AMOS Conference 2023

PROGRAM

The AMOS Conference is an in-person event with virtual attendance options and kicks off with a number of virtual and in-person Technical Short Courses in various Space Domain Awareness-related disciplines. The three plenary program days open with Keynote Addresses and SSA Policy Forum discussions followed by Technical Presentations covering a range of broad topical areas relating to SDA, all streamed live to the virtual conference platform. Posters are available in digital format this year and are accompanied by on-demand presentation videos. A select number of posters are invited for in-person presentations during the afternoon poster sessions.

Please note all dates/times listed are Hawaii Standard Time (HST). The agenda is subject to change.

Program at a Glance

FRI Sep 15	**Virtual Platform Open to Registered Attendees** **On-Demand Launch |** Digital Poster Presentations
SUN Sep 17 – TUE Sep 19	**EMER-GEN® Program** *(Separate registration fee required)* On-site Registration
MON Sep 18	**Virtual Technical Short Courses** *(separate registration fee required)*
TUE Sep 19	Exhibitor Load-in **In-person Technical Short Courses** *(separate registration fee required)* **Welcome Reception |** Co-sponsored by Boeing
WED Sep 20	**Conference Opening & Cultural Invocation** **Opening Keynote Address** | *General B. Chance Saltzman* **SSA Policy Forum** | *Evolution of the Commercial SSA Data Market* **Featured Presentation** | *Dr. Lindsay Millard* **Technical Session** | *Machine Learning for SDA Applications | Sponsored by Anduril* **Technical Session** | *Space Debris | Sponsored by NorthStar* **Technical Session** | *Atmospherics/Space Weather* **Invited Talk** | *Colonel Jeremy Raley and Colonel Joseph Roth* **Technical Session** | *Cislunar SDA* **Poster Session** | *Poster Lightning Pitches | Sponsored by SAIC* **Women & Allies in Space Domain Awareness Reception** *(separate registration required)*
THU Sep 21	**Virtual Keynote Address** | *Diane Howard* **SSA Policy Forum** | *U.S. Progress on Civil SSA and STM* **Technical Session** | *Conjunction/RPO | Sponsored by Lockheed Martin* **Technical Session** | *Astrodynamics* **Invited Talk** | *Colonel Raj Agrawal*

AMOS Conference 2023

PROGRAM

	Technical Session | *SDA Systems & Instrumentation | Sponsored by Linquest* **Technical Session** | *Satellite Characterization | Sponsored by LeoLabs* **Poster Session** | *Poster Lightning Pitches | Sponsored by Northrop Grumman*
FRI Sep 22	**Keynote Address** **SSA Policy Forum** | *Moving from Industry Best Practices to Space Traffic Management Rules* **Student Space Exploration Day** **Technical Session** | *Space Domain Awareness* **Invited Talk** | *Dr. Kelly Hammett* **Technical Session** | *Space Domain Awareness (cont.)* **Technical Session** | *Space-Based Assets | Sponsored by RTX* **EMER-GEN® Outcomes** **Conference Closing & Awards Ceremony** **Pau Hana Reception** | *Sponsored by L3Harris*

Sunday 17 September – Tuesday 19 September

EMER-GEN®

The 6th annual EMER-GEN® is a joint initiative of the AMOS Conference and SGAC. The program is designed especially for young professionals and students enthusiastic about careers in space. Separate registration fee is required. Visit www.Emer-Gen.com to learn more.

02:00 PM HST	05:00 PM HST	**ON-SITE REGISTRATION |** *Aulani Ballroom Foyer*

Monday 18 September

02:00 PM HST	05:00 PM HST	**ON-SITE REGISTRATION |** *Aulani Ballroom Foyer*

VIRTUAL TECHNICAL SHORT COURSES: *In-person and virtual short courses are offered this year. A separate registration fee is required for each half-day course. Virtual short courses are "live" with the ability to interact with the instructor and attendees in real time. Virtual courses will not be recorded. Access links will be provided to registrants closer to the course date.*

08:00 AM HST	12:00 PM HST	**VIRTUAL COURSE A |** 'The Agile Regulator' – Regulation, On-Orbit Tracking, and the Law **VIRTUAL COURSE B |** Space Domain Awareness (SDA) Workshop **VIRTUAL COURSE C |** Optical Modeling and Simulation for SSA/SDA

