Monday Morning August 12

	Trajectory Design & Optimization I Eastland Ball Room				. •			tal & Planeta	ary Missions	Proximity Operations I Rines A			
Time	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	
08:00	Michael	Salinas	NAVIGATING TO A KUIPER BELT OBJECT: MANEUVER PLANNING ON THE APPROACH TO ULTIMA THULE	Maruthi R.	Akella	Multi-Sensor Management under Information Constraints	Nathan	Parrish	Optimal Deorbit from Low Earth Orbit with Electric Propulsion	David	Lujan	Monte Carlo Analysis of a Particle Swarm Optimizer of Space-based Receivers for Geolocation Using Heterogeneous TDOA	
08:20	Craig	Kluever	Rapid Evaluation of Low-Thrust Transfers from Elliptical Orbits to Geostationary Orbit	James	Brouk	Uncertainty Analysis of a Generalized Coning Algorithm for Inertial Navigation	James Evans	Lyne	Mission Opportunities to Trans- Neptunian Objects - Part VI	William	Bezouska	Sensor Selection Strategies for Satellite Swarm Collaborative Localization	
08:40	Rodney L.	Anderson	Endgame Design for Europa Lander: Ganymede to Europa Approach	Keum	Lee	Generalized Composite Noncertainty-Equivalence Adaptive Control of Orbiting Spacecraft in Vicinity of Asteroid	Paul	McKee	Optical Methods for Finding New Natural Satellites of the Solar System's Outer Planets	Andrew	Harris	Desensitized Optimal Attitude Guidance for Differential-Drag Rendezvous	
09:00	Jeannette	Heiligers	Homo- and Heteroclinic Connections in the Spatial Solar-Sail Earth-Moon Three- Body Problem	Benjamin	Schilling	The Surface Navigation Approach for the Dragonfly Lander	Todd	Ely	Overview of the Deep Space Atomic Clock Technology Demonstration Mission	Matthew	Willis	Second-Order Solution for Relative Motion on Eccentric Orbits in Curvilinear Coordinates	
09:20	Daniel	Miller	Interplanetary Low-Thrust Design Using Proximal Policy Optimization	Christopher	D'Souza	A Framework for Scaling in Filtering and Linear Covariance Analysis	Daniele	Mortari	Impulsive Least-Squares Orbit Maintenance using Gauss's Variational Equations OPTIMIZATION OF LOW	Satoshi	Ueda	Precise rendezvous guidance in cislunar orbit via surrogate modelling	
09:40	Pablo	Muñoz	Missed-Thrust Analysis of BepiColombo's Interplanetary Transfer to Mercury Orbit	Hunter	Johnston	An Analysis of the Theory of Connections Subject to Inequality Constraints	Rodrigo	Schmitt	THRUST TRANSFER ORBITS OF A SPACECRAFT CONSIDERING THE RADIATION HAZARD FROM THE VAN ALLEN BELTS	Giordana	Bucchioni	Dynamical Issues in Rendezvous operations with Third Body Perturbation	
10:20	Jeffrey	Stuart	Through the Looking Glass: Mission Design using Interactive and Immersive Visualization Environments	Jonathan	Manni	ADDRESSING VARYING LIGHTING CONDITIONS WITH APPLICATION TO TERRAIN RELATIVE NAVIGATION	Roshan Thomas	Eapen	Extended Phase Space Realization for Attitude Dynamics of an Axisymmetric Body in Eccentric Orbit	Costantinos	Zagaris	Applied Reachability Analysis of Spacecraft Rendezvous With a Tumbling Object	
10:40	Daniele	Mortari	Theory of Connections applied to nonlinear programming under equality constraints	Nathan	Stacey	Adaptive, Dynamically Constrained Process Noise Estimation for Autonomous Orbit Determination	Ariadna	Farres	Solar Radiation Pressure Effects on the orbital motion at SEL2 for the James Webb Space Telescope	Ethan	Burnett	Desensitized Optimal Spacecraft Rendezvous Control with Poorly Known Gravitational and Solar Radiation Pressure Perturbations	
11:00	Ehsan	Taheri	Revisiting "How Many Impulses?" Question	Carl	Leake	An Explanation and Implementation of Multivariate Theory of Connections via Examples	Sean	McArdle	Stable Low Altitude Lunar Periodic Orbits using the GRAIL Gravity Field	Trevor	Williams	MMS Extended Mission Eclipse Mitigation and Solar Wind Turbulence Science Campaign	
11:20	Simon	Le Cleac'h	FAST SOLUTION OF OPTIMAL CONTROL PROBLEMS WITH L1 COST	Kevin	Lohan	Characterization of Candidate Vehicle States for XNAV Systems	James	Williams	Vehicle and Mission Design Options for Very Low Earth Orbit CubeSats				

