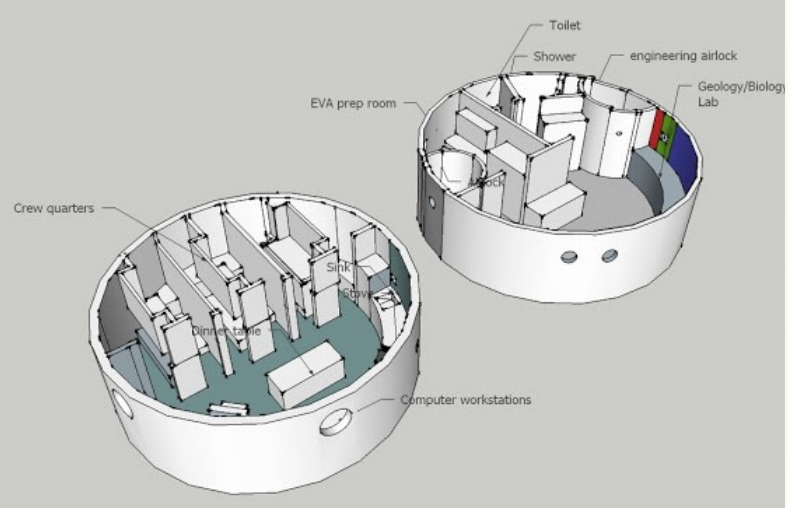
Hab: A cylinder shaped structure with a diameter of 8 meters, and 8 meters of height. It has two floors and it’s designed to host up to seven crewmembers at one time. The lower deck includes an EVA preparation room for the crewmembers to wear the spacesuit simulators, an external airlock, a shower room, a toilet room and a rear airlock that leads to the tunnels that conduct to the other structures.

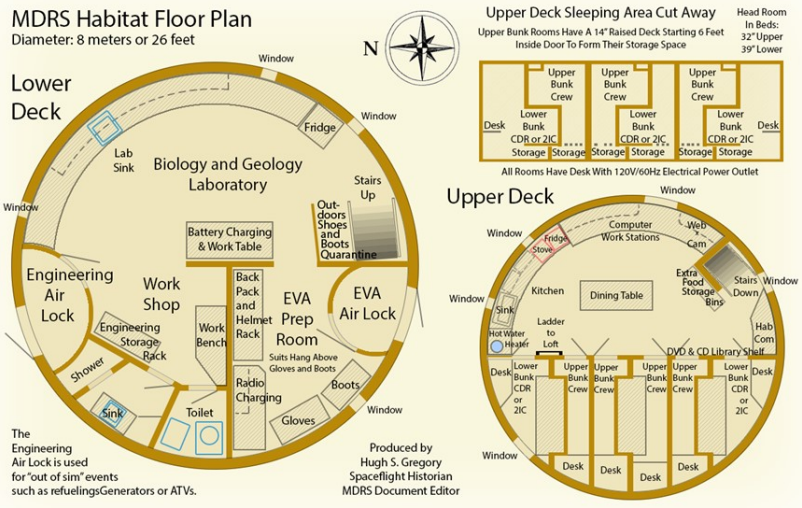
The upper deck includes the crewmember room and a commom living /work area, a fully operational kitchen. Over the rooms, there is a water tank than can be filled with 20 liters of water from the principal reservoir to be used in the daily activities of the crew.

Outside of the Hab there is the principal water reservoir that is provided for a two week simulation, and the tunnels to communicate with the other structures.

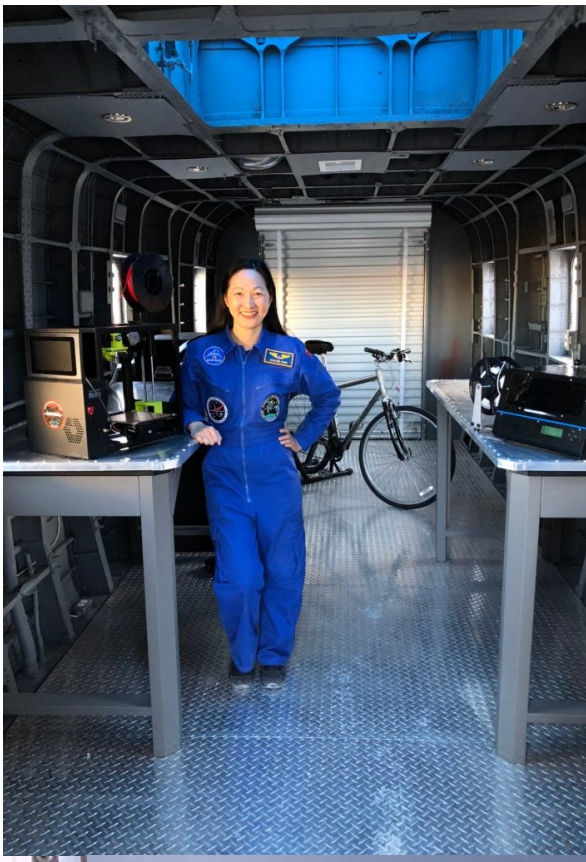
Greenhab: It is a transparent structure of 3.65 x 7.32 meters. It contains systems for conventional growing and aquaponics, and also a space for crop reseach studies. Climate is controlled by propane heater and a swamp cooler. It also includes growth lights to compensate for light during winter.

