Improving GA Certification, Safety, and Experience

Papers Presented at the AIAA Aviation Forum 2024 and ASCEND 2024

Las Vegas, Nevada, USA 29 July – 2 August 2024

ISBN: 979-8-3313-0572-7

Printed from e-media with permission by:

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



a		•			43		•				4	• 4	•
Some	tormat	ICCITAC	inheren	t in	the e	-media	Version	may 9	alen ar	mear II	n thic	nrint	version.
Some	ivi illat	issucs			u	-mcuia	VCI SIUII	11161 7 6	aisu ap	pcai ii		թւաւ	VCI SIUII.

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 Uwptkug'Xcmg{'Ftkxg."Uwkg'422, Reston, VA 20191, USA.

TABLE OF CONTENTS

IMPROVING GA CERTIFICATION, SAFETY, AND EXPERIENCE	
Assessing Work-Induced Fatigue and Burnout Among Flight Instructors	1
Designing and Delivering an Effective Airworthiness Training Program for Professionals Based on NAS9945	20
Rick Hefner, Stephen Cook	
Emergency Solid Rocket Booster	25
Evaluating a Ground Collision Avoidance System Using Simulation Based Techniques	71
Enhancing Aviation Safety: An Automated System for FOD Detection and Removal in Support Vehicle Tires	82
Sae-Jin Park, Cheonghwa Lee, Kisu Ok, Sung-Hoon Ahn	
ADVANCED AIR MOBILITY AND UAS - OPERATIONS, SUSTAINABILITY, AND S.	AFETY
Patterns of Life Geofencing for Advanced Aerial Mobility	93
Analysis and Optimization of the Availability of Regional Air Taxi Services Considering Real Weather and Operational Conditions	109
Lutz Wortmann, Mert Cakir, Daniel Bodmer, Eike Stumpf	
Sustainable and Portable Vertiports Enabling Autonomous Drone Swarm Inspection in the Oil and Gas Industry	129
Fahad Mannan, Logan Moore, Sihua Shao, Xiang Sun, Mostafa Hassanalian	
An Agent Based Modelling Framework for Assessing the Impact of UAV on the Air Traffic System Niklas P. Schulmeyer, Nicoletta Fala	138
Distributed Sensor Network for Leakage Detection and Condition Monitoring in Hydrogen-Powered Aircraft	152
Author Index	