Relative Motion, Formation Flying, Rendezvous and

Monday Afternoon August 12

	Trajectory Eastland B	Design & Op	otimization II	Guidance, l	Control II	Orbital Dyn Longfellow	amics, Pert	urbations, and Stability	Relative Motion, Formation Flying, Rendezvous and Proximity Operations II Rines A			
	Author	I	Presentation Title	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title
01:30		Jenson	Robust Trajectory Optimization Using Minimum-Error Cost Functions	Junette	Hsin	SUN-AVOIDANCE SLEW PLANNING ALGORITHM WITH POINTING AND ACTUATOR CONSTRAINTS		He	Approximate Analytic Representations For Fixed- angle Low-thrust Trajectories	Skylar	Cox	Constellation Planning Methods for Sequential Spacecraft Rendezvous Using Multi-Agent Scheduling
01:50	Boris	Benedikter	A Convex Optimization Approach for Finite-Thrust Time-Constrained Cooperative Rendezvous Launch Opportunity Analysis of	Matthew	Hawkins	CHANGO: A Software Tool for Boost Stage Guidance of the Space Launch System Exploration Mission 1	Ethan	Burnett	Analytic Approximations of Orbit Geometry in a Rotating Higher Order Gravity Field	Sylvain	Renevey	Geometric Formations Using Relative Orbital Elements and Artificial Potential Functions Launch, Transport,
02:10	Michel	Loucks	GEO Transfer with High Inclination using Lunar Gravity Assist	Enrico	Schiassi	Fuel-efficient Powered Descent Guidance on Planetary Bodies via Theory of Connection	Hunter	Johnston	Orbit Propagation via the Theory of Connections	Во	Naasz	Aggregation, and Assembly of an In-Space Assembled Telescope Constrained Energy-Optimal
02:30	Melissa	Onishi	Design and Synthesis of Entry, Powered Descent and Landing Maneuver Trajectories using Motion Envelopes	Divya	Bhatia	Error Analysis of Closed-loop Attitude Estimation and Control System for Spacecraft High Accuracy Pointing	Rodolpho	Moraes	Quasi-Heliosynchronous Orbits	Kristofer	Drozd	Guidance in Relative Motion vi Theory of Functional Connections and Rapidly- Explored Random Trees
02:50	Anthony	lannuzzi	Dependent Variable Integration for event finding with validation in orbit propagation	Shuya	Kashioka	Onboard Optical Navigation for Asteroid Explorer by Asteroid Shape Model	David A.	Vallado	Long-Term Numerical Propagation for Earth Orbiting Satellites	Kevin	Kobylka	Analytic Center of Illumination solutions to aid Relative Navigation with Partially Resolved Imagery
03:10	Zachary	Folcik	ORBIT TRANSFER SOLUTIONS IN EQUINOCTIAL ELEMENTS USING AN ANALYTIC REPRESENTATION OF THE GEOPOTENTIAL	Benjamin	Margolis	Control and Simulation of a Deployable Entry Vehicle with Aerodynamic Control Surfaces	Trevor	Williams	Lunisolar Perturbations of High- Eccentricity Orbits Such as the Magnetospheric Multiscale Mission	Shota	Takahashi	Autonomous Characterization of an Asteroid from a Hovering Trajectory
03:50	Jacob	Williams	Copernicus 5.0: Latest Advances in JSC's Spacecraft Trajectory Optimization and Design System	Paolo	Panicucci	Variational Lambert Problem with uncertain dynamics	Gim	Der	Computing Kepler Equations for Analytic Orbit Propagation	Eric	Butcher	Morse-Lyapunov-Based Decentralized Consensus Control of Rigid Body Spacecraft in Orbital Relative Motion
04:10	Yanping	Guo	Parker Solar Probe Mission Design	Andrew	Goodyear	Analytical State Transition Matrix For Dual-Quaternions For Spacecraft Pose Estimation	Nicholas	Bradley	Navigation Models for Psyche Electric Propulsion Uncertainty	Muhammad Wasif	Memon	Nonlinear Optimal Tracking Control of Two-Craft Coulomb Formation in Elliptic Chief Orbits HelloSwarm: Space-Based
04:30	Donald	Ellison	High-Fidelity Multiple-Flyby Trajectory Optimization Using Multiple-Shooting	Donald	Kuettel	Collision Avoidance Around Small Bodies Using Low-Thrust Guidance	Harshkuma r	Patel	APPLICATION OF UDWADIA- KALABA FORMULATION TO THREE-BODY PROBLEM	Lisa	Policastri	Relative Ranging for a Cubesa Cluster Mission in a 2:1 Lunar Resonant Orbit
01:30				Daniel	Cervantes	SUN SEARCH DESIGN FOR THE PSYCHE SPACECRAFT The Evolution of Deep Space	Smriti Nandan	Paul	HAMR Objects Using Analytic Techniques			
01:50				Lincoln	Wood	Navigation: 2009-2012				ĺ		