Science Dome: A geodesic dome with a diameter of seven meters, it contains the microbiology and geology laboratory.





Repair and Maintenance Module—RAMM: This building was added in the last months of 2017. It is a refitted Chinook helicopter and will be used to house the ATVs and rovers for repairs, as well as for performing engineering research



Musk Observatory: A solar facility equipped with a Lunt 100 mm refracting telescope and a double stack of hydrogen alpha filters. This observatory has been specifically designed for Sun observation.

Robotic Observatory: It houses a 14" Celestron Schmidt-Cassegrain telescope on a CGE pro equatorial mount. The observatory is a 2.3 metter dome that can be controlled from the Habitat.

ATVs and Rangers: MDRS owns a series of vehicles used for Extra Vehicular Activities or emergencies. This includes 5 standard ATVs, 4 electric-powered ATVs, a two-person Polaris Ranger and a 4-wheel drive SUV.

THE MARS SOCIETY - PERU CHAPTER

The Mars Society—Peru chapter (TMSP), is a chapter of The Mars Society established in Latin America in 2013 after the success of the first Team Peru crew. This crew was formed by the peruvian aerospace and astronautical engineer Alejandro Diaz, who works at the aerospace branch of Boeing, and is currently the president of TMSP. This first crew opened the opportunity for other students and Young professionals from Peru and Latin America to participate each year in this martian analog. Since then, The Mars Society Peru has been in charge of the program "Team Peru" which has sent five crews to MDRS until 2017 and later of the program "Team Latam", which has sent already two crews, after sending people from Argentina, Colombia and Costa Rica in Team Peru IV (2016).

The Mars Society Peru also participate in outreach and academic events where it is invited. Examples of these events are the annual fair "Peru con Ciencia", celebrated in Peru every year, and "Space Generation South America Workshop" in which Young professionals from South America debate about the future steps for the development of the space sector in the region. As an organizer, TMSP has been involved in the First Peruvian Space Week, organized with the Scientific Society of Astrobiology of Peru (SCAP), Space Generation Advisory Council (SGAC) and Pontificia Universidad Católica del Perú, in August 2016, and SpaceUp Peru in April 2018.

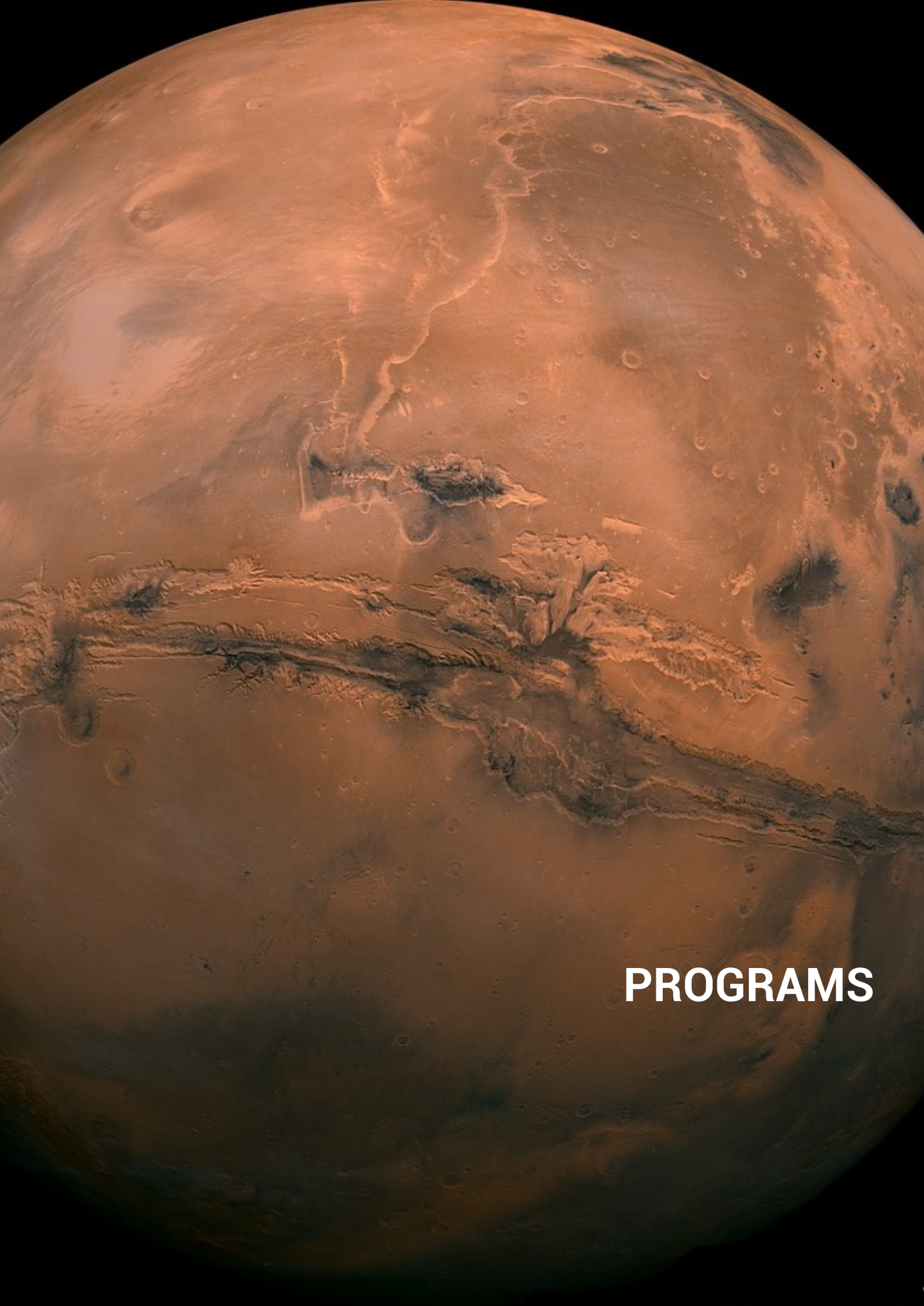
The Mars Society Peru also works actively in the recognition and intangibilization of the desert Pampas de La Joya, in Arequipa, Peru, as it is an important martian analog that can benefit South American countries, and also where it is planned to set up a base to for scientific research, and testing of technologies aimed to facilitate Mars exploration and/or colonization.