Tuesday 19 September

07:00 AM HST	05:00 PM HST	**ON-SITE REGISTRATION |** *Aulani Ballroom Foyer*
IN-PERSON TECHNICAL SHORT COURSES: *In-person and virtual short courses are offered this year. A separate registration fee is required for each half-day course. In-person short courses will not be live-streamed for virtual attendance, nor will they be recorded.*		
08:00 AM HST	12:00 PM HST	**IN-PERSON COURSE 01 |** Satellite Photometry for Non-resolved Object Characterization **|** *Mauna Loa* **IN-PERSON COURSE 02 |** Joint Task Force Space Defense Commercial Operations (JCO) - Course 100 **|** *Vanda* **IN-PERSON COURSE 03 |** Telescopes and Optics: An Introduction to Ground-based Optical SDA **|** *Ilima* **IN-PERSON COURSE 04 |** Introduction to Event-Based Sensors for SDA: A Hands-On Tutorial **|** *Lokelani III* **IN-PERSON COURSE 05 |** Astrodynamics for xGEO Space Domain Awareness **|** *Lokelani II*
12:00	01:00	**BREAK |** *Explore the AMOS Virtual Venue and Digital Poster Hall. Pick up lunch at one of the many locations on-site or next door at The Shops at Wailea.*
01:00	05:00	**IN-PERSON COURSE 06 |** CA Risk Assessment Technical Short Course **|** *Lokelani III* **IN-PERSON COURSE 07 |** CyberRoll Space - A Space Cybersecurity Tabletop Exercise **|** *Lokelani II* **IN-PERSON COURSE 08 |** Deep Learning Methods for Space Domain Awareness **|** *Mauna Loa* **IN-PERSON COURSE 09 |** Observing and Characterizing Space Debris **|** *Vanda* **IN-PERSON COURSE 10 |** Hands-on, Interactive Astrodynamics Education in the Metaverse **|** *Ilima*
06:00 PM HST	07:30 PM HST	**WELCOME RECEPTION**	*Luau Gardens* Join us for an oceanfront reception at sunset as we welcome the AMOS ʻohana back to the island. *Co-sponsored by* BOEING

Wednesday 20 September

The three-day plenary program will be live-streamed in its entirety to the virtual conference platform, with on-demand playback available in 24-48 hours. All registered attendees are encouraged to visit the virtual Exhibit Venue and Digital Poster Hall to review materials and interact with sponsors and poster presenters.

06:00 AM HST – 07:15 AM HST
BREAKFAST AT LEISURE | *Luau Gardens*

07:30 – 07:45
CONFERENCE OPENING | *Aulani Ballroom*
Leslie Wilkins, President & CEO, Maui Economic Development Board, Inc.

CULTURAL INVOCATION
Kahu Kealahou Alika

WELCOME & INTRODUCTIONS

07:45 – 08:30
OPENING KEYNOTE ADDRESS

General B. Chance Saltzman
Chief of Space Operations
United States Space Force

08:30 – 09:30
SSA POLICY FORUM | Evolution of the Commercial SSA Data Market
There has been significant growth over the last several years in commercial SSA providers, data products, and services, but there are still many open questions about where the market is headed. This panel will discuss how the commercial SSA sector is evolving and what the challenges are for future growth, including identifying customers and standards for data sharing as well as the balance between the role of the government and private sector in ensuring the safety of spaceflight activities.

Moderated by:
Victoria Samson, Washington Office Director, Secure World Foundation

