**Monday, August 10, 2015 - Sessions**

| **Session** | **Room** | **Doc. #** | **Presenter** | | **Title** |
| --- | --- | --- | --- | --- | --- |
| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-506 | Andre Horstmann | 8:00 - 8:20 | Performance of variable step numerical integration across eclipse boundary crossings for HAMR objects |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-502 | Siddharth Kedare | 8:00 - 8:20 | Undamped Passive Attitude Stabilization and Orbit Management of a 3U CubeSat with Drag Sails |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-522 | Min Qu | 8:00 - 8:20 | Trajectory Designs for a Mars Hybrid Transportation Architecture |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-577 | Christopher Roscoe | 8:00 - 8:20 | The Probabilistic Admissible Region with Additional Constraints |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-511 | Josué Cardoso dos Santos | 8:20 - 8:40 | Semi-analytical spacecraft dynamics around planetary moons |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-509 | Zixi Guo | 8:20 - 8:40 | Influence analysis of the impacts and frictions of the joints of the vibration isolation platform for control moment gyroscope |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-579 | Alan Jenkin | 8:20 - 8:40 | Collision Risk Metrics for Large Dispersion Clouds During the Launch COLA Gap |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-523 | Jacob Englander | 8:20 - 8:40 | Multi-Objective Hybrid Optimal Control for Multiple-Flyby Interplanetary Mission Design using Chemical Propulsion |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-512 | Stoian Borissov | 8:40 - 9:00 | East-West GEO Satellite Station-keeping with Degraded Thruster Response |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-525 | John Schreiner | 8:40 - 9:00 | A Neural Network Approach to Fault Detection in Spacecraft Attitude Determination and Control Systems |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-581 | Salvatore Alfano | 8:40 - 9:00 | Volumetric Encounter Analysis Enhancements |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-588 | Davide Conte | 8:40 - 9:00 | EARTH-MARS TRANSFERS THROUGH MOON DISTANT RETROGRADE ORBIT |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-516 | James Turner | 9:00 - 9:20 | Trajectory and State Transition Matrix Analytic Continuation Algorithms |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-549 | Daniel Condurache | 9:00 - 9:20 | FRACTIONAL ORDER CAYLEY TRANSFORMS FOR DUAL QUATERNIONS BASED POSE REPRESENTATION |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-583 | Islam Hussein | 9:00 - 9:20 | Track-to-Track Data Association Using Mutual Information |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-590 | Jose Manuel Sanchez Perez | 9:00 - 9:20 | MANY-REVOLUTION LOW-THRUST ORBIT TRANSFER COMPUTATION USING EQUINOCTIAL Q-LAW INCLUDING J2 AND ECLIPSE EFFECTS |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-799 | Adam Koenig | 9:20 - 9:40 | Optimal Formation Design of a Miniaturized Distributed Occulter/Telescope in Earth Orbit |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-558 | Jianjun Luo | 9:20 - 9:40 | SPACECRAFT ATTITUDE TRACKING CONTROL BASED ON DIFFERENTIAL GEOMETRY THEORY |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-673 | Joshua Horwood | 9:20 - 9:40 | A Correctness Ratio Metric for Assessing Data Association Methods in Space Surveillance |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-591 | Jose Manuel Sanchez Perez | 9:20 - 9:40 | OPTIMIZING THE SOLAR ORBITER 2018 OCTOBER TRAJECTORY TO INCREASE THE DATA RETURN |
