

The Future is Yours

Nancy Vermeulen



ORPADT 2022







NANCY VERMEULEN SPACE TRAINING ACADEMY

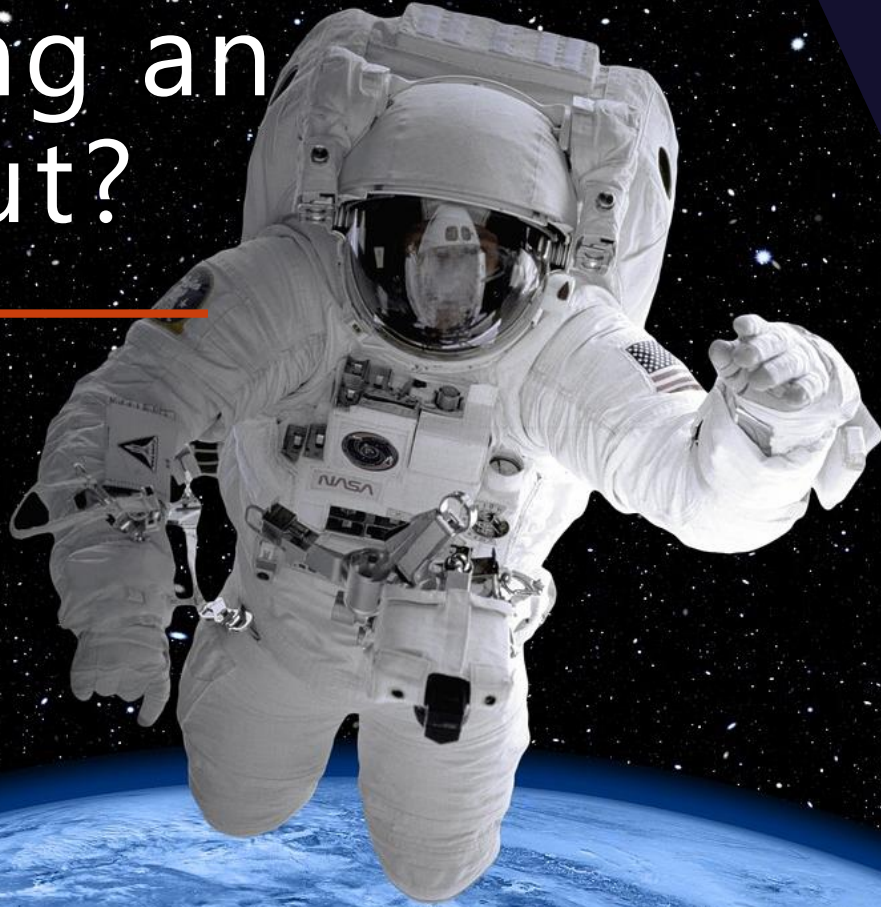
1. Personal leadership and inspiration
2. What can we learn from a space mission?

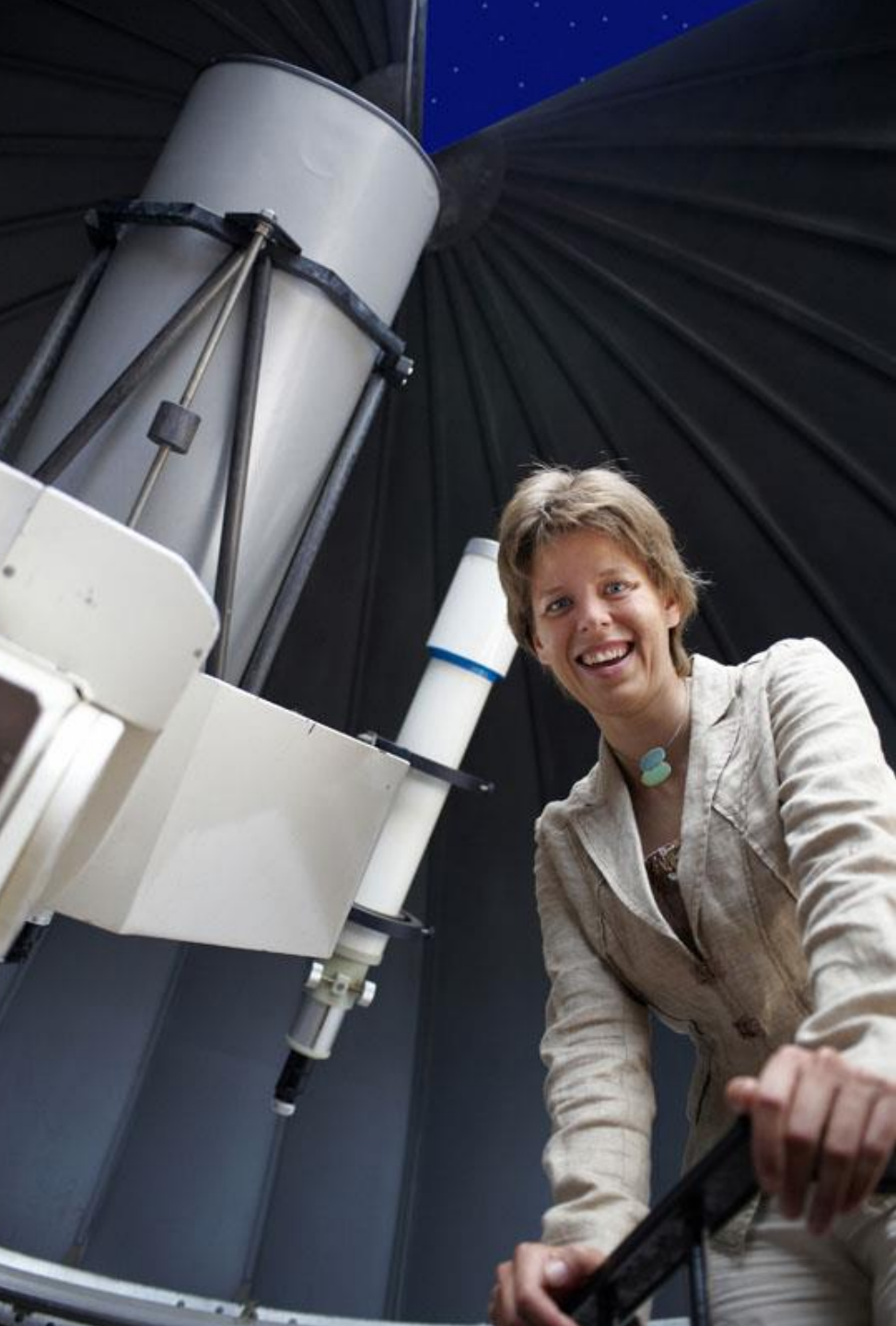
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Becoming an astronaut?