		Panelists: **Shreyas Mirji,** Vice President, Business and Strategy, Digantara **Mahhad Nayyer,** Graduate Research Assistant, Purdue University **Kevin O'Connell,** Principal, Space Economy Rising **Audrey Schaffer,** Vice President, Policy and Strategy, Slingshot Aerospace
09:30	10:00	**EXHIBITION AND NETWORKING BREAK** | *Sponsored by Exhibit Venue + Conference Platform* Explore the Exhibit Venue on-site. Connect with our conference partners to view the latest innovations. Online you can visit the digital swag bag for resources.
09:30 AM HST	06:45 PM HST	**EXHIBITION HOURS FOR THE DAY**
10:00	10:15	**FEATURED PRESENTATION | Empowering Defense Space Technology Investment |** *Aulani Ballroom* **Dr. Lindsay Millard** Principal Director for Space Technology, Office of the Under Secretary of Defense for Research and Engineering
10:15	11:30	**MACHINE LEARNING FOR SDA APPLICATIONS |** *Sponsored by* Co-chaired by **Weston Faber**, L3Harris, and **Justin Fletcher**, USSF SSC/SZG *Physics-Informed Orbit Determination for Cislunar Space Applications* **Andrea Scorsoglio**, The University of Arizona *Learned Satellite Radiometry Modeling from Linear Pass Observations* **Kimmy Chang**, Odyssey Systems – Space Systems Command (A&AS) *Scalable Multi-Agent Sensor Tasking Using Deep Reinforcement Learning* **Tory Smith**, United States Space Force, Massachusetts Institute of Technology *Optimally Convergent Autonomous and Decentralized Tasking with Empirical Validation* **Samuel Fedeler**, University of Colorado Boulder *AI SSA Challenge Problem: Satellite Pattern-of-Life Characterization Dataset and Benchmark Suite* **Peng Mun Siew**, Massachusetts Institute of Technology
11:30 AM HST	12:30 PM HST	**LUNCH**

12:30	01:30	**SPACE DEBRIS |** Aulani Ballroom | *Sponsored by* NORTHSTAR EARTH & SPACE Co-chaired by **James Blake**, University of Warwick, and **Heather Cowardin**, NASA *A Summary of the DRAGRACER Flight Experiment for Orbital Debris Mitigation and Radiometric Solutions* **Patrick Kelly**, Millennium Space Systems, A Boeing Company *Space-based Observations of Plasma Waves During Conjunctions Between Host Sensors and Space Objects* **Lauchie Scott**, Defense R&D Canada *Estimating Orbital Debris Mass via Solar Radiation Pressure and Photometric Signatures* **Jim Shell**, Novarum Tech, LLC *Orbital Debris Shape Effect Investigations for Mitigating Risk* **Heather Cowardin**, NASA
01:30	02:30	**ATMOSPHERICS/SPACE WEATHER** Co-chaired by **Mary Ellen Craddock**, Northrop Grumman, and **Shaylah Mutschler**, Space Environment Technologies *A Survey of Current Operations-Ready Thermospheric Density Models for Drag Modeling in LEO Operations* **Shaylah Mutschler**, Space Environment Technologies *Transformer-based Atmospheric Density Forecasting* **Julia Briden**, Massachusetts Institute of Technology *Days to Decades: Forecasting Neutral Densities in Low Earth Orbit* **Matthew Brown**, University of Birmingham *A Novel Approach for Simulating Atmospheric Optical Turbulence Seeing Parameters* **Randall Alliss**, Northrop Grumman
02:30	02:50	**EXHIBITION AND NETWORKING BREAK |** *Exhibit Venue* Explore the Exhibit Venue on-site. Connect with our conference partners to view the latest innovations. Online you can visit the digital swag bag for resources.
02:50	03:20	**JOINT INVITED TALK | How AI/ML Can Support SDA |** *Aulani Ballroom* **Colonel Jeremy A. Raley,** Director, Space Vehicles Directorate, Air Force Research Laboratory