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Trajectory Design & Optimization III Eastland Ball Room				Flight Dynamics, Operations and Atmospheric GN&C Hawthorne			Dynamical Longfellow	_	neory I	Orbit Determination & Space Surveillance Tracking I Winslow Homer			
Time	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	
08:00	Mohammad	Azhar	LOW THRUST TRANSFERS BETWEEN HALO ORBITS IN THE EARTH-MOON SYSTEM	Pratik	Dave	Autonomous Satellite Navigation using Intersatellite Laser Communications Mid-Lift-to-Drag ratio Rigid	Andrew	Cox	High-Energy Lunar Capture via Low-Thrust Dynamical Structures	Simone	Servadio	Maximum A Posteriori Estimation of Hamiltonian Systems with High Order Series Expansions	
08:20	Taabish	Rashied	Mid-Course Correction Contingency Analysis for James Webb Space Telescope Leveraging NASA's Lunar	Breanna	Johnson	Vehicle 6-DoF EDL Performance Using Tunable Apollo Powered Descent Guidance	Kenta	Oshima	Linking Low- to High-Energy Dynamics of Invariant Manifold Tubes, Transit Orbits, and Singular Collision Orbits Canonical Transformations via	Daegyun	Choi	A Study on Effective Initial Guess Finding Method Based on Bezier Curves: Orbit Determination Applications Gaussian Mixture Filter Angles-	
08:40	Robert	Potter	Gateway and Human Landing System for Low-Cost and Low- Risk Mars Orbital Missions	Todd	Ely	Radiometric Autonomous Navigation Fused with Optical For Deep Space Exploration	Roshan Thomas	Eapen	a Sparse Approximation-Based Collocation Method for Dynamical Systems	Mark	Psiaki	Only Orbit Determination using Modified Equinoctial Osculating Elements	
09:00	AMANDA	HAAPALA CHALK	Exploration of IMAP Science Orbit Design Space to Balance Nominal and Extended Mission Trades	John	Carrico	THE FIRST COMMERCIAL LUNAR LANDER MISSION: BERESHEET	Rodney L.	Anderson	Enabling Broad Energy Range Computations at Libration Points Using Isolating Neighborhoods	Cristian	Greco	ROBUST PARTICLE FILTER FOR SPACE OBJECTS TRACKING UNDER SEVERE UNCERTAINTY	
09:20	Jose Manuel	Sanchez Perez	Missed Thrust Analysis for a Potential Mars Sample Return Orbiter	Evan	Roelke	Improved Atmospheric Estimation for Aerocapture Guidance THE DEVELOPMENT OF AN	Juan	Ojeda Romero	Transfers from GTO to Sun- Earth Libration Orbits	Gim	Der	Computing Gauss-Laplace Equations for Optical Data Processing	
09:40	Min	Qu	End to End Optimization of a Mars Hybrid Transportation Architecture	Russell	DeHart	OPEN-LOOP ANGULAR MOMENTUM UNLOAD METHODOLOGY FOR THE LUNAR RECONNAISSANCE ORBITER AND OF ALGORITHMS TO PREDICT SYSTEM PERFORMANCE	Jeffrey	Stuart	Accessing Highly Out-of- Ecliptic Science Orbits via Low- Energy, Low-Thrust Transport Mechanisms	Nicholas	Bradley	Cis-Lunar Navigation Accuracy using Optical Observations of Natural and Artificial Targets	
10:20	Jacob	Englander	Optimization of the Lucy Interplanetary Trajectory via Two-Point Direct Shooting	Giusy	Falcone	Aerobraking Trajectory Control Using Articulated Solar Panels	Isabelle	Jean	Design and Control of Spacecraft Trajectories in the Full Restricted Three Body Problem	David	Ciliberto	DPTIMAL QUADRATURE BASED FILTERING IN REGULARIZED COORDINATES FOR ORBIT DETERMINATION	
10:40	Rachana	Agrawal	Enabling Sustainable Human Exploration of Mars via an Orbital Logistics Node	Jason	Tardy	Entry Trajectory Tracking Using Equivalent Elevation State Feedback	Jeroen	Geeraert	OSIRIS-REx Navigation Small Force Models	Peter	Scarcella	Consider Filtering Applied to Maneuver Detection for Relative Orbit Determination	
11:00	Robert	Potter	Survey of Twenty Unique Low- Thrust Earth-Mars Cycler Geometries	Kevin	Bonnet	Estimation of Entry Vehicle Parameters from Trajectory Data	Daniel	Brack	Asteroid Deflection with Active Boulder Removal	Gim	Der	Computing Multi-rev Lambert Equations for Radar data Processing	
11:20							Diogo	Merguizo Sanchez	Stability of highly inclined orbits around the asteroid (153591) 2001 SN263	John	Gaebler	Track Initiation for CubeSat Cluster Deployment Tracking Root Locus Method of	
11:40							RICHARD	LINARES	Koopman Operator Theory in Astrodynamics	Alex	Sizemore	Determining Sensitivity of Polynomial Systems to Error in Orbit Determination Problems	