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| **Break 9:40 - 10:00** | | | | | |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-538 | Gim Der | 10:00 - 10:20 | An Analytic Perturbed Lambert Algorithm for Short and Long Durations |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-601 | Monimoy Bujarbaruah | 10:00 - 10:20 | LYAPUNOV BASED ATTITUDE CONSTRAINED CONTROL OF A SPACECRAFT |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-733 | Johnny Worthy | 10:00 - 10:20 | Application of Probability Transformation Mappings to the Admissible Region Method |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-594 | Ron Noomen | 10:00 - 10:20 | Analytical low-thrust transfer design based on velocity hodograph |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-540 | Juan Félix San-Juan | 10:20 - 10:40 | Hybrid methods around the critical inclination |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-605 | Jacob Darling | 10:20 - 10:40 | Analysis of the Gauss-Bingham Distribution for Attitude Uncertainty Propagation |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-571 | W. Todd Cerven | 10:20 - 10:40 | BOUNDING COLLISION PROBABILITY UPDATES |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-600 | Diane Davis | 10:20 - 10:40 | Periapsis Poincaré Maps for Preliminary Trajectory Design in Planet-Moon Systems |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-541 | Juan Félix San-Juan | 10:40 - 11:00 | Analytical approximations to the generalization of the Kepler Equation |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-614 | William Reis Silva | 10:40 - 11:00 | APPLICATION OF THE REGULARIZED PARTICLE FILTER FOR ATTITUDE DETERMINATION USING REAL MEASUREMENTS OF CBERS-2 SATELLITE |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-675 | Jeffrey Aristoff | 10:40 - 11:00 | Multiple Frame Assignment Space Tracker (MFAST): Results on UCT Processing |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-607 | Ronald Proulx | 10:40 - 11:00 | Unscented Optimization |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-544 | Annalisa Riccardi | 11:00 - 11:20 | AN INTRUSIVE APPROACH TO UNCERTAINTY PROPAGATION IN ORBITAL MECHANICS BASED ON TCHEBICHEFF POLYNOMIAL ALGEBRA |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-685 | Sungpil Yang | 11:00 - 11:20 | Velocity-free attitude stabilization with measurement errors |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-717 | Joseph Frisbee | 11:00 - 11:20 | An Upper Bound on Orbital Debris Collision Probability When Only One Object has Position Uncertainty Information |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-609 | Sean Patrick | 11:00 - 11:20 | High-Fidelity Low-thrust SEP Trajectories From Earth to Jupiter Capture |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-626 | Jeannette Heiligers | 11:20 - 11:40 | Design and Applications of Solar Sail Periodic Orbits in the Non-Autonomous Earth-Moon System |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-704 | Ozan Tekinalp | 11:20 - 11:40 | Nonlinear Tracking Attitude Control of Spacecraft On Time Dependent Trajectories |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-725 | Travis Lechtenberg | 11:20 - 11:40 | Realistic Covariance Generation in the Presence of Maneuvers |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-658 | Jonathan Aziz | 11:20 - 11:40 | Trajectory Design of the Time Capsule To Mars Student Mission |
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| M-S2 Astrodynamics - 1 | **Rocky C/D** | AAS 15-637 | Fabio Ferrari | 11:40 - 12:00 | Dynamical Evolution about Asteroids with High Fidelity Gravity Field and Perturbations Modeling |
| M-S3 Attitude Dynamics and Control - 1 | **Primrose** | AAS 15-781 | Andrew Sinclair | 11:40 - 12:00 | Ergodicity of the Euler-Poinsot Problem |
| M-S1 Space Situational Awareness - 1 | **Rocky A/B** | AAS 15-763 | Simon Julier | 11:40 - 12:00 | Multi-Static Radar for Space Situation Awareness |
| M-S4 Trajectory Design and Optimization - 1 | **Larkspur** | AAS 15-668 | Darren Hitt | 11:40 - 12:00 | Evolutionary Optimization of a Rendezvous Trajectory for a Satellite Formation with a Space Debris Hazard |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-563 | Joshua Lyzhoft | 13:30 - 13:50 | INFRARED, VISUAL, AND RADAR SENSOR CHARACTERIZATION AND GPU-BASED SIMULATIONS FOR ASTEROID INTERCEPT OR RENDEZVOUS MISSIONS (Submit to special session) |