		Colonel Joseph J. Roth, Director Innovation & Prototyping Acquisition Delta and Commander, Space Systems Command Detachment 1, United States Space Force
03:20	05:20	**CISLUNAR SPACE DOMAIN AWARENESS |** *Sponsored by*  Co-chaired by **Mark Bolden**, Trusted Space, Inc. and **C. Channing Chow II,** Cloudstone Innovations *Robust Cislunar Architecture Design Optimization for Cooperative Agents* **Naomi Owens Fahrner**, Ball Aerospace *Deep Learning for Cislunar Object Detection* **Luca Ghilardi**, The University of Arizona *Universal Angles-Only Cislunar Orbit Determination Using Sparse Collocation* **Casey Heidrich**, University of Colorado Boulder *Strategic Regions for Monitoring Incoming Low-Energy Transfers to Low-Lunar Orbits* **Yuri Shimane**, Georgia Institute of Technology *Probabilistic Initial Orbit Determination and Object Tracking in Cislunar Space Using Passive Radio Frequency Sensors* **Erin Griggs**, Trusted Space, Inc. *Characterizing Cislunar Fragmentations* **Carolin Frueh**, Purdue University *Adaptive Filtering for Multi-Sensor Maneuvering Cislunar Space Object Tracking* **John Iannamorelli**, Purdue University *Multi-Spacecraft Predictive Sensor Tasking for Cislunar Space Situational Awareness* **Kento Tomita**, Georgia Institute of Technology
05:20	06:45	**EXHIBITION AND POSTER SESSION**	*Co-sponsored by*  *Exhibit Venue* Posters co-chaired by **Darren McKnight,** LeoLabs, and **Matthew Stevenson,** LeoLabs Meet select poster presenters while enjoying a cocktail and interacting with exhibitors and fellow attendees.

08:00 PM HST	10:00 PM HST	**WOMEN & ALLIES IN SPACE DOMAIN AWARENESS |** *Pacific Terrace Rooftop* Desserts, dancing, and networking under the stars. *Separate registration is required.*

Thursday 21 September

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06:00 AM HST – 07:15 AM HST BREAKFAST AT LEISURE | *Luau Gardens*

07:30 – 08:00 **VIRTUAL KEYNOTE ADDRESS* | *Aulani Ballroom***

Diane Howard
Director of Commercial Space Policy, National Space Council

08:00 – 09:00 **SSA POLICY FORUM | U.S. Progress on Civil SSA and STM**

The United States continues to make progress on implementing SPD-3, which outlined a path towards a space traffic management framework. This panel features representatives from multiple U.S. agencies involved in implementing SPD-3 to provide updates on what progress has been made so far and plans for the future.

Moderated by:
Jamie Morin, Vice President of Defense Systems Operations and Executive Director of the Center for Space Policy and Strategy, The Aerospace Corporation

Panelists:
Travis Blake, Space Traffic Coordination Program Officer, NASA
Richard DalBello*, Director, Office of Space Commerce, NOAA, Department of Commerce
Barbara Golf, Strategic Advisor for Space Domain Awareness, United States Space Force
Travis Langster*, Principal Director, Space and Missile Defense Policy, United States Department of Defense

**Virtual attendee*

09:00	09:30	**EXHIBITION AND NETWORKING BREAK |** *Exhibit Venue* Explore the Exhibit Venue on-site. Connect with our conference partners to view the latest innovations. Online you can visit the digital swag bag for resources.
09:00 AM HST	06:30 PM HST	**EXHIBITION HOURS FOR THE DAY**
09:30 AM HST	10:30 AM HST	**CONJUNCTION/RPO |** *Aulani Ballroom	Sponsored by* LOCKHEED MARTIN Co-chaired by **Lauri Newman**, NASA, and **Matthew Hejduk**, The Aerospace Corporation *Conjunction Assessment and Deconfliction Paradigm for Co-Located Satellite Constellations with On-Spacecraft "Autonomous" Flight Dynamics Control* **Matthew Hejduk**, The Aerospace Corporation *Optimal Risk Mitigation Strategies for Low-Thrust Space Systems* **Pol Mesalles Ripoll**, SpaceNav *Iridium's Subsequent Assessment of The Collision Between Iridium 33 and COSMOS 2251* **Ryan Shepperd**, Iridium *An Investigation into Transecting Satellites in Future Space Traffic Management Scenarios* **Brian Gunter**, Georgia Institute of Technology
10:30	11:30	**ASTRODYNAMICS** Co-chaired by **Aaron Rosengren**, University of California San Diego, and **Paul Schumacher**, AFRL (Ret.) *Application of Electric Propulsion Maneuver Envelopes to Space Situational Awareness* **Prashant Patel**, Institute for Defense Analyses *Comparing Traditional and Admissible-Region Schemes for Angles-Only Initial Orbit Determination* **Siamak Hesar**, Kayhan Space *Leveraging Fisher Information to Optimize Observation Scheduling for Orbit Determination* **Sam Wishnek**, Ball Aerospace *A Fast, Robust Genetic Algorithm for Producing Families of Constrained Multi-Burn Orbit Transfers* **Eric George**, The Aerospace Corporation