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	Asteroid & Non-Earth Orbiting Missions I		Structures	& Tethers	. 0, 0 .	Optimizatio	n Competition	on)	Development Initiative				
	Eastland Ba			Hawthorne			Longfellow			Winslow Homer			
Time	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	
01:30	Gregory		Experimental Field Testing and Confirmation of Particle Swarm Optimization for Autonomous Extraterrestrial Surface Search and Exploration	Diane	Davis	Cloud Computing Methods for Near Rectilinear Halo Orbit Trajectory Design	Anastassio s		GTOC X: Settlers of the Galaxy Problem Description and Summary of the Results	Alinda	Mashiku	NASA Conjunction Assessment Risk Analysis Updated Requirements Architecture	
01:50	Luigi	Mascolo	Fast Estimation Method for Trajectories to Near-Earth Asteroids	Ryne	Beeson	NLPAROPT: A Parallel Nonlinear Programming Solver - Applications to Spacecraft Trajectory Optimization Robust Optimal Fuzzy Sun-	Alessandro		GTOC X: Solution approach of Team Sapienza-PoliTo	Alinda	Mashiku	Recommended Methods for Setting Mission Conjunction Analysis Hard Body Radii	
02:10	Daniel		Initial Near-Earth Object Accessibility Insights From The NHATSchecker Utility	Antonio	Won	Point Control of a Large Solar Power Satellite Subject to Actuators Amplitude and Rate Constraints	Нао	Zhang	Settler of the Galaxy: The CSU Solution to GTOCX	Luis	Baars	Assessing GEO and LEO Repeating Conjunctions Using High Fidelity Brute Force Monte Carlo Simulations	
02:30	Andrew		Multi-Arc Filtering During the Navigation Campaign of the OSIRIS-REx Mission	Minh	Phan	A Unified Formulation for State- Space Based Recovery of Mass, Stiffness, and Damping Matrices	zichen	fan	GTOC X: Methods and Results from the HIT_BACC Team	Matthew	Hejduk	Satellite Collision 'Probability,' 'Possibility,' and 'Plausibility': A Categorization of Competing CA Risk Assessment Paradigms	
02:50	Shota		Design and Reconstruction of the Hayabusa2 Precision Landing on Ryugu	Deepti	Kannapan	Design of a Distributed Modular Attitude Controller for Spacecraft Composed of Reconfigurable Joined Entities with Compliant Coupling	Marcus	Märtens	GTOC X: Our Plan to Settle the Galaxy (ESA-ACT)	Travis	Lechtenber g	An Operational Algorithm for Evaluating Satellite Collision Consequence	
03:10	Andrew		OSIRIS-REX NAVIGATION CAMPAIGN TRAJECTORY DESIGN AND MANEUVER PERFORMANCE	Rachael	Gold	VALIDATION OF SIMULATION OF SPACE NET DEPLOYMENT PHASE WITH PARABOLIC FLIGHT EXPERIMENT DATA	Haiyang	Li	GTOC X: Results and Methods of Team 38 - Tsinghua & XINGYI	Travis	Lechtenber g	MULTIVARIATE NORMALITY OF CARTESIAN-FRAMED COVARIANCES: EVALUATION AND OPERATIONAL SIGNIFICANCE	
03:30	Joel		Navigation Preparations for a Possible Binary System During the New Horizons Extended Mission				Peng	Shu	GTOC X: Results and Methods of National University of Defense Technology and Xi'an Satellite Control Center	Doyle	Hall	Determining Appropriate Risk Remediation Thresholds from Empirical Conjunction Data Using Survival Probability Methods	
03:50	Wesley		Spacecraft Asteroid Hovering using Udwadia-Kalaba Formulation with Time-Varying Coefficients				Anastassio s	Petropoulos		Doyle	Hall	Implementation Recommendations and Usage Boundaries for the Two- Dimensional Probability of Collision Calculation	
04:10							Anastassio s	Petropoulos	GTOC X: Trophy Award Presentation				

