located at the NASA research Center in lowa is 5000 gallon vat of water.

and inside the tank is an underwater treadmill designed by Dava Newman, and aerospace engineer

for four years, Newman observed scuba divers as they simulated walking on the moon

and on mars on her underwater moving belt

she want to discover how the gravity of the moon and of mars would effects human movement.

To do this, Newman attached weight to the divers and then lowered them into the tank and on to the treadmill.

these weights were carefully adjusted so the divers could experience underwater the gravity of the moon and of mars

as they walked on the treadmill. Newman concluded that walking on mars will probably be easier than walking on the moon

the moon has less gravity than mars does

so at lunar gravity, the divers struggled to keep their balance and walk awkwardly

but on the Martian gravity the divers had greater traction and stability

and could easily adjust to a pace of 1.5 miles per hour

as Newman gradually increased the speed of treadmill, the divers took longer graceful stride until they comfortably settled into an even quicker pace

Newman also noted that the Martian gravity, the diver needed less oxygen.

the data of the Newman collected will help in the future design of Martian space suits, compare to lunar space suits, Martian space suits will require smaller air tanks

and to allow for a freer movement. the elbow and knee areas of the space suit will also be altered.