| M-S6 Space Missions: New Horizons, MESSENGER and Mars Reconnaissance Orbiter | **Rocky A/B** | AAS 15-636 | Bobby Williams | 13:30 - 13:50 | NAVIGATION STRATEGY AND RESULTS FOR NEW HORIZONS’ APPROACH AND FLYBY OF THE PLUTO SYSTEM |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-589 | Shiyuan Jia | 13:30 - 13:50 | DYNAMIC RECURSIVE APPROACH TO MULTIBODY SYSTEMS WITH DOUBLE-GIMBAL VARIABLE-SPEED CONTROL MOMENT GYROSCOPES |
| M-S7 Trajectory Design and Optimization - 2 | **Larkspur** | AAS 15-501 | Dong-sun Kim | 13:30 - 13:50 | WHOLE SUPERIOR PLANETS RENDEZVOUS WITH CONTINUOUS PROPULSION |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-568 | Ben Zimmerman | 13:50 - 14:10 | A GPU-Accelerated Computational Tool for Asteroid Disruption Modeling and Simulation |
| M-S6 Space Missions: New Horizons, MESSENGER and Mars Reconnaissance Orbiter | **Rocky A/B** | AAS 15-532 | Sean Wagner | 13:50 - 14:10 | Mars Reconnaissance Orbiter Navigation Strategy for Dual Support of InSight and ExoMars Entry, Descent and Landing Demonstrator Module in 2016 |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-703 | Shiyuan Jia | 13:50 - 14:10 | GENETIC ALGORITHM FOR THE OPTIMAL PLACEMENT OF SENSORS AND ACTUATORS FOR GYROELASTIC BODY |
| M-S7 Trajectory Design and Optimization - 2 | **Larkspur** | AAS 15-507 | Zixi Guo | 13:50 - 14:10 | IMPULSIVE HALO TRANSFER TRAJECTORY DESIGN AROUND SEL1 POINT WITH MULTIPLE CONSTRAINTS |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-535 | Mark Wallace | 14:10 - 14:30 | A Massively Parallel Bayesian Approach to Planetary Protection Trajectory Analysis and Design |
| M-S6 Space Missions: New Horizons, MESSENGER and Mars Reconnaissance Orbiter | **Rocky A/B** | AAS 15-551 | Premkumar Menon | 14:10 - 14:30 | Mars Reconnaissance Orbiter Navigation Strategy for the Comet Siding Spring Encounter |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-530 | Riccardo Benvenuto | 14:10 - 14:30 | MULTIBODY DYNAMICS DRIVING GNC AND SYSTEM DESIGN IN TETHERED NETS FOR ACTIVE DEBRIS REMOVAL |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-587 | Darrel Conway | 14:30 - 14:50 | Paramat: Parallel Processing with the General Mission Analysis Tool |
| M-S6 Space Missions: New Horizons, MESSENGER and Mars Reconnaissance Orbiter | **Rocky A/B** | AAS 15-608 | Dawn Moessner | 14:30 - 14:50 | Design, Implementation, and Outcome of MESSENGER's Trajectory from Launch to Mercury Impact |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-595 | Sergey Trofimov | 14:30 - 14:50 | Fast and Efficient Sail-Assisted Deorbiting Strategy for LEO Satellites in Orbits Higher Than 700 km |
| M-S7 Trajectory Design and Optimization - 2 | **Larkspur** | AAS 15-519 | Florian Renk | 14:30 - 14:50 | Lisa Pathfinder - Robust Launch Window Design for a Transfer towards a Large Amplitude Orbit about the Sun-Earth Libration Point 1 |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-795 | Nitin Arora | 14:50 - 15:10 | EXPERIMENTS WITH JULIA FOR ASTRODYNAMICS APPLICATIONS |
| M-S6 Space Missions: New Horizons, MESSENGER and Mars Reconnaissance Orbiter | **Rocky A/B** | AAS 15-634 | James McAdams | 14:50 - 15:10 | Engineering MESSENGER's Grand Finale at Mercury - the Low-Altitude Hover Campaign |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-797 | Ozan Tekinalp | 14:50 - 15:10 | SOLAR SAIL SPACECRAFT BOOM VIBRATION DURING DEPLOYMENT AND DAMPING MECHANISMS |
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| **Break 15:10 - 15:30** | | | | | |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-808 | Ryne Beeson | 15:30 - 15:50 | A Non-Linear PARallel OPTimization Tool (NLPAROPT) for solving spacecraft trajectory problems |
| M-S6 Space Missions: New Horizons, MESSENGER and Mars Reconnaissance Orbiter | **Rocky A/B** | AAS 15-652 | Madeline N. Kirk | 15:30 - 15:50 | MESSENGER Maneuver Performance in the Low-Altitude Hover Campaign |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-620 | Mark Karpenko | 15:30 - 15:50 | Agility Envelopes for Reaction-Wheel Spacecraft |
| M-S7 Trajectory Design and Optimization - 2 | **Larkspur** | AAS 15-543 | Gao Tang | 15:30 - 15:50 | Trajectory Optimization for Low-Thrust Time-Limited Multiple Asteroids Rendezvous Mission |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-791 | Robyn Woollands | 15:50 - 16:10 | Parallel Generation of Extremal Field Maps for Optimal Multi-Revolution Continuous Thrust Orbit Transfers |