High Performance Computing, Large Space

Special Session: GTOC - X (Global Trajectory

Special session: NASA CARA CA Requirements

Wednesday Morning August 14

				Special Ses	ssion: Artific	ial Intelligence in							
	Trajectory D	Design & Op	timization IV	Astrodynar	nics I - Mach	ine Learning	Asteroid &	Non-Earth 0	Orbiting Missions II	Orbit Determination & Space Surveillance Tracking II Winslow Homer			
	Eastland Ba	all Room		Hawthorne			Longfellov	1					
Time	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	
			Efficient Computation of Optimal Low Thrust Perturbed Orbit Transfers with Shadow			Uncertainty Characterization and Surrogate Modeling for Angles Only Initial Orbit			NASA Goddard Independent Navigation Results for OSIRIS-			High-fidelity drag coefficient	
00:80	Robyn	Woollands	Constraints	David	Schwab	Determination	Jason	Swenson	REx Initial Encounter at Bennu	Vishal	Ray	models for orbit determination	
08:20	Jim	McAdams	Retining Lucy Mission Delta-V during Spacecraft Design using Trajectory Optimization within High-Fidelity Monte Carlo Maneuver Analysis	Roberto	Furfaro	Deep Imitation Learning and Clustering in Astrodynamics	David	Dunham	Earth-Moon Halo Orbit – Gateway or Tollbooth?	Christopher	Rabotin	Application of Dual Number Theory to Statistical Orbital Determination	
08:40	Manoranjan	Majji	Novel Chebyshev Collocation Method for Trajectory Optimization	Jordan	Murphy	Deep Learning Applications to Astrodynamics Problems	Alex	Davis	Sensitivity of Trajectories to Mass Parameters in the Restricted Full Three Body Problem	Alex	Friedman	Light Curve Inversion Observability Analysis	
09:00	Cody	Short	Revisiting Trajectory Design with STK Astrogator, Part 1	Тае На	Park	Towards Robust Learning- Based Pose Estimation of Noncooperative Spacecraft	Enrico	Zucchelli	Autonomous Estimation of Spin and Shape of a Small Body via Extended Target Tracking	Jeremy	Bauman	NEW HORIZONS ORBIT DETERMINATION PERFORMANCE THROUGHOUT THE EXTENDED MISSION TO ULTIMA THULE	
09:20	Wayne	Yu		Kevin	Cowan	Gaussian Process models for preliminary low-thrust trajectory optimization	Jason	Leonard	OSIRIS-REX Orbit Determination Performance During the Navigation Campaign	Sehyun	Yun	Sensor Configuration Trade Study for Navigation in Near Rectilinear Halo Orbits	
09:40	Padmanabh a	Prasanna Simha	Low thrust variable specific impulse fuel-optimal transfers between planetary parking orbits	Нао	Peng	Covariance Fusion Method of Gaussian Processes Covariance and Orbital Prediction Uncertainty	Andrea	Viale	Dynamics of a non-rigid Orbital Siphon at a near-Earth asteroid	Yu	Takahashi	The effect of small forces on Juno Orbit Determination during the orbit phase	
10:20	Jason	Reiter	BASED PURSUIT-EVASION GAMES THROUGH COMPETITIVE COEVOLUTION	Tianyu	Gao	Calibration of atmospheric density model based on Gaussian process				Dylan	Boone	Independent Navigation Team Orbit Estimation of 2014MU69 for New Horizons' Kuiper Belt Object Flyby	
10:40		Carrico	ANALYSIS OF A CONSTRAINED OPTIMAL MULTIPLE-PHASE LANDING TRAJECTORY FOR A SMALL ROBOTIC LUNAR LANDER	Yueyong	Lyu	Adaptive Online Learning Strategy for Post-capture Attitude Takeover Control of Noncooperative Space Target				Craig	McLaughlin	Implementing an Idan Speyer Cauchy Drag Estimator	
		Dutto	Selecting Planning Horizon Length for Sequential Low- Thrust Orbit-Raising			Neural Network Based Optimal Control: Resilience to Missed Thrust Events for Long Duration Transfers					Woodburn	Analysis of Relative Merits of Unscented and Extended Kalman Filters in Orbit Determination	
11:00	AUI	Dutta	Optimization Problem	Ari	Rubinsztejn	Translers				James	nudboovv	Determination Automated Navigation Analysis	
11:20										Jeremy	Knittel	for the Lucy Mission Orbit determination and tests of general relativity in the cruise	
				I						Luciano	less	phase of BepiColombo	