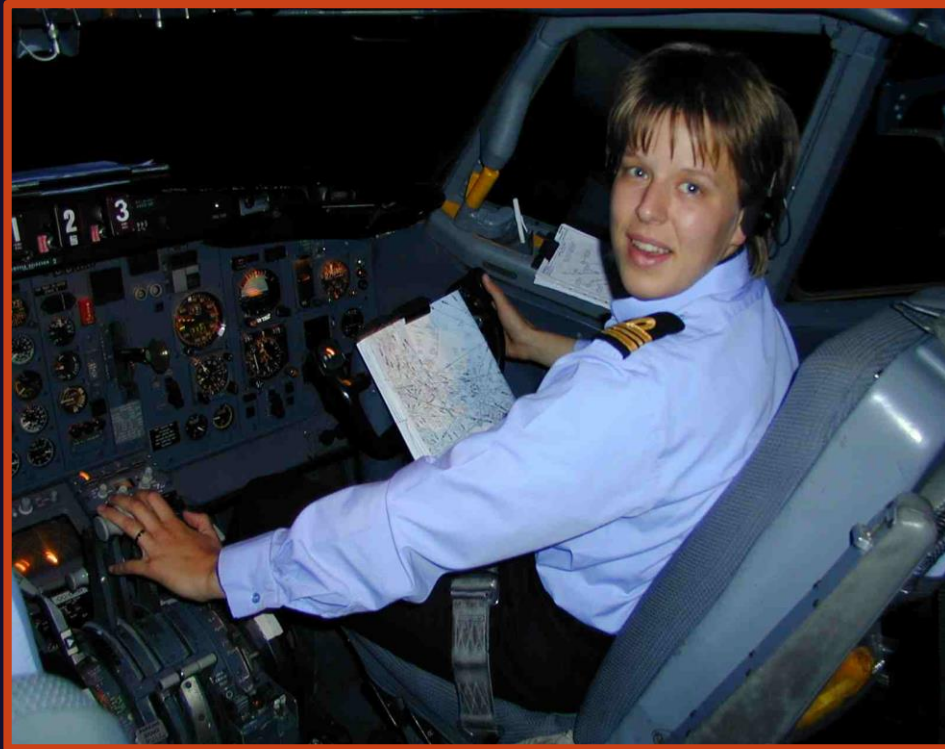




Yes we can 🐉



Becoming a pilot

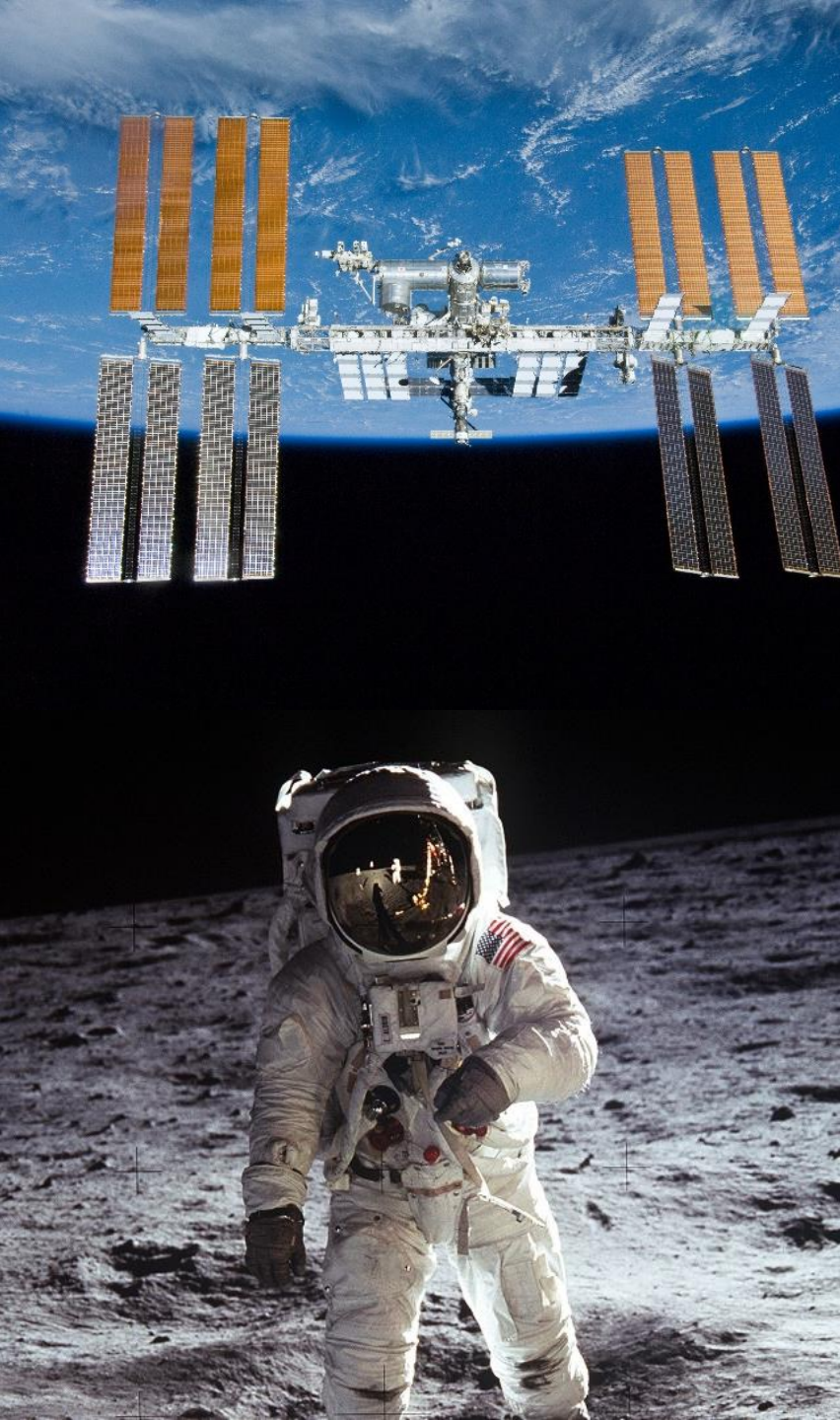




Airbus 300 Baghdad



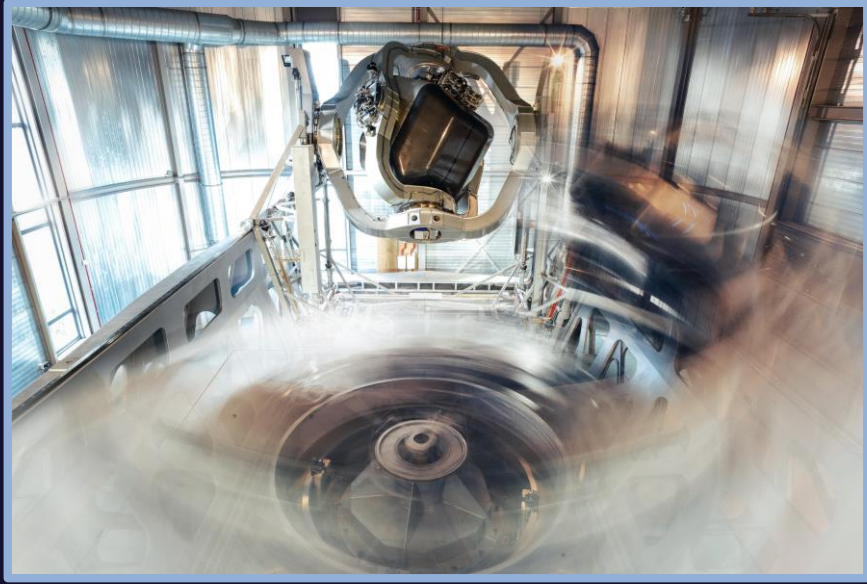




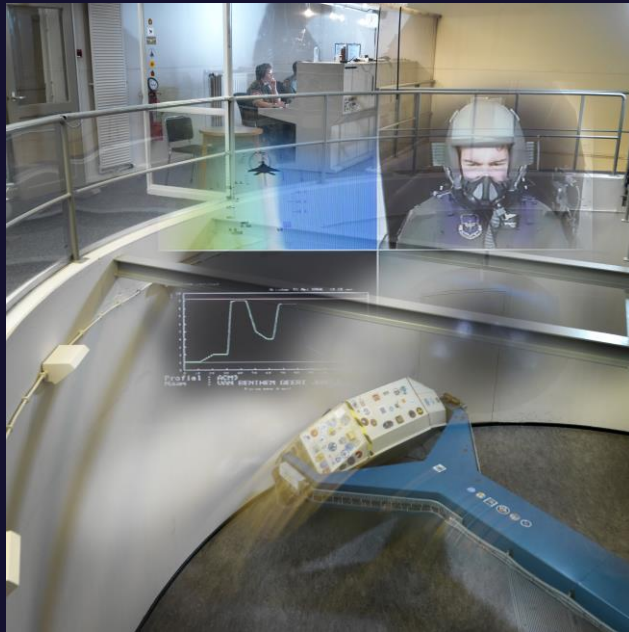


New inspiration 





Centrifuge training



5-6 G military level

Hypobaric room



High altitude training





Mission

- Preparing “private astronauts” as good as possible (physical and mentally) so they will become “space ambassadors” with “the right stuff”.
- Increase public awareness
- Contribute to scientific research in human factors

SO CREATE AND INNOVATE!



Today we are ready



- Geopolitics