PLANETARY ANALOG MISSIONS

Planning a manned mission to Mars, the Moon or elsewhere is a difficult task. It involves a lot of planning and testing of the equipment and systems that will provide an adequate habitat and environment to the astronauts that will live there for several months or years. Moreover, details involved in the astronaut's psychology have to be well understood before sending them in such a dangerous mission. Analog missions are a useful tool to understand how a real mission will work, considering all the aspects related to the human performance beyond Earth.

Mars Habitats provide with the special capacity to test how people will react in this kind of situation without taking them outside of the planet. Usually, researchers can test rovers, spacesuits or other technologies in extraterrestrial analogs just traveling to the site and performing simple tasks, but with a habitat, the test becomes more realistic as the interaction of the "analog astronauts" with these technologies can also be studied leading to a more comprehensive understanding of the overall performance.

There are a few martian analog habitats in the world, each with different objectives, depending on the geographic location, mission length, scientific objectives, and others. The programs Team Peru and Team Latam are developed in the MDRS habitat in Utah's Desert, lasting usually 2 weeks, functioning more as educative programs to provide students and young professionals with a general view of the functioning and needs of a manned mission to another planet.



PROGRAMS

TEAM PERU

The program “Team Peru” is the first program approved by The Mars Society to send Peruvian students and Young professionals to MDRS. It was established in 2013 beginning with “Team Peru I”. Five crews has been sent as part of this program, three of them composed only by Peruvian people, but since 2016 (Team Peru IV) people from other countries were invited to participate as part of Team Peru crews. To the date this has included people from Argentina, Colombia, Costa Rica and Brazil.

In 2018, The Mars Society Peru will be sending its sixth crew, which will be composed of 4 Peruvian members and three members from other Latin American countries.

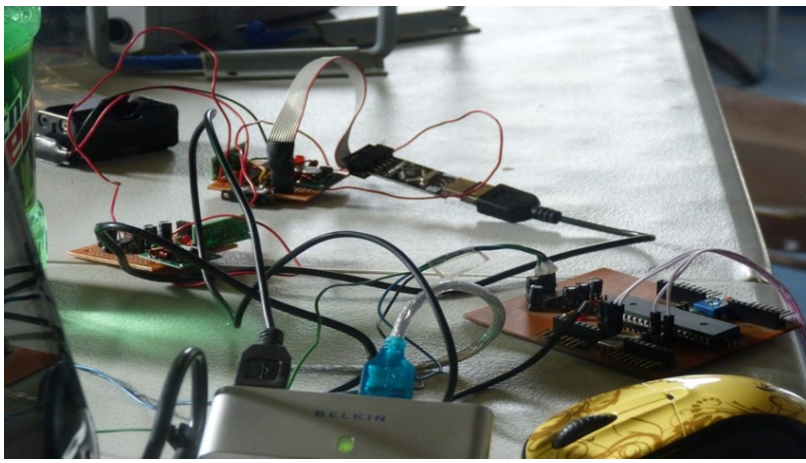
The members of Team Peru crews are invited to join the society, after their simulation and become points of contact in their regions and countries who will help to encourage people from their regions to represent them in future crews.