Wednesday Afternoon August 14

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	Trajectory	Design & Op	timization V	Earth Orbit	ing Missions	s III	Orbital Deb	oris and Space	ce Environment	Attitude Dynamics & Control I Winslow Homer			
	Eastland B	all Room		Hawthorne			Longfellow	1					
Time	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	
01:30	Davide	Menzio	Flyby in the spatial three-body problem	David	Lujan	Frequency Structure of the NRHO Family in the Earth- Moon System	Matthew	Wittal	Spaceflight Hazards of Escape- Velocity-Domain Impact Ejecta in the CR3BP	Sungkoo	Bae	ICESat-2 Precision Pointing Determination	
01:50	Kenshiro	Oguri	Risk-aware Trajectory Design with Continuous Thrust: Primer Vector Theory Approach	Alex	Friedman	Observability and Estimability Analysis of the Orbit Problem	David	Gondelach	Real-Time Neutral Density Estimation Via Two-Line- Element Data Fusion In A Quasi-Physical Thermosphere Model	Andrew	Gatherer	Magnetorquer-Only Attitude Control of Small Satellites using Trajectory Optimization	
02:10	Connor	Clary	SPACECRAFT MANEUVER STRATEGY OPTIMIZATION FOR DETECTION AVOIDANCE USING REACHABILITY SETS	David	Folta	Transfer Trajectory Options for Servicing Sun-Earth-Moon Libration Point Missions	Guanwei	Не	Multiple Small-Satellite Salvage Mission Sequence Planning for Debris Mitigation	Benjamin	Ellis	Reaction Wheel Friction Analysis for the Fermi Spacecraft	
02:30	Mark	Mercier	Optimal Inspection Trajectories with Enforcement of Chief and Inspector-Centered Dynamic Zone Constraints	Nathan	Parrish	Survey of Ballistic Lunar Transfers to Near Rectilinear Halo Orbit	Daniel L.	Oltrogge	Characterizing the India ASAT debris evolution using diverse, complementary tools	Ahmad	Fares	Modelling and Simulation of the ADCS Subsystem for JY1-SAT	
02:50	Lorenzo	Federici	A Time-Dependent TSP Formulation for the Design of an Active Debris Removal Mission using Simulated Annealing	Andrew	Graven	The Long-Term Forecast of Station View Periods for Elliptical Orbits	Nicholas	Ravago	Tracking Multiple Maneuvering Satellites Using a Generalized Labeled Multi-Bernoulli Filter	Julie	Halverson	Performance Improvements for the Lunar Reconnaissance Orbiter Gyroless Extended Kalman Filter	