- Commercial companies take their part
- The technology is finally mature enough



The benefit of “space travel”?

telecommunication and
multimedia applications

satellite navigation (GPS, Galileo)

weather satellites, earth
observation, climate studies ...

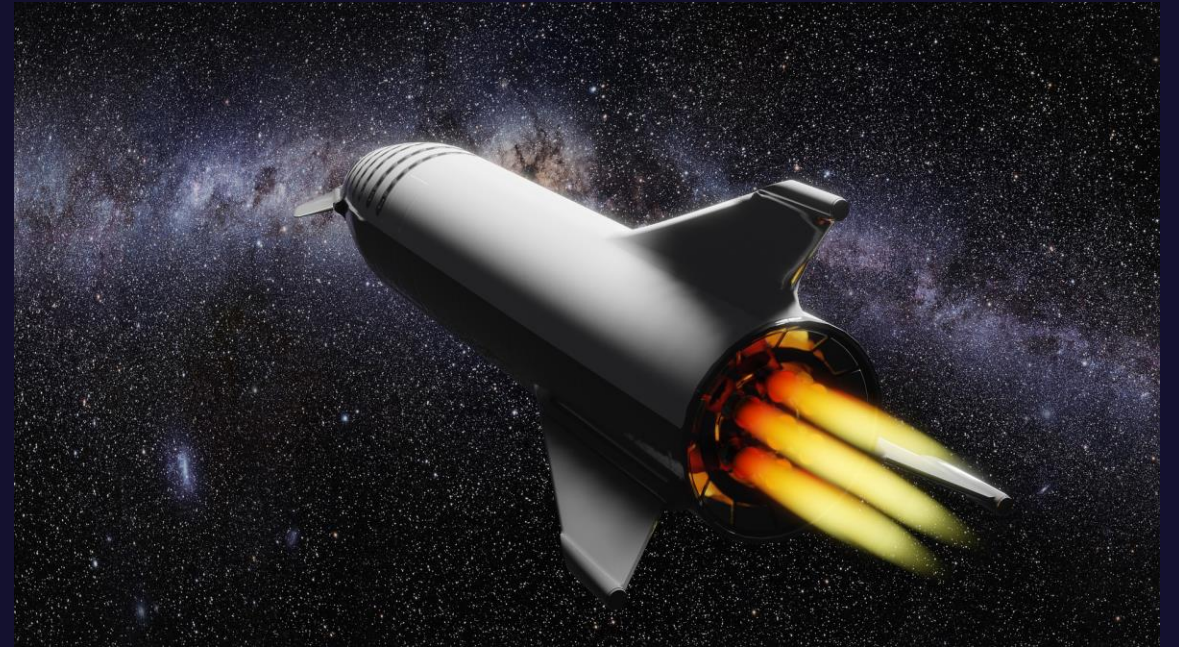
spin-offs: image processing
techniques in the medical sector,
solar panels, the rescue blanket
(Mylar foil), memory foam
(Tempur), special heat-resistant
fire helmets, shock-absorbing
shoes...

bio (technology), biomedical and
pharmaceutical sciences,
material research, 3D printing,
telerobotics, new technologies
for water purification, recycling,
food research ...





