

IAF SPACE EXPLORATION SYMPOSIUM (A3)  
Moon Exploration – Part 3 (2C)

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## THE IMPORTANCE OF QUALITATIVE PRIVATE ASTRONAUT TRAINING

**Abstract**

As the government is not the only one exploring space anymore, more opportunities for private citizen spaceflight participants will arise. Companies like Space X, Blue Origin and Virgin Galactic will soon offer suborbital and orbital spaceflight opportunities to non-professional astronauts. As there are no official training requirements for these “private astronauts,” we are working on a programme that covers both physical and mental preparation for the non-professional astronaut. In collaboration with the Delft University of Technology, the Desdemona Aerospace Simulator and the Center for Man in Aviation Soesterberg, the Netherlands, we developed a unique training programme, consisting of different modules, which are interchangeable and tailor-made to the candidate astronaut. For this we make use of different trainings, high-end simulations and a real zero gravity flight so that the trainees get accustomed to the basics about space and astronomy, alternating g-forces, high-g, weightlessness, loss of cabin pressure and the physical/mental effects of oxygen deprivation. Another part of the training covers the team building aspect, where the trainees are submerged in a “Mars Simulation Workshop”. In this workshop they discover the challenges that astronauts in outer space have to face and how to overcome them as a team. We are convinced that an appropriate training programme for private astronauts will have a positive impact on the space sector and the advancement of human space exploration. When more people, with less than the high standard health conditions for professional astronauts, are tested and trained, we will gain more insights in developing our human potential.