11:30 AM HST	12:30 PM HST	**LUNCH**
12:30	12:50	**INVITED TALK | SPACE BATTLE MANAGEMENT: TRANSLATING SDA INTO MILITARY OPTIONS** | *Aulani Ballroom* **Colonel Raj Agrawal,** Commander, Space Delta 2-Space Domain Awareness
12:50	02:20	**SDA SYSTEMS & INSTRUMENTATION |** *Sponsored by* LinQuest Co-chaired by **Michael Hart**, HartSCI LLC, and **Michael Nayak**, Defense Advanced Research Projects Agency *Relative Orbit Estimation with Wide Field of View Binary X-ray Sensing* **Andrea Lopez**, University of Colorado Boulder *Improving The Operational Signal Processing Chain for Faster Acquisition of New Objects to The French National Catalogue of Orbital Objects.* **Manuel Pavy**, CNES *Ionospheric Interaction Based Detection of Sub-centimeter Space Debris* **Ian DesJardin**, University of Maryland, College Park *A Photonic Quantum-Inspired Imager for Sub-Diffraction Space Debris Characterization* **Stephen Eikenberry**, CREOL - University of Central Florida *Ground-Based Bistatic Radar for Space Surveillance using a Non-Cooperative Radar Illuminator* **Richard Ferranti**, SRI International *Earthfence: Global Expansion of an Unclassified Deep Space Radar Capability* **Brendan Quine**, ThothX, LLC
02:20	02:40	**EXHIBITION AND NETWORKING BREAK |** *Exhibit Venue* Explore the Exhibit Venue on-site. Connect with our conference partners to view the latest innovations. Online you can visit the digital swag bag for resources.
02:40	03:40	**SDA SYSTEMS & INSTRUMENTATION (cont.) |** *Sponsored by Aulani Ballroom* LinQuest Co-chaired by **Michael Hart**, HartSCI LLC, and **Michael Nayak**, Defense Advanced Research Projects Agency

		General Purpose, Software Configurable, Intelligent LiDAR Sensor for Space-Based Non-Cooperative Resident Space Object Relative Navigation and Tracking Applications **Joy Shohdy**, Advanced Scientific Concepts *An End-to-End Signal Processing Chain for Low Earth Orbit Inverse Synthetic Aperture Radar Space Object Imaging* **Tim Jennings-Bramly**, Defense Science Technology Laboratory (Dstl) *Monitoring Satellite Pattern-of-Life Changes with Passive Radio Frequency Data* **Harris Mohamed**, Kratos *SPACEDUST-Laser/RF: Time of Flight Methods for Space Situational Awareness* **William Ediger**, University of Manitoba
03:40	04:55	**SATELLITE CHARACTERIZATION |** *Sponsored by* LEOLABS Co-chaired by **Jeff Houchard,** EO Solutions, and **Tamara Payne,** Altamira Technologies Corporation *Modified BRDF for Solar Cells* **Madilynn Compean**, Air Force Institute of Technology *SpectraNet: Simultaneous Detection, Identification, and Tracking at GEO* **Zach Gazak**, SSC/SZG *Tracking Merged Objects within Non-Resolved Imagery* **Calum Meredith**, Defence Science Technology Laboratory (Dstl) *RSO Characterization and Attitude Estimation with Data Fusion and Advanced Data Simulation* **Ángel Gallego**, GMV *Hyper-Spectral Speckle Imaging of Resolved Targets* **Fabien Baron,** Georgia State University
05:00	06:30	**EXHIBITION AND POSTER SESSION |** *Co-sponsored by* NORTHROP GRUMMAN *Exhibit Venue* Posters co-chaired by **Darren McKnight,** LeoLabs, and **Matthew Stevenson,** LeoLabs Meet select poster presenters while enjoying a cocktail and interacting with exhibitors and fellow attendees.