Design philosophy



Moon Resources

- Platinum-group elements
- Rare Earths
- Titanium, Aluminum
- Precious Metals from asteroids
- Helium 3
- Hydrogen – Oxygen for rocket fuel



Base - Mining

In Situ Resource Utilisation

Electricity: nuclear + solar



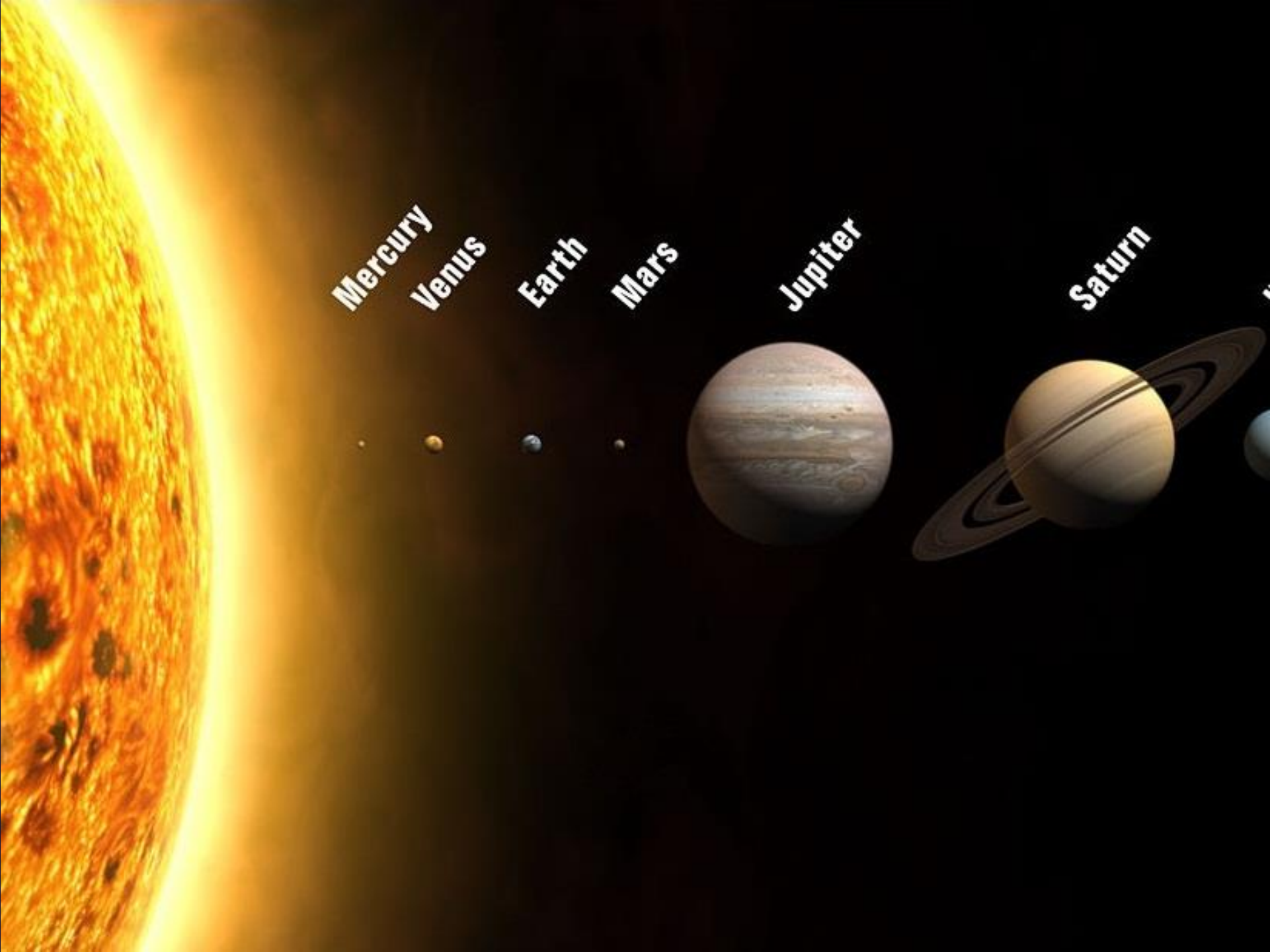
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Mars simulation mission