CREW 126 - TEAM PERU I

March 09th . March 23rd, 2013

COMMANDER	Alejandro Diaz
EXECUTIVE OFFICER	Humberto de Las Casas
GREENHAB OFFICER	Mónica Abarca
CREW ENGINEER	Eiji Onchi, Saul Trujillo
HEALT AND SAFETY OFFICER	Andrea Lazarte

EVA Emergency Transportation



Data adquisition module

CREW 140 - TEAM PERU II

Isolating Cover for the old GreenHab

Germination of quinoa on martian analog environments

Treeking poles and footprint analysis

April 12th . April 26th, 2014

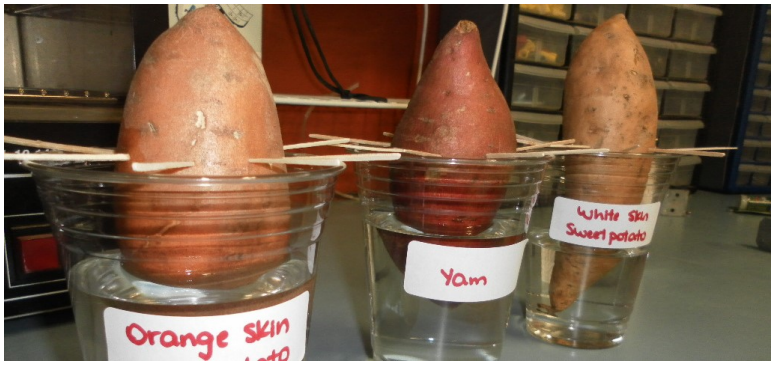
COMMANDER	Jorge Mirez
EXECUTIVE OFFICER	Diego Guillén
GREENHAB OFFICER **CREW BIOLOGIST**	Adolfo Ubidia
CREW ENGINEER	Luiggi Tello
HEALT AND SAFETY OFFICER	Ruth Quispe
CREW JOURNALIST	Luciana Tenorio

CREW 150 - TEAM PERU III

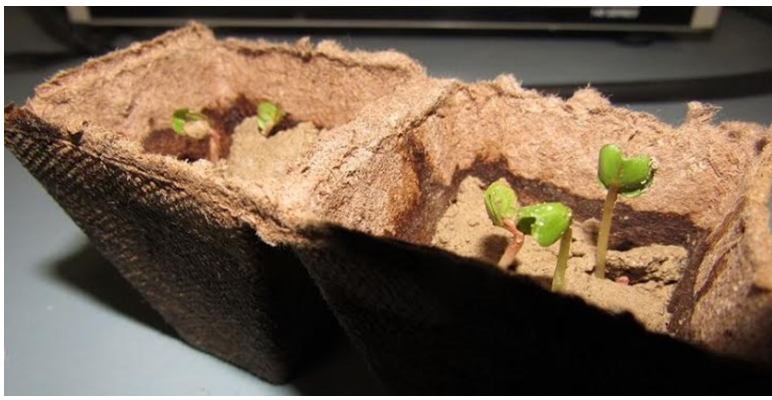
February 21st . March 15th, 2015

COMMANDER	Daniel Rivas
EXECUTIVE OFFICER	Jimmy Gora
GREENHAB OFFICER	Luis Castillo
CREW ENGINEER	Sergio Postigo
HEALT AND SAFETY OFFICER	Rómulo Cruz
CREW JOURNALIST	Olenka Jibaja