Friday 22 September

The three-day plenary program will be live-streamed in its entirety to the virtual conference platform, with on-demand playback available in 24-48 hours. All registered attendees are encouraged to visit the virtual Exhibit Venue and Digital Poster Hall to review materials and interact with sponsors and poster presenters.

06:00 AM HST – 07:15 AM HST | BREAKFAST AT LEISURE | *Luau Gardens*

07:30 – 08:00 | **KEYNOTE ADDRESS |** *Aulani Ballroom*

Elizabeth Pearce
a/g Director Space Technology, Office of the CTO
Australian Space Agency

08:00 – 09:00 | **SSA POLICY FORUM | MOVING FROM INDUSTRY BEST PRACTICES TO SPACE TRAFFIC MANAGEMENT RULES**

Much has been said about the importance of developing industry best practices as the foundation for future space traffic management rules, and multiple different best practice initiatives have been published or announced. However, there is still the open question of how to combine these various proposals into a common set of standards that can serve as the foundation for space traffic management. This session will discuss how to assess the existing best practices and standards as a baseline for STM, existing gaps that still need to be covered, and how to move forward toward a common STM regime.

Moderated by:
Brian Weeden, Director of Program Planning, Secure World Foundation

Panelists:
Jerome Barbier, Head of Outer Space, Digital, and Economic Issues, Paris Peace Forum
Mariel Borowitz, Office of Space Commerce
David Goldstein, Principal Engineer, SpaceX
Daniel Oltrogge, Founder and Administrator, Space Safety Coalition

09:00 – 09:30 | **EXHIBITION AND NETWORKING BREAK |** *Exhibit Venue*

		Explore the Exhibit Venue on-site and online. Interact with our conference partners, view demos, access resources, schedule meetings, and more.
09:00 AM HST	03:55 PM HST	EXHIBITION HOURS FOR THE DAY
09:30 AM HST	1:00 PM HST	**STUDENT SPACE EXPLORATION DAY |** *South Pacific Ballroom + Exhibit Venue*
09:30 AM HST	11:30 AM HST	**SPACE DOMAIN AWARENESS |** *Aulani Ballroom* Co-chaired by **Jerry Krassner**, OSD/R&E, and **Brian Young**, KBR *Lessons Learned on Mega-Constellation Deployments and Impact to Space Domain Awareness* **Christian Ramos,** 18th Space Defense Squadron/Omitron Inc **Diana McKissock,** 18th Space Defense Squadron *Indications of Adversary Actions Intended to Disrupt Space Operations: Simulation for Rehearsal of Detection and Response* **Steven Paligo,** a.i. solutions *US-EUSST Data Exchange for Improved Orbital Safety* **Matthew Hejduk,** The Aerospace Corporation *Cooperative Tracking Aid for Space Domain Awareness* **Andrew Abraham,** Lockheed Martin *Performance Modeling of Satellite Track Before Detect Algorithms* **James Helferty,** KBR *Presentation of EU SST R&D Plan* **Cassien Jobic,** CNES *Addressing The Debilitating Effects of Maneuvers on SSA Accuracy and Timeliness* **Jeff Cornelius,** COMSPOC *Evaluation of Maneuver Detection within an Autonomous, Heterogeneous Sensor Network* **Jonathan Kadan,** SSC/SZGA
11:30 AM HST	12:30 PM HST	**LUNCH**
12:30	12:50	**INVITED TALK | SPACE RCO AND DYNAMIC SPACE OPERATIONS** | *Aulani Ballroom*