| M-S6 Space Missions: New Horizons, MESSENGER and Mars Reconnaissance Orbiter | **Rocky A/B** | AAS 15-768 | Renato Zanetti | 15:50 - 16:10 | Navigation and Dispersion Analysis of the First Orion Exploration Mission |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-559 | Minh Phan | 15:50 - 16:10 | Superspace and Subspace Identification of Bilinear Models by Discrete-Level Inputs |
| M-S7 Trajectory Design and Optimization - 2 | **Larkspur** | AAS 15-552 | Florian Renk | 15:50 - 16:10 | Mission Analysis for a Human Exploration Architecture in the Earth-Moon System and Beyond |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-735 | Peter Zimmer | 16:10 - 16:30 | GPU-Based Uncued Surveillance from LEO to GEO with Small Optical Telescopes |
| M-S6 Space Missions: New Horizons, MESSENGER and Mars Reconnaissance Orbiter | **Rocky A/B** | AAS 15-651 | Tomohiro Yamaguchi | 16:10 - 16:30 | Navigation Analysis for the JUICE Jupiter Moon Tour |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-562 | Dong-Huei Tseng | 16:10 - 16:30 | Mass, Stiffness, and Damping Matrices from an Identiﬁed State-Space Model By Sylvester Equations |
| M-S7 Trajectory Design and Optimization - 2 | **Larkspur** | AAS 15-759 | Daniele Filippetto | 16:10 - 16:30 | Fractionated Satellite Systems for Earth Observation Missions: Feasibility and Performances Analysis |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-688 | Sergei Tanygin | 16:30 - 16:50 | GPU-ACCELERATED COMPUTATION OF DRAG AND SRP FORCES AND TORQUES WITH GRAPHICAL ENCODING OF SURFACE NORMALS |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-715 | Donghun Lee | 16:30 - 16:50 | Modified Polynomial Guidance Law for Lunar Landing |
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| M-S8 High Performance Computing in Astronautics | **Rocky C/D** | AAS 15-793 | Austin Probe | 16:50 - 17:10 | Massively Parallel Implementation of Modified Chebyshev Picard Iteration for Perturbed Orbit Propagation |
| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-722 | Minh Phan | 16:50 - 17:10 | Simultaneous Iterative Learning and Feedback Control Design |
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| M-S5 Spacecraft GNC 1 | **Primrose** | AAS 15-556 | Jianjun Luo | 17:10 - 17:30 | A NOVEL UNIFIED MODELING AND ADAPTIVE SLIDING MODE CONTROL BASED ON DIFFERENTIAL INCLUSION FOR HYPERSONIC RE-ENTRY VEHICLE |

**Tuesday, August 11, 2015 - Sessions**

| **Session** | **Room** | **Doc. #** | **Presenter** | | **Title** |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-518 | Vincent Morand | 8:00 - 8:20 | USING TAYLOR DIFFERENTIAL ALGEBRA IN MISSION ANALYSIS: BENEFITS AND DRAWBACKS |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-542 | Johannes Hacker | 8:00 - 8:20 | ON-ORBIT EXPERIENCE OF FLYING TWO-WHEEL CONTROLLED SATELLITES |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-500 | David Vallado | 8:00 - 8:20 | New Consolidated Files for Earth Orientation Parameters and Space Weather Data |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-585 | Damon Landau | 8:00 - 8:20 | Efficient Maneuver Placement for Automated Trajectory Design |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-666 | Thais Oliveira | 8:20 - 8:40 | SEARCHING FOR MORE STABLE PERTURBED ORBITS AROUND THE EARTH |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-573 | Baichun Gong | 8:20 - 8:40 | Attitude Control of a Modular NPU-PhoneSat Based on Shape Actuation |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-539 | Gim Der | 8:20 - 8:40 | Angles-only algorithms for Initial Orbit Determination Revisited |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-606 | Jacob Williams | 8:20 - 8:40 | A New Plugin Architecture for the Copernicus Spacecraft Trajectory Optimization Program |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-684 | Oier Penagaricano Munoa | 8:40 - 9:00 | Analytical Perturbation Theory for Dissipative Forces in Two-Point Boundary Value Problems |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-596 | Boyan Jiang | 8:40 - 9:00 | FIXED-TIME CONTROL DESIGN FOR SPACECRAFT ATTITUDE STABILIZATION |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-555 | Charlie Bellows | 8:40 - 9:00 | Updating Position Data from Full Serendipitous Satellite Streaks |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-662 | Ryan Whitley | 8:40 - 9:00 | Combining Simulation Tools for End-to-End Trajectory Optimization |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-713 | Travis Lechtenberg | 9:00 - 9:20 | Expansion of Density Model Corrections Derived from Orbit Data to the ANDE Satellite Series |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-599 | Russell DeHart | 9:00 - 9:20 | CONSERVING FUEL FOR THE LUNAR RECONNAISSANCE ORBITER BY USING ATTITUDE MANEUVERS TO CONTROL ANGULAR MOMENTUM AND DECREASE FREQUENCY OF MOMENTUM UNLOADS |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-575 | Mark Psiaki | 9:00 - 9:20 | Gaussian Mixture Approximation of the Bearings-Only Initial Orbit Determination Likelihood Function |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-641 | Daniel Litton | 9:00 - 9:20 | Creating an End-to-End Simulation for the Multi-Purpose Crewed Vehicle |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-731 | Roberto Armellin | 9:20 - 9:40 | HIGH ORDER TRANSFER MAP METHOD AND GENERAL PERTURBATION TECHNIQUES APPLIED TO PERTURBED KEPLERIAN MOTION |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-627 | Albert Caubet | 9:20 - 9:40 | A Motion Planning Method for Spacecraft Attitude Maneuvers Using Single Polynomials |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-578 | Christopher Roscoe | 9:20 - 9:40 | Uncertain Angles-Only Track Initiation for SSA using Different IOD Methods |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-580 | Davide Conte | 9:20 - 9:40 | TARGETING THE MARTIAN MOONS VIA DIRECT INSERTION INTO MARS’ ORBIT |
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| **Break 9:40 - 10:00** | | | | | |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-743 | Collin Bezrouk | 10:00 - 10:20 | Investigating the Evolution of a Practical Distant Retrograde Orbit for Over 20,000 Years |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-628 | Mark Karpenko | 10:00 - 10:20 | A Micro-Slew Concept for Precision Pointing of the Kepler Spacecraft |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-639 | Jacob Darling | 10:00 - 10:20 | Minimization of the Kullback-Leibler Divergence for Nonlinear Estimation |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-582 | David Hinckley | 10:00 - 10:20 | Global Optimization of Interplanetary Trajectories in the Presence of Realistic Mission Constraints |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-770 | Diogo Sanchez | 10:20 - 10:40 | Searching for periodic and quasi-periodic orbits of spacecrafts on the Haumea system |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-643 | Daniel Jones | 10:20 - 10:40 | Hanging by a String: Attitude Control Methods and Reaction Wheel Sizing Analysis for EyasSat^3 |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-676 | Daniel Bryant | 10:20 - 10:40 | Fragmentation Event Tracking with the GM-CPHD Filter |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-613 | Craig Roberts | 10:20 - 10:40 | Early Mission Maneuver Operations for the Deep Space Climate Observatory Sun-Earth L1 Libration Point Mission |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-798 | Florent Deleflie | 10:40 - 11:00 | Long term evolution of the eccentricity in the MEO region, with a perturbed harmonic oscillator approach. |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-680 | Haichao Gui | 10:40 - 11:00 | Quaternion-Based Finite-Time Angular Velocity Observers for Spacecraft Attitude Tracking Maneuver |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-726 | Timothy Murphy | 10:40 - 11:00 | Orbit Determination for Partially Understood Object Via Matched Filter Bank |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-611 | Craig Roberts | 10:40 - 11:00 | Lissajous Orbit