			HelioSwarm: Swarm Mission		-	Dynamical Structures Nearby			0 11: 1 10: 1			0 4 5 4 7 4 6 4 5	
02.10	Andres	Dono	Design in High Altitude Orbit for Heliophysics	Emily	Zimovan- Spreen	NRHOs with Applications in Cislunar Space	Ken	Chan	Collision Probability for Parallelogram Cross Sections	Marcelino	Mendes de Almeida	QuateRA: The Quaternion Regression Algorithm	
	Thomas	Smith	Constructing a Set of Motion Primitives in the Circular Restricted Three-Body Problem via Clustering	Derek	Nelson	OPTICAL NAVIGATION FOR NEW HORIZONS' FLYBY OF KUIPER BELT OBJECT (486958) 2014 MU69	Ken	Chan	Collision Probability for General Polygonal Cross Sections	Daniel	Condurach e	SINGULARITY-FREE EXTRACTION OF A DUAL QUATERNION FROM FEATURE-BASED REPRESENTATION OF MOTION	
04:10	Thomas	Smith	Trajectory Design for a Solar Polar Observing Constellation	Daniel	Wibben	OSIRIS-REX FROZEN ORBIT DESIGN AND FLIGHT EXPERIENCE	Andrew	Abraham	Evaluation of the 27 March 2019 Indian ASAT Demonstration	Carl	Leake	Recursive and Non-dimensional Star-Identification	
04:30		Pradeepku mar Girija	A Unified Framework for Aerocapture Systems Analysis	Daniel	Scheeres	Autonomous Architectures for Small Body Exploration	Benjamin	Reifler	Tracking and Maneuver Detection for Large Satellite Constellations Using a Partitioned GLMB Filter and Smoother	Hirohito	Ohtsuka	NEW CONTROL SCHEMES AND FLIGHT RESULTS OF WORLD'S SMALLEST SS-520 NO.5 FOR MICRO-SATELLITE	
	Damien	GUEHO	OPTIMAL SPACECRAFT DOCKING MANEUVER USING DIRECT AND INDIRECT COLLOCATION METHOD AND PARTICLE SWARM OPTIMIZATION	Tiago	Silva	Spacecraft Trajectory Tracking and Parameter Estimation in the Presence of a Splitting Contact Binary Asteroid	Alan	Segerman	A Technique for Space Object Catalog Evaluation				
05:10	Athul	Pradeepku mar Girija	Aerocapture Performance Analysis for a Neptune Mission Using a Heritage Blunt-Body Aeroshell										