		Dr. Kelly Hammett, Director, and Program Executive Officer for the Space Rapid Capabilities Office
12:50	02:05	**SPACE DOMAIN AWARENESS (cont'd)** Co-chaired by **Jerry Krassner**, OSD/R&E, and **Brian Young**, KBR *Proliferated Sensor Network (PSN) Performance Study & Architecture Design Optimization* **Matthew Bold,** Lockheed Martin *Optimal Sensor Tasking for Space Domain Awareness via a Beam A*-Search Algorithm* **Lorenzo Federici,** The University of Arizona *Space Domain Awareness Sensor Scheduling with Optimality Certificates* **Neil Dhingra,** Orbit Logic *The Right Data to The Right Place at The Right Time: A Marketplace Approach* **Geoffrey Carrigan,** Bluestaq *Wide Band Passive RF Data Aggregation and Frequency Estimation for Space Domain Awareness Purposes* **Edwin G. W. Peters,** University of New South Wales Canberra
02:05	02:25	**EXHIBITION AND NETWORKING BREAK** | *Exhibit Venue* Explore the Exhibit Venue on-site. Connect with our conference partners to view the latest innovations. Online you can visit the digital swag bag for resources.
02:25	03:25	**SPACE-BASED ASSETS |** *Aulani Ballroom* | *Sponsored by* RTX Co-chaired by **Melrose Brown**, UNSW Canberra Space, and **Andrew Nicholas**, Naval Research Laboratory *Hyperspectral Space Domain Awareness with Machine Learning* **Scott Almond,** Northrop Grumman *Space Based Space Surveillance using Passive Radio Frequency Observations – A Feasibility Study* **Melrose Brown,** UNSW Canberra Space *Space Domain Awareness Advanced Radiation Awareness Technology: Hosted Payloads* **George Eberwine,** Space Systems Command SSC/SZGZ

		Sensitivity Improvements for Space Domain Awareness Using Satellite Tracking on a Nanosatellite **Alexander Pertica,** Terran Orbital
03:25	03:40	**FEATURED PRESENTATION |** *EMER-GEN® Outcomes*
03:40	04:00	**CONFERENCE CLOSING & AWARDS CEREMONY** In collaboration with the Space Surveillance Technical Committee of the **American Astronautical Society** (AAS) the AMOS Conference recognizes outstanding efforts in the field of Space Domain Awareness by presenting the sixth annual AMOS Conference Best Paper and Student Awards. Also awarded are a series of Poster Awards.
04:00	06:00	**PAU HANA RECEPTION |** *Kaho'olawe Lawn* Commemorate the end of the 24th AMOS Conference with live music, cocktails, and friends as we say *Aloha* and *A Hui Hou* *Co-sponsored by* L3HARRIS™ FAST FORWARD

Digital Poster Presentations | *Access Starts Sep 18*

All posters are available in digital format this year and are accompanied by brief on-demand presentation videos in the virtual conference platform's Poster Hall. Interact with poster presenters on discussion boards and via video chat during optional Office Hours. The online Poster Hall opens Sep 21.

A select number of posters are invited for in-person presentation during the Poster Sessions, as indicated with a (**) double asterisk.

Fractal Analysis of The ERCAOS Dataset
Michael Abercrombie, The Boeing Company**

Karman - A Machine Learning Software Package for Benchmarking Thermospheric Density Models
Giacomo Acciarini, University of Surrey**

Developing a Secure Framework for Space Domain Awareness (SDA)
William Allington, Ferris State University

Data Curation Activities for Space Surveillance and Tracking
Alfredo M. Antón, GMV

Characterizing A Novel Coordinated Optimal Avoidance Maneuver Framework for Space Traffic Management (STM)
André Antunes de Sá, Kayhan Space

Uncertainty in Remaining Orbital Lifetime Estimation After Post-Mission Disposal
Lucía Ayala Fernández, Technische Universität Braunschweig

Physics-Guided Machine Learning for Satellite Spin Property Estimation from Light Curves
Gregory Badura, Georgia Tech Research Institute**

Object Characteristic Determination using Brightness Measurements
Pace Balster, Katalyst Space Technologies

Characterization of NaK Coolant Blobs from Soviet RORSAT Reactors
Adam Battle, The University of Arizona**

Modeling of Plasma Wave Generation by Orbiting Space Objects for Proximity Detection
Paul Bernhardt, University of Alaska Fairbanks

Distribution and Related Dynamics of High-Risk Conjunction Events in LEO
Rachit Bhatia, LeoLabs

Cislunar Initial Orbit Determination using CAR-MHF
Paul Billings, KBR / Pacific Defense Solutions

Exploring SDA Sensor Architectures for The Surveillance of Geosynchronous Spacecraft
James Blake, University of Warwick**

Dragster: An Ensemble Assimilative Model for Satellite Drag
Ryan Blay, Orion Space Solutions

Risks from Spacecraft Breakup Events in Near Rectilinear Halo Orbits
Nathan Boone, Air Force Institute of Technology