Feline Gripping Exoskeleton

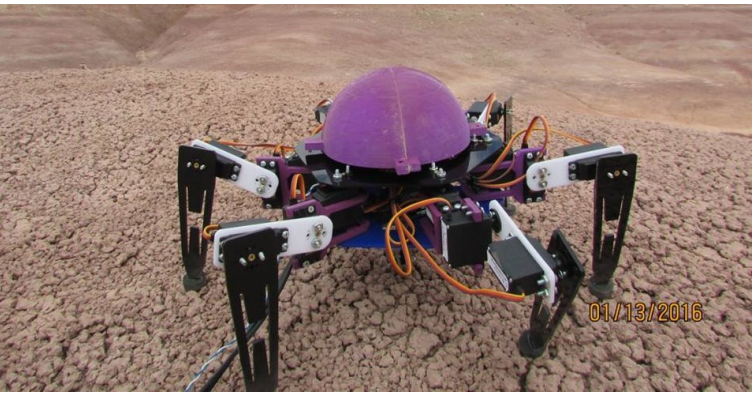


Sweet potatoes on Mars



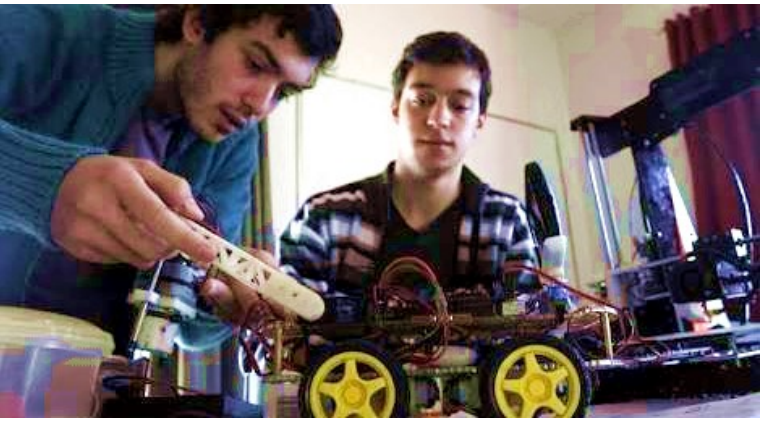
Oxygen production monitoring

CREW 169 - TEAM PERU IV



Hexapod testing

Analysis of human - related bacteria dispersion



Rover testing for transport of small devices

April 30th - May 15th, 2016

COMMANDER	Elizabeth Centurión
EXECUTIVE OFFICER	Jeel Moya
GREENHAB OFFICER	Nolverth Huamán
CREW ENGINEER	Orson Lazo
HEALT AND SAFETY OFFICER	Marcos Bruno
EVA OFFICER	Celeste Balladares
CREW JOURNALIST	Luis Ibañez

CREW 182 - TEAM PERU V

November 04th - 29th, 2017

COMMANDER **GREENHAB OFFICER** **HSO**	Atila Meszaros
EXECUTIVE OFFICER **CREW SCIENTIST** **CREW JOURNALIST**	Camila Castillo
CREW ENGINEER	Carmen Atauconcha
EVA OFFICER **CREW GEOLOGIST**	Brandon Ferguson
MEMBER	Julio Rezende

Growing andean crops on Mars

Testing bacteria to improve plant growth

Preparing a geology EVA

TEAM LATAM

The program “Team Latam” is the second program approved by The Mars Society to send Latin American students and Young professionals to MDRS. It was established in 2016 after the success of the crew “Team Peru IV”, in which for the first time the members were from different countries including Argentina, Colombia, Costa Rica and Peru. The first crew of this program “Team Latam I”, who travelled to MDRS early in 2017, added Mexico to the list. And in comparison with the program “Team Peru”, Team Latam crews are prepared to include a variety of nationalities, optimally being each member from a different country.

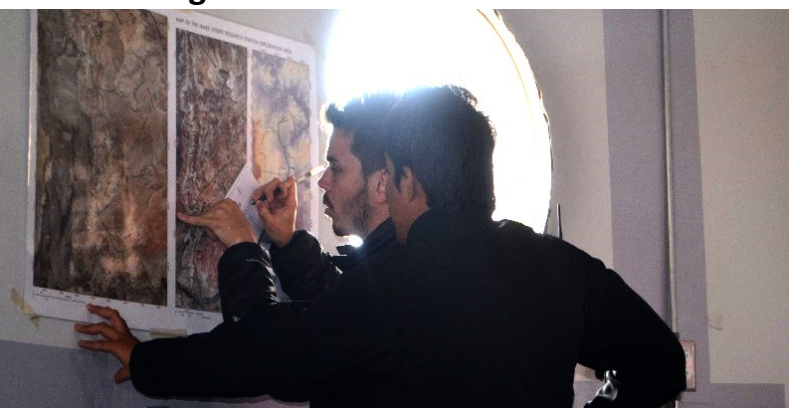
In 2018, The Mars Society Peru aims to include other Latin American countries to Team Latam III, as one objective of the program is to encourage collaboration among these countries in the space sector.

Similar to Team Peru, the members of Team Latam crews are invited to join the society, and become points of contact in their countries who will help to encourage people from their countries to represent them in future crews..

CREW 180 - TEAM LATAM I

Microgravity experiments in the Science Dome

Rover testing



EVA planning for stratospheric research ballon

April 29th - May 14th, 2017	
COMMANDER	Yendry Corrales
EXECUTIVE OFFICER CREW JOURNALIST	Victor Román
GREENHAB OFFICER	Camilo Reyes
CREW ENGINEER	Gabriel Caballero
HEALT AND SAFETY OFFICER	Leonardo Valencia
EVA OFFICER	Yair Piña

CREW 187 - TEAM LATAM II

January 13th - 27th, 2018	
COMMANDER **CREW ASTRONOMER**	Cynthia Fuertes
EXECUTIVE OFFICER	Atila Meszaros
GREENHAB OFFICER	David Mateus
CREW ENGINEER	Luis Diaz
CREW SCIENTIST **EVA OFFICER**	Oscar Ojeda
HEALT AND SAFETY OFFICER	Danton Bazaldua
CREW JOURNALIST	Tania Robles

Evotranspiration and hydroponics experiments

Dealing with biosecurity issues

“Condor” EVA suit testing and collection of regolith

DISTRIBUTION OF MEMBERS BY ORIGIN

Both programs are open for people from any country to apply. Within the seven crews that have participated at MDRS, six Latin American countries have participated so far. We expect to increase this number so people from all Latin America can have this opportunity.