Control for the Deep Space Climate Observatory Sun-Earth L1 Libration Point Mission |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-803 | Inkwan Park | 11:00 - 11:20 | Analytical conversion of mean orbital elements into osculating elements for frozen orbit about asteroids |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-683 | Joshua Baculi | 11:00 - 11:20 | Fuzzy Model-Based Attitude Control of Solar Sailcraft via Linear Matrix Inequalities |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-730 | Javier Roa | 11:00 - 11:20 | Efficient trajectory propagation for orbit determination problems |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-616 | Robin Pinson | 11:00 - 11:20 | Rapid Generation of Optimal Asteroid Powered Descent Trajectories Via Convex Optimization |
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| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-802 | Jonathan Brown | 11:20 - 11:40 | Seasonal Variations of the James Webb Space Telescope Orbital Dynamics |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-686 | Sergei Tanygin | 11:20 - 11:40 | UNIFIED APPROACH TO VARIABLE-STRUCTURE TRACKING CONTROL IN VARIOUS ATTITUDE PARAMETERIZATIONS |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-767 | Eamonn Moyer | 11:20 - 11:40 | Sensor Bias Estimation and Uncertainty Quantification Strategies for Space Object Tracking |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-624 | Alan Didion | 11:20 - 11:40 | Guidance and Navigation of a Callisto-Io-Ganymede Triple Flyby Jovian Capture |
|  | | | | | |
| T-S1 Space Situational Awareness 2 | **Rocky A/B** | AAS 15-778 | John Warner | 11:40 - 0:00 | Characterizing the Effects of Low Order Perturbations on Geodetic Satellite Precision Orbit Determination |
| T-S2 Astrodynamics 2 | **Rocky C/D** | AAS 15-734 | Roberto Armellin | 11:40 - 12:00 | DEALING WITH UNCERTAINTIES IN INITIAL ORBIT DETERMINATION |
| T-S3 Attitude Dynamics and Control - 2 | **Primrose** | AAS 15-687 | Sergei Tanygin | 11:40 - 12:00 | UNIFIED APPROACH TO ADAPTIVE VARIABLE-STRUCTURE TRACKING CONTROL IN VARIOUS ATTITUDE PARAMETERIZATIONS |
| T-S4 Trajectory Design and Optimization - 3 | **Larkspur** | AAS 15-629 | Tim McElrath | 11:40 - 12:00 | SWITCHING PATHS AT THE LUNAR ‘ROUTER’: FINDING VERY LOW-COST TRANSFERS BETWEEN USEFUL TRAJECTORY SEQUENCES IN THE EARTH-MOON SYSTEM |
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| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-526 | Brent Barbee | 13:30 - 13:50 | Near-Earth Asteroids 2006 RH120 and 2009 BD: Proxies For Maximally Accessible Objects? |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-790 | Sanghyun Lee | 13:30 - 13:50 | Global Coverage for Large Lattice Flower Constellations |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-503 | David Hyland | 13:30 - 13:50 | Power Star: A New Approach to Space Solar Power |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-638 | Christopher Spreen | 13:30 - 13:50 | Interactive Node Placement Capability For Spacecraft Trajectory Targeting In An Ephemeris Model |
|  | | | | | |
| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-533 | David Antal-Wokes | 13:50 - 14:10 | Rosetta: Imaging Tools, Practical Challenges and Evolution of Optical Navigation around a Comet |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-806 | Kamesh Subbarao | 13:50 - 14:10 | An Object-Oriented Programming Framework for Cooperative Control of Large Groups of Small Spacecraft |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-644 | Thomas Carter | 13:50 - 14:10 | Planar Optimal Two-Impulse Transfers |
|  | | | | | |
| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-546 | Bryan Tester | 14:10 - 14:30 | Induced Fragmentation of Asteroids during Close Encounters |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-622 | Eric Butcher | 14:10 - 14:30 | Nonlinear Reduced Order Dynamics of Spacecraft Relative Motion for a Circular Chief Orbit |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-737 | Hirohito Ohtsuka | 14:10 - 14:30 | LAUNCH RESULTS OF GUIDANCE & CONTROL SYSTEM OF EPSILON ROCKET |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-645 | Thomas Carter | 14:10 - 14:30 | Planar Optimal Two-Impulse Closed-Form Solutions of Transverse Transfers |
