

NASA Academy of Aerospace Quality 2018 Workshop Agenda

Friday, September 7, 2018

Ohio Aerospace Institute (OAI), 22800 Cedar Point Road; Brook Park, OH 44142

7:30 AM	Speaker File Loading, Poster Set Up and Check In for All Attendees	
8:00 AM	Welcome	Alice Smith Auburn University
8:15 AM	Keynote Address – Lunar Exploration Campaign	Joel Kearns Deputy Director, Space Flight Systems NASA Glenn Research Center
9:00 AM	Developing and Distributing a Model-Based Systems Engineering (MBSE) CubeSat Reference Model	David Kaslow INCOSE Space Systems
9:30 AM	Poster Madness I (Posters 1 – 10)	Poster Presenters
9:45 AM	The Path To Open Source Cubesats	Raul Ramirez Utah State University
10:15 AM	Break	
10:45 AM	A Brief Overview of Small Spacecraft Technology Activities at the NASA Glenn Research Center	Gary Hunter NASA Glenn
11:15 AM	Poster Madness II (Posters 11 – 21)	Poster Presenters
11:30 AM	STRATUS: Low-Cost, Scalable Cloud Data Collection in a CubeSat Form Factor	Matthew Sietsema, Marcello Guadagno, and Alexander Lock Michigan Technological University
12:00 PM	Poster Madness III (Posters 22 – 30)	Poster Presenters
12:15 PM	Working Lunch and Poster Presentations	
1:45 PM	University Quality Development (UQD) Program	Mitch Nelson Jet Propulsion Laboratory
2:15 PM	The Puerto Rico CubeSat Project to Attract STEM Students Into the Area of Aerospace Engineering	Eduardo Ortiz University of Puerto Rico - Mayaguez
2:45 PM	Retrodirective Transceiver System for Communication Needs of Formation Flying (Swarm) CubeSats	Ehsan Sheybani University of South Florida
3:15 PM	Break	
3:45 PM	Peaceful Uses of Outer Space	Mohammad Razani New York City College of Technology, City University of New York
4:15 PM	Project Aether: Small University Mission Quality Assurance	Christopher Murray and Pierce Smith Capitol Technological University
4:45 PM	Wrap Up	
5:00 PM	Adjournment	

Joel Kearns

National Aeronautics and Space Administration (NASA)

John H. Glenn Research Center

Lewis Field

Cleveland, Ohio 44135

Joel Kearns is deputy director of the NASA Glenn Research Center's Space Flight Systems Directorate. He provides executive direction of projects assigned to Glenn in human exploration and operations, space exploration systems development, space science, and space technology. He served as manager of the European Service Module (ESM) integration for the Orion Multi-Purpose Crew Vehicle, including oversight of the European Space Agency and their prime contractor developing the ESM, testing of the ESM in the U.S., and refurbishment and requalification in the U.S. of the Space Shuttle Orbital Maneuvering System engine for the ESM's main propulsion system.

Kearns worked as a senior executive at NASA Headquarters (HQ), Ames Research Center, Marshall Space Flight Center, MEMC Electronic Materials, and Sumitomo-Mitsubishi Silicon USA in research and development of aerospace vehicles, semiconductor materials, and solar materials. He managed the NASA Microgravity Research Program in the 1990s, and the NASA SOFIA Program in 2005-2006. He led the planning for Space Shuttle Transition and Retirement from 2006 to 2010 at Space Operations Mission Directorate at NASA HQ.

Kearns earned his bachelor's and master's degrees in mechanical engineering from Worcester Polytechnic Institute and is a Ph.D. candidate in materials science and engineering. An associate fellow of the American Institute for Aeronautics and Astronautics, Kearns was awarded the U.S. Government's Presidential Rank of Meritorious Senior Executive in 2009 for work at NASA. He is an inventor on four patents for single crystal growth technology.



NASA Academy of Aerospace Quality 2018 Workshop Posters

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1. Rollocopter Development for Titan Exploration	Paul Akangah North Carolina A&T University
2. Adaptive, Energy Efficient Spatiotemporal Monitoring Using Wireless Sensors	Hadi Alasti Purdue University Fort Wayne
3. The Design and Fabrication of Portable Electrostatic Detector	Jafar Al-Sharab Northwestern State University
4. Modular Robotic Systems Toward Space Applications	Jose Baca Texas A&M University – Corpus Christi
5. Using STK for Engineering Technology Education	Andrew Bell Ivy Tech
6. Digital and Data-Driven Precision Agricultural Applications Using Unmanned Aircraft Systems (UAS)	Ganesh Bora Mississippi State University
7. CubedOS: A Verified CubeSat Operating System	Carl Brandon Vermont Technical College
8. VLC - CubeSat	Rafiya Chowdhury North Carolina A&T University
9. A Generic Framework for the Miniaturization Of Satellites	Paris Chrysos ISC Paris
10. The ESG-Grid, A Self-Optimizing Platform in Support of Reliable and Scalable CubeSat Missions	Paul Darby University of Louisiana at Lafayette
11. The Business Side of Space	Abraham Falsafi BridgeValley CTC
12. Using AI to Improve Spacecraft Flight Automation	Mark Horvath Capitol Technology University
13. Retrodirective Transceiver System for Communication Needs of Formation Flying (Swarm) CubeSats	Giti Javidi University of South Florida
14. Embedded Reliability in Design Thinking Concept for Aerospace	Kouroush Jenab Morehead State University
15. Assessment of Autonomic Function of Astronauts Before and After Space Flight Using Power Spectra And Coherence Methods	Ahmed Kamal Tennessee Tech University
16. Drone Technology: Challenges for Standards Development and Ethical and Social Implications	Ahmed Khan DeVrey University
17. Integrating Project Quality Management and Lean Six Sigma Processes to Improve Product Quality	Jamison Kovach University of Houston
18. Mars Rover Strip (Wheels) Loading Test Applied to Its Regolith Strength Estimation	Jiliang Li Purdue University Northwest
19. Vehicle Trajectory Planning for Dense 2D Traffic	Yanchao Liu Wayne State University

20. Study of CubeSat Communication and Solar Powered Stirling Engine as a Source of Power	Cyril Okhio, Ted Grosch, Florian Misoc, Matthew Stotter, Cameron McKinney and Justin Keener Kennesaw State University
21. CubeSat-Inspired Project for First-Year Undergraduate Students: Design and Fabrication of Arduino-Based Prototype with APRS Tracking and High-Altitude Testing via Weather Balloon	Masataka Okutsu Penn State University - Abington
22. Kalman Filtering in Space Crafts	Snehashis Paul George Mason University
23. Performance of MoS2 Coated Gears Similar to Those Used in JWST's Dual Wheel Mechanism	Iqbal Shareef Bradley University
24. Closure Fairing Mold Surfaces	James Wronecki East Tennessee State University
25. Gamma-ray Radiation Detection Coating for Space Shuttles	Zhibin Yu Florida State University
26. Ultra-high Precision Predictive Assembly of Composite Fuselage Joins via Surrogate Model Based Control	Xiaowei Yue Virginia Tech