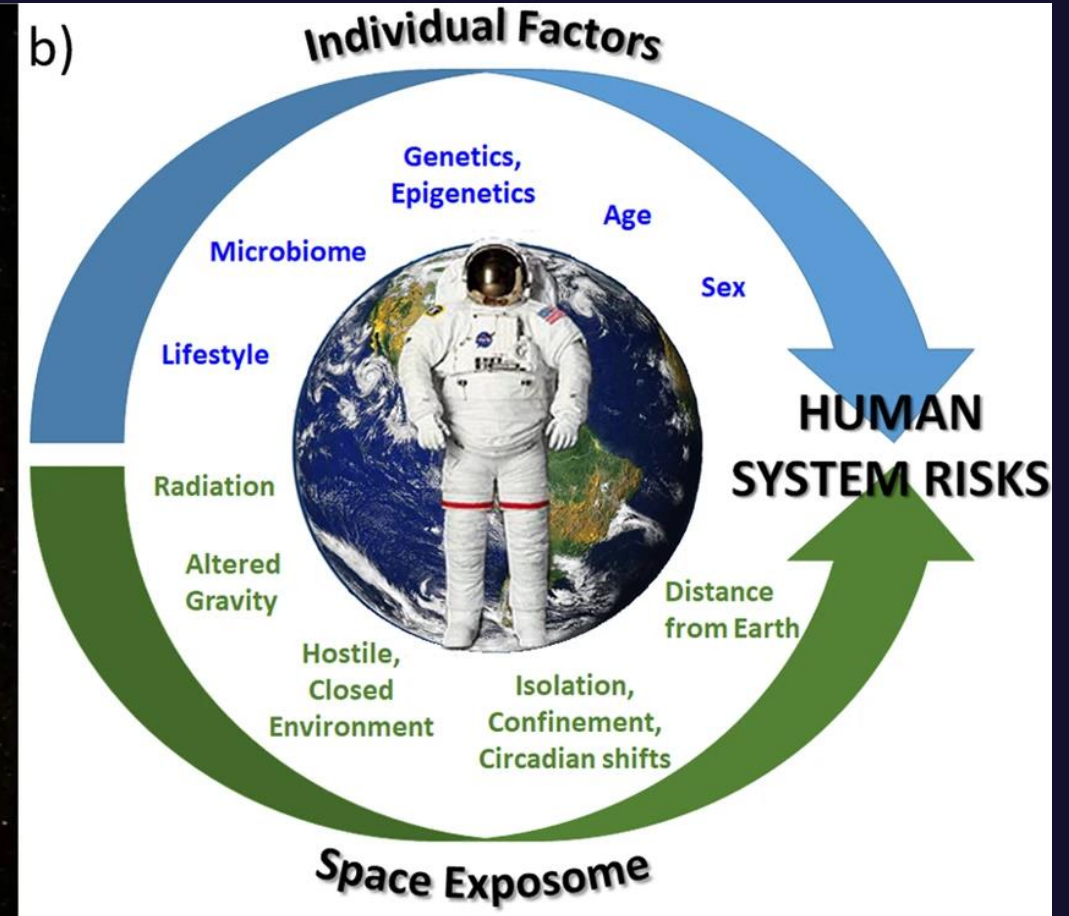
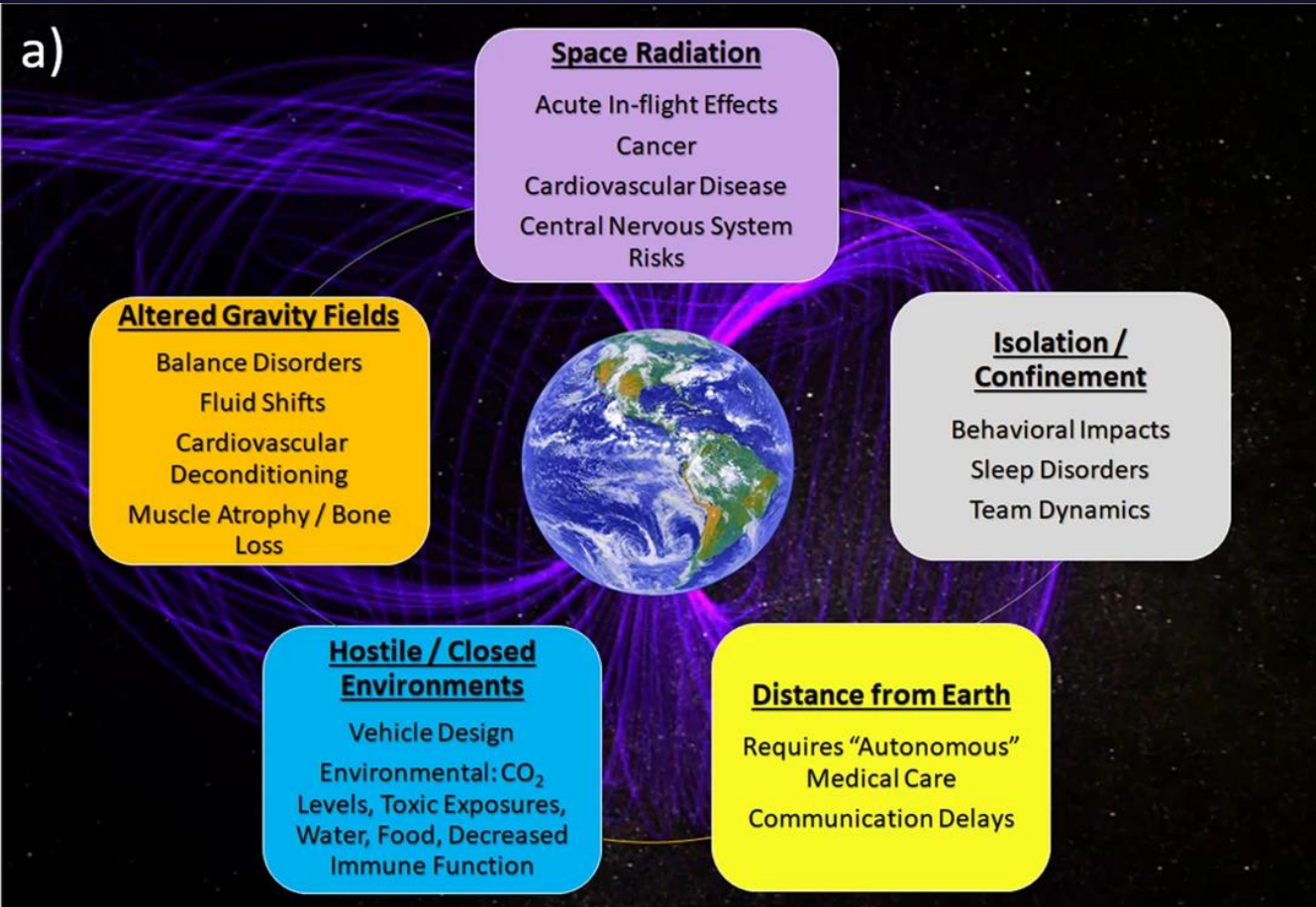




Main challenges:

- Weightlessness
- Psychological + physical impact
- Autonomy
- Water - food
- Fuel to return to Earth
- Space weather
- ...





npj Microgravity (*npj Microgravity*)