TEAM PERU

COUNTRY	CREWMEMBERS
ARGENTINA	1
BRASIL	1
COLOMBIA	1
COSTA RICA	1
US	1
PERU	25
REGION (+ LATAM)	
LIMA	15
ANCASH	1
AREQUIPA	2
CAJAMARCA	1
CUZCO	2
JUNÍN	1
LA LIBERTAD	1
LAMBAYEQUE	1
PIURA	1
SAN MARTÍN	1
TRUJILLO	1

TEAM LATAM

COUNTRY	CREWMEMBERS
ARGENTINA	1
COLOMBIA	4
COSTA RICA	1
MÉXICO	3
PERÚ	4

TOTAL

COUNTRY	CREWMEMBERS
ARGENTINA	2
BRASIL	1
COLOMBIA	5
COSTA RICA	2
MÉXICO	3
PERÚ	28
US	1

CREW SELECTION

ANNUAL SELECTION

TEAM PERU VI & TEAM LATAM III

In 2018, two crews will be selected to participate in the season 2018-2019 at MDRS. These crews will be composed of young professionals interested in the space sector who are willing to learn and collaborate in the development of technologies and strategies to make possible the exploration and colonization of Mars

What do I need to participate in a crew at MDRS?

The principal requirement to participate in a mission at MDRS is to be highly interested in the arrival of humans to Mars. Your professional background is not a major factor, actually, The Mars Society seeks to attract professionals and students from all kinds of careers to propose solutions to the principal problems related to human colonization of Mars Other conditions are:

- To have a good health condition
- To have a good level of English (at least intermediate)
- Being able to propose a shot duration project.

A crew should usually be composed of one or two people with a background in science, other one or two with a background in engineering people with abilities to repair and maintain the equipment at MDRS, someone who knows first aid, and someone who knows how to drive.

These extra abilities can be a plus in your application

Application

In order to apply to Team Peru VI or Team Latam II you will need to fill and send of documents available at our website: http://peru.marssociety.org. These documents include a application form, and a project description. You will need to include a curriculum vitae, an English certificate, a document with a resumed biography and a photography, and a two-minute video explaining why do you want to go to MDRS.

SCHOLARSHIPS

Participation in a crew at MDRS has a cost that covers your transportation to MDRS, the food and water to be consumed during the two or three weeks, and general maintenance, the exact iformation about the fees can be found in the application documents. The Mars Society gives scholarships to students and recent graduates in order to help them to cope with the costs.

If you wish to apply for a scholarship you will need to provide the following documents.

- **Student scholarship**: certificate that proofs that you are currently enrolled in a university program.
- **Recent graduate scholarship:** certificate that proofs that you have finished your studies in a period no larger than one year.

MDRS fees may change from one season to another. The fees stablished for 2018-2019 are of $1500 for the two week rotation. A recent student would receive a scholarship of $500, and a student a scholarship of $750

FIRST PHASE
DOCUMENT EVALUATION

Once the application window is closed, all the documents sent to the provided email are reviewed by a committee formed by TMSP, if one of the needed documents is missing, the applicant will receive an email to provide it in the next 48 hours, if this person fails to send these documents in the stablished time, he or she will be disqualified.

During this phase, all candidates are given punctuations based on the quality of the documents they have sent, that is, the effort and detail put on the motivation questions included in the application form, and the project. The academic degree does not affect the overall punctuation, CVs are used only as references.

After the first evaluation is finished, applicants will be contacted to inform that they have passed to the second phase of the selection process.

(*) The applicant must be clear in his/her application if he/she is applying for Team Peru VI, Team Latam II, or to both programs.

(*) Documents for Team Peru VI and Team Latam II applications will be received until May 20th, 2018.

(*) All documents must be named in the format “LASTNAME_FIRSTNAME_Nameofdocument”.

SECOND PHASE INTERVIEWS

The second phase consist interviewing the applicants. Every applicant will be contacted to schedule a thirty-minutes interview by two members of The Mars Society Peru. The interview will be held through Google Hangouts or Skype.

The interview will consist of a series of questions about the applicant, his/her knowledge about Mars and martian analogs, his/her motivation and his/her project. Questions will be aimed to evaluate four areas: knowledge, physiological status, psychological status and survivability.

The results of these interviews and the first phase will be reviewed by the selection committee to decide who are the better candidates to conform each crew.

(*) Interviews will be scheduled for the period between June 1st and June 30th, 2018

FINAL CREW SELECTION AND ROLE ASSIGNMENT

The final members for each crew will be decided in coordination with The Mars Society International. Every crew will be composed of seven members and another group of up to six people will be designed as backup members in the case in which one crewmember cannot continue being part of the crew.

