

Gravity Dependent Science and Technology

Papers Presented at the AIAA SCITECH 2026 Forum

Orlando, Florida, USA
12-16 January 2026

ISBN: 979-8-3313-3494-9

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

The contents of this work are copyrighted and additional reproduction in whole or in part are expressly prohibited without the prior written permission of the Publisher or copyright holder. The resale of the entire proceeding as received from CURRAN is permitted.

For reprint permission, please contact AIAA's Business Manager, Technical Papers. Contact by phone at 703-264-7500; fax at 703-264-7551 or by mail at 34922 Uwytkug'Xcmg{'Ftkxg.'Uwky'422, Reston, VA 20191, USA.

TABLE OF CONTENTS

Low-Gravity Dynamics of Vortical Interfaces and Sloshing in an Axisymmetric Tank	1
<i>Theo St Francis, Janoah Dietrich, Álvaro Romero-Calvo</i>	
The Challenges of Using Drones as a Microgravity Testing Platform	12
<i>Karol Wijacinski, Ben Parslew, Nicholas H. Crisp, Khristopher Kabbabe</i>	
Equilibrium and Stability of Orbiting Liquid Mirror Telescopes	33
<i>Janoah D. Dietrich, Álvaro Romero Calvo</i>	
Navigating Irregular Gravity: Planning Attitude Control for Near-Earth Asteroid Missions	51
<i>Micah Boudreau, Paula do Vale Pereira</i>	
Analysis of Low-Gravity Sloshing in a Spherical Tank	63
<i>Luca Silveri, Álvaro Romero-Calvo</i>	
Computational Model Estimates of Cardiovascular Deconditioning Due to Long-Term Microgravity Exposure in Space Missions	78
<i>Antoni Perez-Poch</i>	
Clinostat-Based Low-Gravity Cultivation of Oyster and Reishi Mushrooms on Lunar Regolith Simulant	85
<i>Siriah A. Eaglin, James D. Goggins III, Jesus J. Benitez, Dakota Miller, Naomi Lee, Pedro J. Llanos, Hugo Castillo</i>	
Examination of Molecular Mechanisms on Vascular Formation and Stress Response of Early Zebrafish Embryos in Simulated and Real Microgravity	107
<i>Pedro J. Llanos, Kristina Andrijauskaite</i>	

Author Index