SDA GEO Location in a GPS Denied Environment
Jason Boyd, Ball Aerospace**

An Edge Computing Algorithm for Onboard Processing of Electro-Optical Imagery
Matthew Britton, The Aerospace Corporation**

Autonomous Close Proximity Differential Drag Control of Low Earth Orbit Small Satellite Formations Using an Inter-Satellite Radio Frequency Link
Melrose Brown, UNSW Canberra Space**

Fast Light Curve Inversion for Regular and Tumbling Attitude Motion
Alexander Burton, Purdue University

Spin Axis and Physical Property Inversion of Moon-Impactor Chang'e 5-T1 Rocket Body
Tanner Campbell, The University of Arizona

Learning Satellite Image Recovery Through Turbulence
Kimmy Chang, Odyssey Systems--Space Systems Command (A&AS)**

Geostationary Earth Orbit Region Survey with The Optical Tracking Network, OWL-Net
Jin Choi, Korea Astronomy and Space Science Institute (KASI) / University of Science and Technology (UST)**

Analysis of Age-Related Color Change of GEO Satellites via Spectroscopy
Frances Chun, USAF Academy**

Spectral Calibrations of the USAF1-Meter for GEO Satellite Spectral Signatures
Francis Chun, USAF Academy

Performance Index of a Network of Ground-Based Optical Sensors for Space Objects Observation and Measurements
Enrico Congiu, Nurjana Technologies**

Limitations of Current Practices in Uncooperative Space Surveillance: Analysis of Mega-Constellation Data Time-Series
Charles Constant, University College London**

ABACO, An Autonomous Board for Avoiding Collision
Giacomo Curzi, University of Bologna**

Global Space Domain Awareness, "Partnering to Win" with AUKUS
Nathaniel Dailey, MITRE & Space Force Association

SSA Data Analysis with a Two-Pronged Approach Including Machine Learning for RSO Detection
Marcel Debczynski, Spaceflux

Performance of an Optical COTS Station for the wide-field Detection of Resident Space Objects
Thomas Delaite, ONERA

High-Fidelity Simulation of Dynamic Thermal Satellite Signatures with MuSES
Casey Demars, Tech7**

The Use and Calibration of Opportunistic Sensors for In-Space Situational Awareness
Aishling Dignam, Astroscale

Development and Deployment of SWIR Optical Station for Daytime Space Object Observations
Marc Drieux, ArianeGroup

Simulating the Photometric Light Curve of Artificial Satellites in GEO used with a Ray-Tracing
Takao Endo, Mitsubishi Electric Corporation

Preliminary Assessment of the Environmental Impact of Space Debris Demise During Atmospheric Reentry
José Pedro Ferreira, University of Southern California**

Seeing Stars: Learned Star Localization for Narrow-Field Astrometry
Justin Fletcher, USSF SSC/SZG**

Formation Flight Design Near Earth-Moon Lagrange Points for Interferometric Characterization of Cislunar Objects
Erin Fowler, University of Maryland, College Park**

Continuing Progress on a Compact, Extremely Accurate Star Tracker
Stephen Fox, IERUS Technologies, Inc

A Practical Technique for Discriminating Manoeuvres and Observational Anomalies from Precision Sequential Estimates of Orbits
Tommy Fryer, CGI

Cislunar Initial Orbit Determination with Optical Tracklets
John Gaebler, KBR**

High-speed Opto-electronic Pre-processing of Polar Mellin Transform for Shift, Scale and Rotation Invariant Image Recognition at Record-Breaking Speeds
Julian Gamboa, Northwestern University**

Simulated Debris Impact Testing of Additively Manufactured Origami Mirror Structure for Space-Based SSA
David Garcia, Air Force Institute of Technology

Reducing Uncertainty in Satellite Conjunction Analysis
Elizabeth George, University of Birmingham

RPO Maneuver Detection from Pixel Space using Deep Learning
Emily Gerber, Ten One Aerospace**

Refactoring the Approach to SSA Legacy Application Modernization
Arne Gerhartd, Deloitte Consulting

FTN/USAFA One-meter Telescope Systems Limiting Magnitude Research
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