The selected members will be informed immediately and will be given an acceptation letter and a funding-support letter detailing the costs to be covered. These documents are given to be used to obtain documents such as the non-immigrant visa, and search for funding from universities and other entities.

Role Assignment

The roles that each crewmember will perform as part of their crews will be decided and notified after the selection is over. It will be based on consideration of the three preferences filled by the applicants in their applications, but this does not assure that every member will have the role that they asked for. The same person can be selected for two roles.

CREW ROLES

Commander	Is the leader of the crew, he or she must be a responsible person, and capable to lead a group.
Executive Officer (XO)	Is the second person in charge. Must have the same abilities of the commander. Can take decisions when the commander is unavailable.
Crew Scientists	Members in charge of the scientific goals of the crew. A crew can have a crew scientist, or specifically a crew biologist, geologist, astronomer or other disciplines.
Greenhab Officer	Person in charge of the Greenhab. The plants growing there will provide a source of food and oxygen. The GHO has duties to be performed in fixed hours, and must be aware of the changes that happen inside the Greenhab.
Health and Safety Officer	Person in charge of keeping the crewmembers in a good health condition. He is not a medical doctor but should know about first aid and be in contact with mission support if an emergency arises.
Crew Engineer	Person in charge of the correct functioning of the equipment and vehicles at MDRS.
Crew Journalist	Person in charge of writing the crew's journal which is sent daily to mission support to keep Earth informed about the crew's activities.
Artist in residence	Special crewmembers that participate with an artistic project.

CREW PREPARATION

TRAVEL PROCEDURES AND FUNDRAISING

The first thing to do once a the crew has been decided is to get in contact among crewmembers. This usually includes a whatsapp or facebook group, and regular meetings via HangOuts or Skype. As a crew you must coordinate many things, among these:

- Meeting before leaving to MDRS (meeting point: Grand Junction, CO)
- Distribution of duties: cooking, cleaning, use of water for showers, etc.
- Distribution of EVAs for projects (two daily).
- Design of mission patch, design of jumpsuits, t-shirts, and other materials.

Each member should begin to prepare the needed documents for their travel, that is, a passport, a non-immigrant visa, permissions if needed to transport any material for any project, and documents to ask for funding at Universities, educative intitutions and/or companies.

Fundraising can be achieved from different sources. Usually, universities or other educative institutions cover the flight tickets. In some cases they also cover the MDRS fee and other expenses related with the projects. If not, other educative institutions or companies can provide this support, in exchange they usually ask for exposition of their name (as a logotype) during the mission, or to give some talks after it. This is completely acceptable.

- **Obtain a passport**: The process can vary depending on the country, usually applicants already have one.
- **Obtain a US Nonimmigrant Visa**: This can take some time depending on the country and regulations. The first step is to fill the DS-160 form (https://ceac.state.gov/genniv/). Fill the information accurately and copy the code provided initially so you can find your form if you need to complete it in different moments, you will be applying for a B1/B2 nonimmigrant visa. Once you have finished keep a copy of the document that will be generated. You will need it to pay for the application before scheduling the interview. For paying details check at the embassy website of your country. Then go to "appointment service" website of your country (example: https://ais.usvisa-info.com/es-pe/niv). You will need to register and proceed to the section to request an interview, follow until you find a pdf with the payment details. Once you have paid, you need to wait for a whole day, then you return to this website and schedule your interview. Be aware that depending on the time of the year the available dates for interviews can be from a few days to half or a whole month after you do all this procedures.
- The day of the interview you will need to take your DS-160 document, your passport and a 3 x 3 cm photography. The whole process takes about one hour. Take with you documents that proof that you are requesting the visa because you are going to MDRS, be sure about what MDRS and The Mars Society are, and take with you documents that proof that you are going to return to your country, such as studies certificates, property documents, etc. Once your visa has been accepted you will be told in how much time you can go to a DHL Officine and take your visa, and depending on the country you may need to leave your passport with them.
- **Check the conditions for your luggage with your airline**: Each airline has its own rules about the number, weight and size of the suitcases and bags you can take with you. The best option, as you will probably want to do some tourism after your mission, is to leave free space and weight for the things you will bring back home. If you are taking heavy things to MDRS due to your project, you may need to pay an extra amount to transport them.
- **Get an insurance:** The program does not cover accidents or any other medical services. Each crewmember is encouraged to get an insurance before traveling, or to be aware of the costs involved in the case of an accident. There have been some minor accidents in past crews, we hope this does not happen anymore, but it is still advisable to be prepared.
- **Check US regulations:** If your project involves transporting living beings (bacteria, seeds, etc), using non manned vehicles (drones), or obtaining samples from MDRS, you must check US regulations about that issue and be sure that you will be able to perform what you are proposing at MDRS.

CREW SUPORT TEAM

TMSP - CST

The Mars society Peru has a special team called Crew Support Team, or CST. This team is in charge of preparing new crews for their missions. This is done through group and individual sessions in which the crewmembers are told the general rules and procedures at MDRS as well as the activities that each one will be performing in their roles.