Thursday Morning August 15

Special Session: Artificial Intelligence in

Trajectory Design & Optimization VI
Eastland Ball Room

Special Session: Artificial Intelligence in

Astrodynamics II - Reinforcement Learning
Hawthorne

Space Situational Awareness & Conjunction Analysis
Longfellow

Winslow Homer

	Eastland Ball Room			Hawthorne			Longfellow	•		Winslow Homer			
Time	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	Author		Presentation Title	
08:00	David	Ottesen	Unconstrained Spacecraft Trajectory Optimization using Embedded Boundary Value Problems	Minh	Phan	Value Iteration and Q-Learning for Optimal Control by High Dimensional Model Representation (HDMR)	J. Russell	Carpenter	Covariance Realism is Not Enough	Kátia	Maier dos Santos	ATTITUDE DETERMINATION STRATEGY BASED ON KALMAN FILTER FOR THE SPORT CUBESAT SCIENCE MISSION	
08:20	Jeremy	Petersen	L2 Station Keeping Maneuver Strategy for the James Webb Space Telescope Solar Sall Trajectories and	RICHARD	LINARES	A New approach to Autonomous Asteroid Close Proximity Maneuvers Enabled by Reinforcement Learning	Conor	Benson	The YORP Effect for Tumbling Defunct GEO Satellites Very Low Resolution Spacecraft	Ossama	Abdelkhalik	Efficient B-dot Law for Spacecraft Detumbling	
08:40	Gabriel	Soto	Orbit Phasing of Modular Spacecraft for Segmented Telescope Assembly about Sun- Earth L2	Andrea	Scorsoglio	ELM-based Actor-Critic approach to Lyapunov vector fields relative motion guidance in Near-Rectilinear Orbits	William	Bezouska	Recognition and Pose Estimation for Close-Range Rendezvous and Proximity Operations	Ayman	Ismail	Evaluating the Stability Boundary and Derivation of a Sufficient Condition for Second Order Repetitive Control	
09:00	Francois	Rogez	Maneuver planning for NISAR mission	Alinda	Mashiku	PREDICTING SATELLITE CLOSE APPROACHES USING STATISTICAL PARAMETERS IN THE CONTEXT OF ARTIFICIAL INTELLIGENCE.	Ken	Chan	CubeSats Hovering Collision Probability	Domenico	Trotta	Opportunities and Limitations of Adaptive Augmented Control for Launch Vehicle Attitude Control in Atmospheric Flight	
			Mission Feasibility from Trajectory Optimization and the State of Space Systems Research at the University of			Contingency Planning in Complex Dynamical Environments via Heuristically Accelerated Reinforcement			Data-Driven Framework for Space Weather Modeling with Uncertainty Treatment towards Space Situational Awareness			Orthogonal range searching in n-dimensional spaces using k-	
09:20	Darcey	Graham	Auckland	Ashwati	Das-Stuart	Learning Reinforcement Learning and	Piyush	Mehta	and Space Traffic Management A New Look at Predictive	Carl	Leake	vector Relative Positioning and	
09:40	Jennifer	Hudson	Micro-Pulsed Plasma Thruster Maneuver Characterization	Davide	Guzzetti	Topology of Orbit Manifolds for Stationkeeping of Unstable Symmetric Periodic Orbits	Mark	Vincent	Probability of Collision, Predictive Maneuver Trade Spaces	Yanjie	Guo	Tracking of Tethered Small Spacecraft Using Optical Sensors	
10:20		Davis	Heliocentric Escape and Lunar Impact From Near Rectilinear Halo Orbits	Jason	Reiter	SPACECRAFT MANEUVER STRATEGY OPTIMIZATION FOR DETECTION AVOIDANCE USING REINFORCEMENT LEARNING		Frueh	No Feedback Multi-Sensor Tasking	Xiaoqiang	Ji	Proof of Stable Inverses not Involving Factorization and Evaluations of Their Superiority	
10:40	Kenshiro	Oguri	Risk-aware Trajectory Design with Impulsive Maneuvers: Convex Optimization Approach	Tianyi	Zhang	Evaluation of Use of Zero Phase Circulant Low Pass Filters for Robustification of Iterative Learning Control	David	Shteinman	Design & Development Of An Optimized Sensor Scheduling & Tasking Program For Tracking Space Objects	Marcelino	Mendes de Almeida	Time-varying feedback for attitude regulation in prescribed finite-time	
11:00							Onalli	Gunasekar a	Space-Based Target Search Methods using an Optical Sensor Model for Space Situational Awareness	Ossama	Abdelkhalik	Efficient Magnetic Attitude Regulation Control	
11:20										John	Galjanic	Relative Attitude Control of Two Spacecraft Using Electrostatic Interactions Optimum Momentum Bias for	
11:40										Lara	Magallanes	Zero-Feedback Reaction Wheel	