

Curriculum Vitae

Prof. Dr.-Ing. Claas Tido Olthoff



Personal Data

Date of birth: June 25th, 1984 in Kaiserslautern, Germany

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Academic Education

2017	Graduation as “ Doktor-Ingenieur ” Dissertation Title: “Dynamic Simulation of Extravehicular Activities”
05/2010 – 08/2017	Research assistant and doctoral candidate at the Institute of Astronautics at the Technical University of Munich (TUM)
2010	Graduation as “ Diplom-Ingenieur ”, equivalent to Master of Science Master’s Thesis Title: “Application of flexibility principles and strategies to the TALARIS avionics system”
09/2009 – 04/2010	Research for Master’s Thesis at the Massachusetts Institute of Technology, Cambridge, Massachusetts
10/2005 – 05/2010	Aerospace Engineering at TUM (Majoring in Astronautics and Propulsion Technologies)

Professional Experience

02/2024 – present Professor of Human Spaceflight and Exploration at University of Stuttgart

- Continued research on life support systems and spacesuits for human spaceflight missions

10/2023 – 01/2024 Systems Engineer for Life Support Systems at Airbus Defence and Space

- Work on the Starlab space station life support system

03/2022 – 09/2023 Systems Engineer for Studies and Proposals at Airbus Defence and Space

- Work on military Earth observation missions

01/2019 – 01/2022 NASA Postdoctoral Fellow

- Member of the Exploration Extravehicular Mobility Unit (xEMU) team, working on ventilation loop components in the portable life support system, specifically the rapid cycle amine (RCA) CO₂ and humidity removal systems and suit CO₂ sensors
- Modeling and simulation of the portable life support system for NASA’s next generation spacesuit, the xEMU
- Participation in a fault tree analysis for a component failure on a test stand

05/2018 – 12/2018 Post-Doctoral Researcher at the Institute of Astronautics at TUM

- Continuing work as researcher in human spaceflight life support systems and as head of the Life Support System Research Group. For more details see below.

09/2017 – 04/2018 Paternity leave

06/2010 – 08/2017 Research assistant at the Institute of Astronautics at TUM

- Head of Life Support System Research Group
- Systems Analysis of Past, Current and Future Life Support Systems and Spacesuits
- Project Manager and Systems Engineer for “First-MOVE” CubeSat Project 2010 – 2014 (Launch in November 2013)

Internships

10/2007 – 05/2009	Student intern at the Columbus Control Center, German Space Operations Center in Oberpfaffenhofen, Germany,
06/2005 – 08/2005	Basic internship for engineering courses at TUM at Keiper-Recaro GmbH in Kaiserslautern, Germany

Honors

2018	Wittenstein Award for Outstanding Dissertation
2009	Best Student Paper Award at the 7 th IAA Symposium on Small Satellites for Earth Observation

Community Service

Since 2008	German Aerospace Association (DGLR)
Since 2010	Participant in various outreach activities in different settings, from kindergartens to high schools and at university (e.g. open house, Girls Day, Science Week etc.), giving talks, explaining research projects, Q&As
Since 2012	American Institute of Aeronautics and Astronautics (AIAA) Member of the Life Sciences and Systems Technical Committee since 2015
Since 2012	Reviewer for Acta Astronautica, Journal of Planetary and Space Science, numerous conference papers
Since 2016	Session chair for the session on “Human Health and Performance Analysis” at the International Conference on Environmental Systems (ICES)

Selected Publications

Olthoff, C. T.; Kaschubek, D.; Killian, M. (2022): "Dynamic thermal interactions between spacesuits and lunar regolith in permanently shaded regions on the moon." In Acta Astronautica 203, pp. 351–369, DOI: 10.1016/j.actaastro.2022.12.001.

Olthoff, C. T. (2020): "An approach to mixed-fidelity system simulation of extravehicular activities." In Acta Astronautica 175, pp. 484–492, DOI: 10.1016/j.actaastro.2020.06.017.

Olthoff, C. T.; Reiss, P. (2019): "In-Situ Resource Utilization: *Technical Aspects*," *Promoting productive cooperation between space lawyers and engineers*, edited by A. N. Pecujlic, M. Tugnoli. Hershey, PA: Information Science Reference an imprint of IGI Global (Advances in Public Policy and Administration), pp. 193–210.

Olthoff, C. T. (2018): "EVA Walk-Back Limit Calculation Using the Virtual Spacesuit," *Proceedings of the 48th International Conference on Environmental Systems*, Albuquerque, New Mexico, USA, ICES-2018-259.

Olthoff, C. T. (2017): "Validation of the Virtual Spacesuit using Apollo 15 Data," *Proceedings of the 47th International Conference on Environmental Systems*, Charleston, South Carolina, USA, ICES-2017-151.

Olthoff, C. T. (2017): "Dynamic Simulations of Extravehicular Activities," Dissertation. Technical University of Munich (TUM), Munich, Germany. Institute of Astronautics, RT-DI 2017/03, ISBN 978-3843932943.