SpaceCore



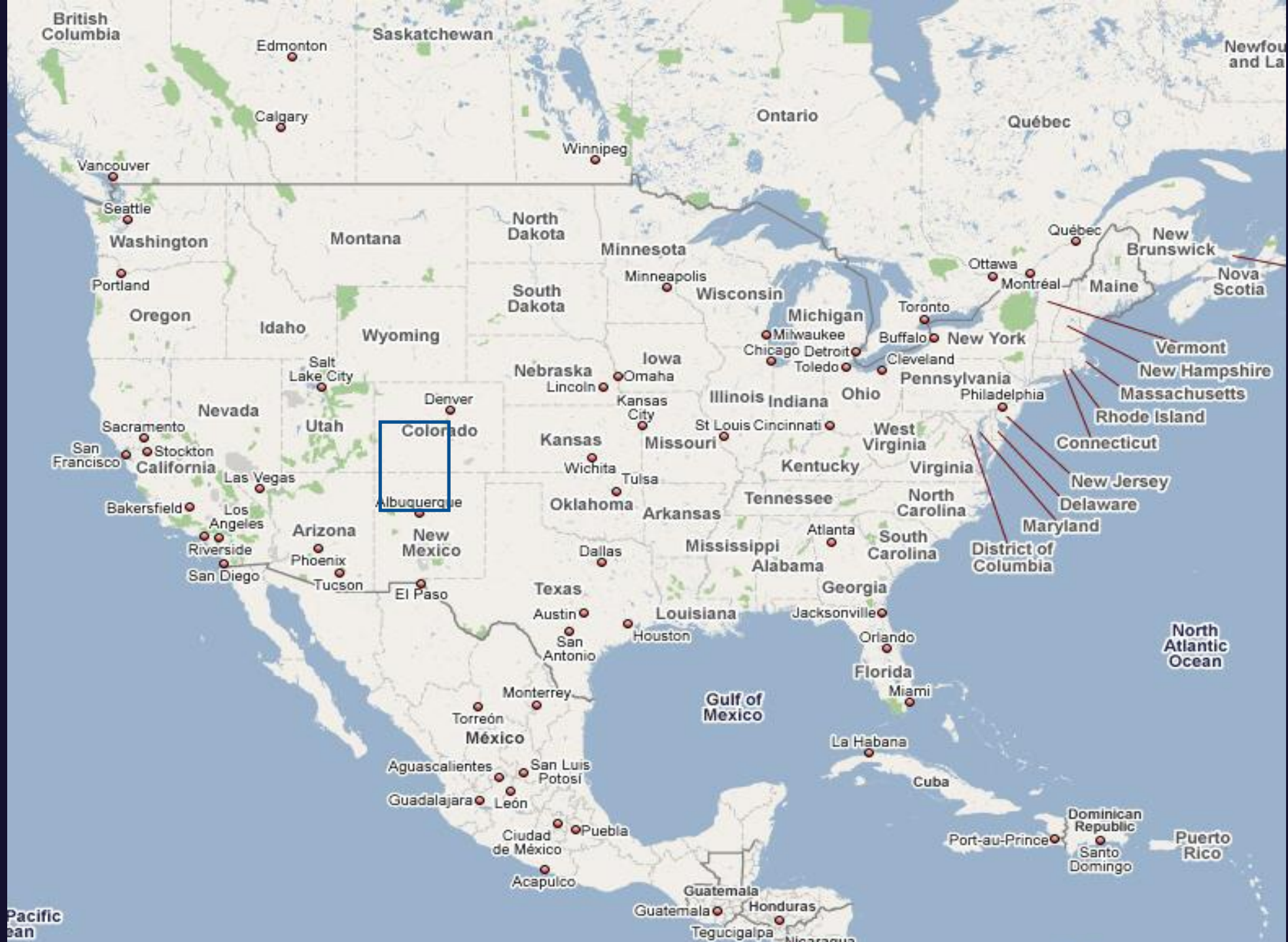
→ THE EUROPEAN SPACE AGENCY

JOIN US

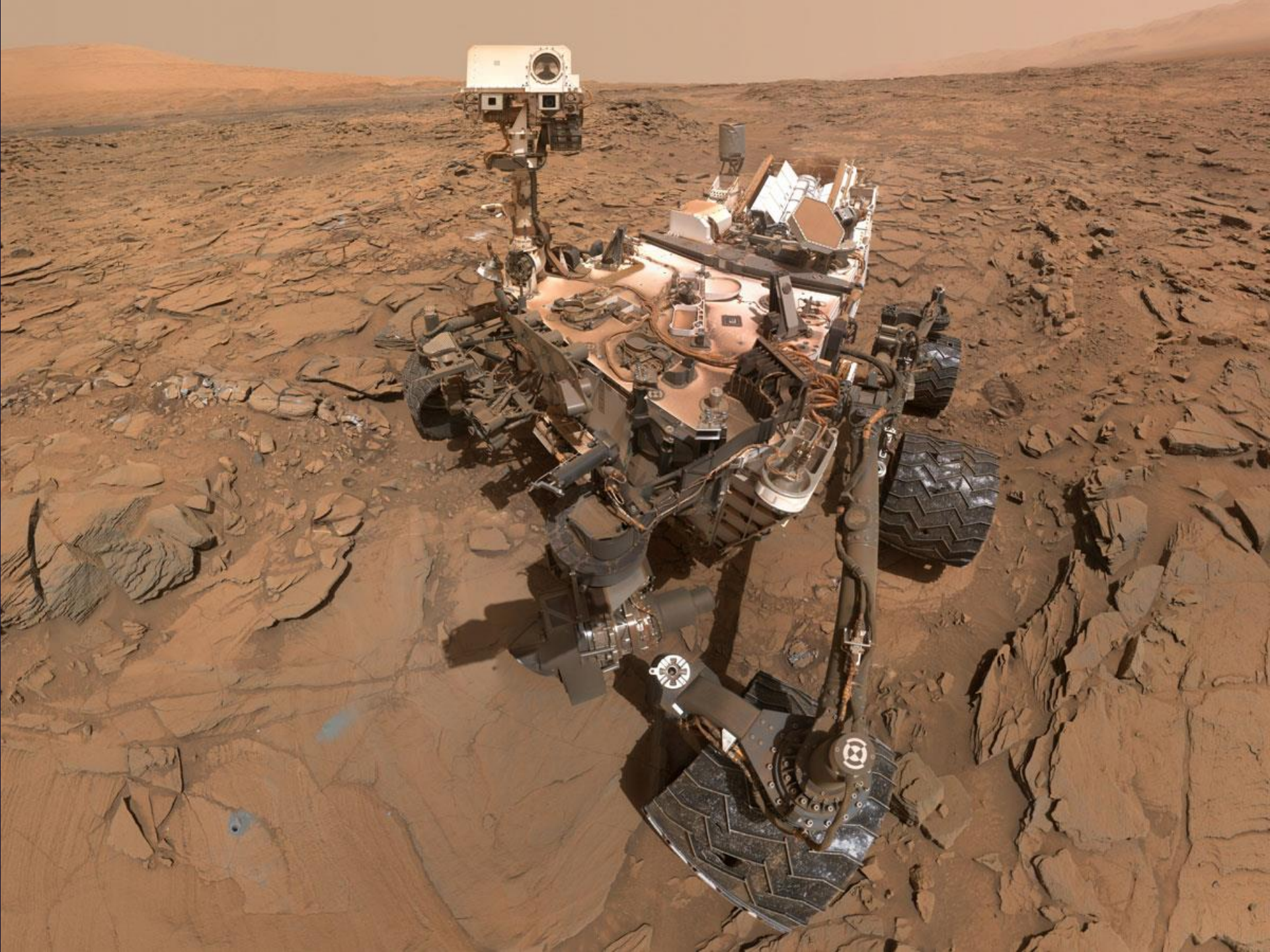


Research base on Mars operated for 50+ years