The Crew Support Team is also in charge of following each crewmember in their preparation to MDRS, that is, asking for the letters they need to ask for funding or when applying for a non-immigrant visa, mentoring them about the procedures to obtain the visa, and following them so they can obtain the visa, flight ticket and MDRS fee in time before their travel to MDRS.

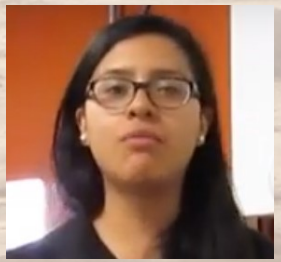
Roberto Adolfo Ubidia Incio
Coordination and Science

Camilo Andrés Reyes Mantilla
EVAs and reports

Víctor Román Flores
Media and Outreach

Olenka Jibaja Valderrama
Documentation

Gabriel Caballero
Engineering



Elizabeth Centurion Cancino
Recruitment

PREPARATIVE SESSIONS

Preparative Sessions given by the Mission Support Team includes:

01 Presentations with TMSP, Q & A. Explanation of the MSP and future steps.

02 Group training session I. Basics about MDRS and preparations prior to the mission. Simulation, simulation breaks, use of MDRS resources.

03 Personal training session I.

04 Group training session II. EVAs, first aid and emergencies. Use of MDRS facilities (IVAs). After MDRS.

05 Logistics session. Advancements in obtaining passports, VISAs and sponsorship. Advancements in research projects.

06 Personal training session II.

07 Personal training session III.

08 Final meeting, Q & A.

A member from the Mission Support Team will be assigned to each crewmember for the personal training sessions based in the role of the crewmember.

CREW LOGO, SUIT AND OTHER MATERIALS

One of the crew's responsibilities as a group is to prepare the material that will represent them. The principal distinctive is the Crew Logo or Patch. The design is to be decided by the crew, but they can ask for opinions and guide form TMSP. The logo must have elements that represent the countries involved in the mission, the las names of the crew members and elements referent to Mars.

The crew suit is a simple jumpsuit. The crew has to decide about the color and how to buy it. The whole crew should use the same model and color, changing only in the size for each crewmember. If the crew decides not to get them, they can use the standard orange suits available at MDRS. If the crew decides to get suits, they should consider the patches that they will put on it. Usually, suits have at least three patches, the crew logo, the flag of the country of the crewmember, and the last name of the crewmember. Patches from sponsors are also allowed. It is suggested to be esthetical at the moment to decide where to put the patches. And all the members must have the same distribution of patches in their suits.

Some crews decide to prepare other materials to commemorate their participation at MDRS, these include pins, t-shirts, stickers, etc.

MEDIA AND OUTREACH

Media management is a delicate issue for this program. Crewmembers should be sure about what they are going to talk about, that is, about The Mars Society, the Peruvian chapter and the MDRS, about martian analogs, and about martian conditions. There are some facts that need to be avoided to keep the program as a serious one. First, we are not NASA and you have not been selected by them or any other Space Agency. This is a common mistake from which some journalists profit, and can lead to problems when professionals in other countries read or hear that. Also, MDRS crewmembers are not astronauts, they are scientists, engineers and other professionals who are simulating being in Mars as part of their projects. The term “analog astronaut” has been used, but it doesn’t apply to Team Peru and Team Latam as the crewmembers have not received any astronaut training.

There are two type of interactions with media in the program

PRE/POST Mission: Usually done in the country of each crewmember where they are invited to a set to explain details about their participation at MDRS.

ON SITE: When journalist or media producers travel directly at MDRS to film the crew performing their activities. So far, the programs have had visits from UNAM TV (México), TV Globo (Brasil), NatGeo, Hijos de las Estrellas (Netflix), SurvivorMan (Discovery)

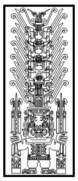
AFTER SIMULATION ACTIVITIES

Once you return to your country, you will be invited to become a member of TMSP and help in the out-reach and selection process of the program. For this you will need to have had a satisfactory participation at MDRS, and also present a report of your project (s). Also you are allowed to participate in interviews to let he people know about your experience, just be careful so you won't misinform interested people about the whereabouts of the program.

You will also have an extra duty, you have to publish the results of your experiments at MDRS. You are free to do it in any academic journal and in any event, we encourage you to participate in The Mars Society Convention, which is held in a different place in the US every year, many people who have participated at MDRS take part of this convention and it is a good opportunity to do some networking with the martian community.

Finally, as an experimented past member of a crew, you will be able to apply directly as a commander for a future crew, applications for Commanders of Team Peru and Team Latam crews will be a bit more complex, you will be asked to fill the same information as every other applicant, but the selection will be based on the performance you had during your first mission and how have you applied what you learn at MDRS in your academic or professional life.

SPONSORS AND PARTNERS



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