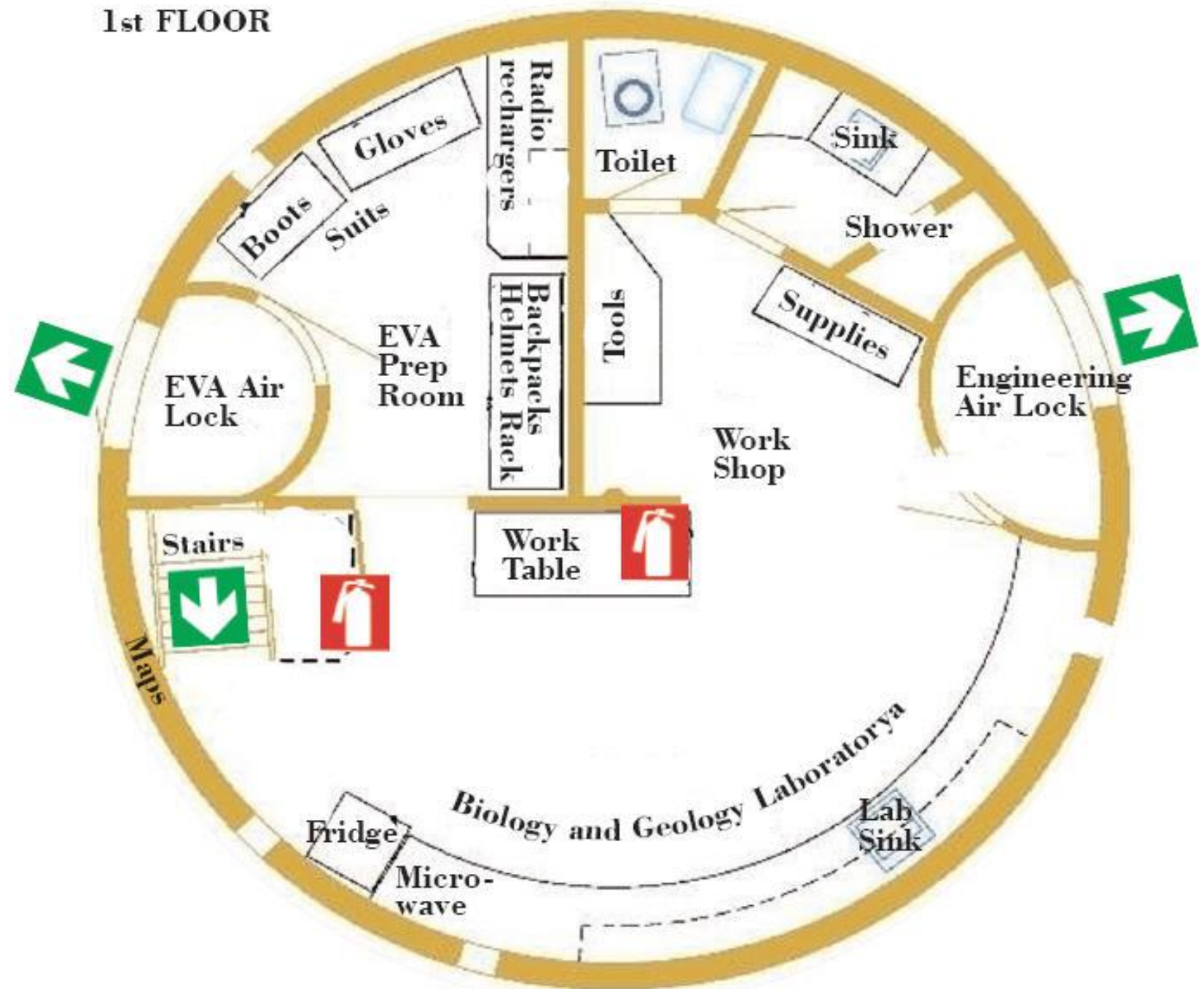




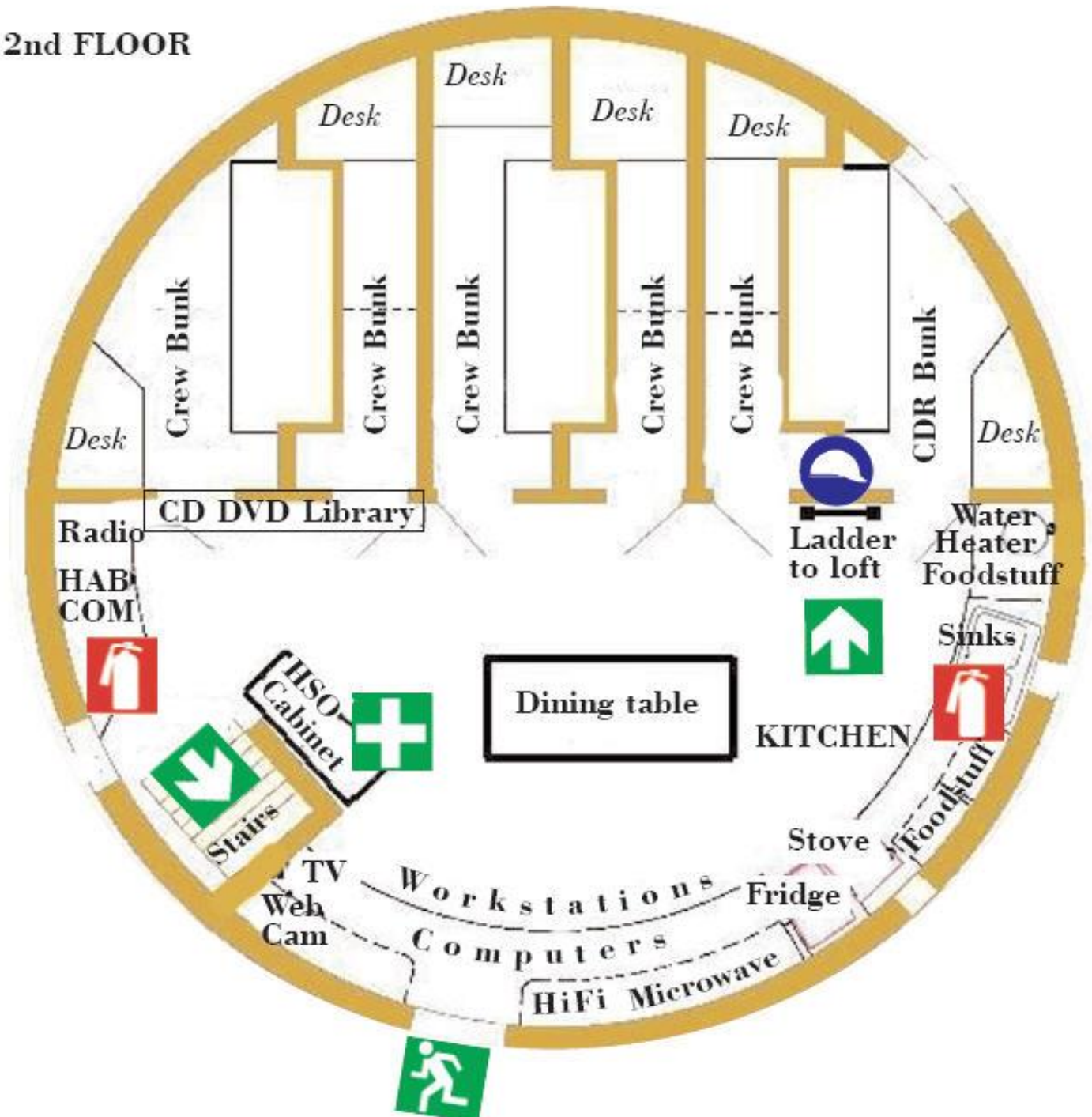
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1st FLOOR



2nd FLOOR









Toilet rules:

1. If it's yellow, let it mellow. If it's brown, flush it down!
2. Absolutely no feminine products down the toilet.
3. Do not leave any water in the toilet overnight.









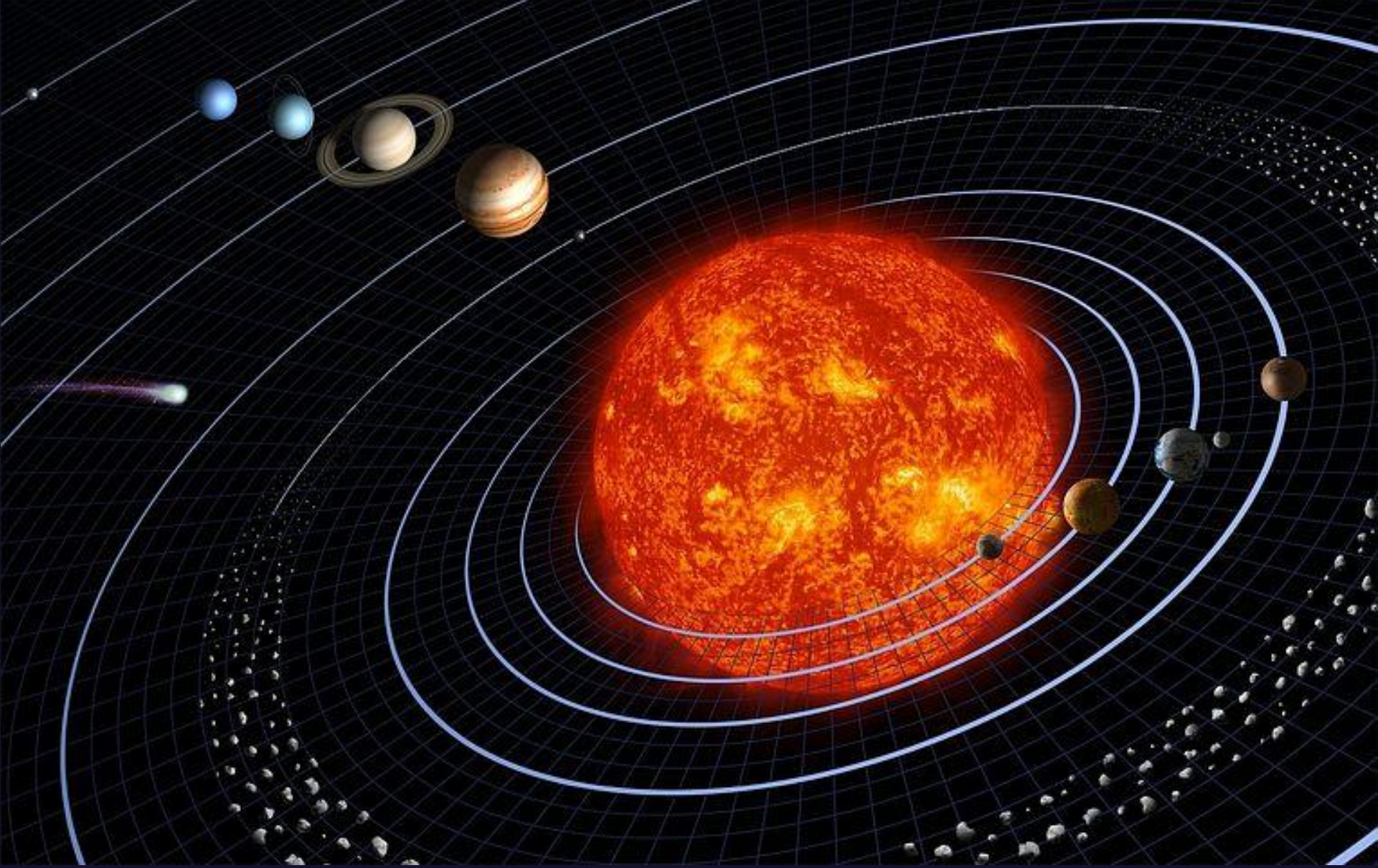
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5 lessons:

- Communication with “the outside world” is difficult. Therefore make use of clear messages and follow the procedures / protocols.
- You can’t hide for your colleagues in such a confined space so dare to be open about yourself.
- Group interest has a higher priority than individual interest.
- Time management: prioritise, “survival” in the first place.
- The team has to function autonomously.



Let's just do it right this time









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'Wie dit boek leest, voelt zich zelf even ruimtevaarder,
ook met beide benen op de grond.'

– GOVERT SCHILLING, wetenschapspublicist

NANCY VERMEULEN

IEDEREEN RUIMTE VAARDER

De toekomst van de Aarde
ligt in de ruimte



Lannoo

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