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| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-553 | Haijun Shen | 14:30 - 14:50 | Towing Asteroids with Gravity Tractors Enhanced by Tethers and Solar Sails |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-623 | Jingwei Wang | 14:30 - 14:50 | Use of Nonlinearities for Increased Observability in Relative Orbit Estimation |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-754 | Suwat Sreesawet | 14:30 - 14:50 | NEURAL NETWORK BASED ADAPTIVE CONTROLLER FOR ATTITUDE CONTROL OF ALL-ELECTRIC SPACECRAFT |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-647 | SIHANG ZHANG | 14:30 - 14:50 | OPTIMAL ENERGY MANAGEMENT STEERING FOR LAMBERT’S PROBLEM USING HYBRID OPTIMIZATIONG METHOD |
|  | | | | | |
| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-564 | George Vardaxis | 14:50 - 15:10 | Impact Risk Assessment and Planetary Defense Mission Planning for Near-Earth Asteroids |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-640 | Hanspeter Schaub | 14:50 - 15:10 | Establishing a Formation of Small Satellites in a Lunar Flower Constellations |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-771 | Angadh Nanjangud | 14:50 - 15:10 | ATTITUDE DYNAMICS OF A NEAR-SYMMETRIC VARIABLE MASS CYLINDER |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-625 | Ahmad Bani Younes | 14:50 - 15:10 | AN ADAPTIVE APPROACH FOR MODIFFED CHEBYSHEV PICARD ITERATION |
|  | | | | | |
| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-567 | Bong Wie | 15:30 - 15:50 | Non-Nuclear MKIV (Multiple Kinetic Impactor Vehicle) Mission Concept for Pulverizing Small (50-150 m) Asteroids with Short Warning Times |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-705 | Bharat Mahajan | 15:30 - 15:50 | Analytic Solution For Satellite Relative Motion With Nonspherical Gravity Effects |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-777 | Michael Hychko | 15:30 - 15:50 | Satellite Magnetism: Torque Rods for EyasSat3 Attitude Control |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-664 | Demyan Lantukh | 15:30 - 15:50 | Multi-Objective Search for Multiple Gravity Assist Trajectories |
|  | | | | | |
| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-619 | Benjamin Villac | 15:50 - 16:10 | Organizing Ballistic Orbit Classes around Small Bodies |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-773 | Trevor Bennett | 15:50 - 16:10 | Continuous-Time Modeling and Control Using Linearized Relative Orbit Elements |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-784 | Bing Song | 15:50 - 16:10 | Circulant Zero-Phase Low-Pass Filter Design for Improved Robustification of Iterative Control |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-671 | Darren Garber | 15:50 - 16:10 | A New Method for Determining the Time of Flight on a Powered Flight Trajectory for Mission Planning & Design |
|  | | | | | |
| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-659 | Claudio Bombardelli | 16:10 - 16:30 | Contactless Ion Beam Asteroid Despinning |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-531 | Leonel Mazal | 16:10 - 16:30 | SPATIAL RESOLUTION IN DENSITY PREDICTION FOR DIFFERENTIAL DRAG RELATIVE MANEUVERING GUIDANCE |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-804 | Zixi Guo | 16:10 - 16:30 | Singularity Analysis of Control Moment Gyros on Gyroelastic Body |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-698 | Ahmad Bani Younes | 16:10 - 16:30 | HIGH-ORDER STATE TRANSITION TENSOR MODELS FOR THE UNCERTAINITY PROPAGATION OF PERTURBED ORBITAL MOTION |
|  | | | | | |
| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-665 | Antonio Fernando Prado | 16:30 - 16:50 | Tethered Gravity Assisted Maneuvers in Close Approach Asteroids to Acelerate a Spacecraft |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-653 | Chen Huan | 16:30 - 16:50 | Improved Teardrop Hovering Formation Control Strategy Based on Relative Orbit Elements |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-814 | Steven Queen | 16:30 - 16:50 | OVERVIEW OF THE ATTITUDE CONTROL SYSTEM DESIGN FOR THE MAGNETOSPHERIC MULTISCALE FORMATION |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-701 | Mohammad Alhulayil | 16:30 - 16:50 | EXPLOITING SYMMETRY IN HIGH ORDER TENSOR-BASED SERIES EXPANSION ALGORITHMS |
|  | | | | | |
| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-667 | Jay McMahon | 16:50 - 17:10 | On the Projection of Covariance Ellipsoids onto Non-planar Surfaces for Small Body Landing Analysis |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-677 | Kohei Fujimoto | 16:50 - 17:10 | Bridging Dynamical Modeling Effort and Sensor Accuracy in Relative Spacecraft Navigation |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-816 | Suyog Benegalrao | 16:50 - 17:10 | Generalized Momentum Control of the Spin-Stabilized Magnetospheric Multiscale Formation |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-702 | Mohammad Alhulayil | 16:50 - 17:10 | EXPLOITING SPARSITY IN TENSOR-BASED COMPUTATIONAL DIFFERENTIATION ALGORITHMS |
|  | | | | | |
| T-S8 Asteroid and Non Earth Orbiting Missions - 1 | **Rocky C/D** | AAS 15-699 | Jingyang Li | 17:10 - 17:30 | Asteroid Rendezvous Problem Part 1: Autonomous Rendezvous Guidance for Neighboring Relative Motion around Vesta |
| T-S6 Formation Flying and Relative Motion | **Rocky A/B** | AAS 15-747 | Sara Case | 17:10 - 17:30 | Libration Point Orbit Rendezvous Using Linearized Relative Motion Dynamics and Nonlinear Differential Correction |
| T-S5 Spacecraft GNC - 2 | **Primrose** | AAS 15-801 | GAGNQIANG LI | 17:10 - 17:30 | The Transverse Dynamic Motion Control of the Flexible Bare Electrodynamic Tether System |
| T-S7 Trajectory Design and Optimization - 4 | **Larkspur** | AAS 15-724 | Nathan Strange | 17:10 - 17:30 | Comparison of Overall Propulsion System Effectiveness for Orbit Insertion and Escape Maneuvers |

**Wednesday, August 12, 2015 - Sessions**

| **Session** | **Room** | | **Doc. #** | | **Presenter** | | **Title** | |
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| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-514 | Hanspeter Schaub | | 8:00 - 8:20 | | Geosynchronous Debris Conjunction Lead-Time Requirements for Autonomous Low-Thrust Disposal Guidance |
| W-S3 Attitude Dynamics and Control - 3 | | **Primrose** | AAS 15-504 | David Hyland | | 8:00 - 8:20 | | An Epitaxial Device for Momentum Exchange with the Vacuum State |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-537 | David Vallado | | 8:00 - 8:20 | | Updated Covariance Transformations for Satellite Flight Dynamics Operations |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-694 | Fabio Ferrari | | 8:00 - 8:20 | | Asteroid Impact Mission: a Possible Approach to Design Effective Close Proximity Operations to Release MASCOT-2 Lander |
|  | | | | | | | | |
| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-663 | Kevin Hernandez | | 8:20 - 8:40 | | Analytic Power Series Solutions for Two-Body and J2-J6 Trajectories and State Transition Models |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-648 | Lu Deng | | 8:20 - 8:40 | | ANALYSIS AND COMPARISON ON LS AND UKF FOR ORBIT ESTIMATION |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-706 | Kun Peng | | 8:20 - 8:40 | | FAST SEARCH ALGORITHM OF HIGH-PRECISION EARTH-MOON FREE-RETURN TRAJECTORY |
|  | | | | | | | | |
| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-515 | James Turner | | 8:40 - 9:00 | | Meridian Ellipse Continued Fraction Cartesian to Geodetic Transformation |
| W-S3 Attitude Dynamics and Control - 3 | | **Primrose** | AAS 15-646 | Dayung Koh | | 8:40 - 9:00 | | Attitude Dynamics of Spinning Satellites in an Elliptical Orbit |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-670 | Jeroen Geeraert | | 8:40 - 9:00 | | Improving Geolocation Accuracy through Refined Satellite Ephemeris Estimation in an Ill Conditioned System |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-728 | DAVID MORANTE | | 8:40 - 9:00 | | LOW-THRUST EARTH-ORBIT TRANSFER OPTIMIZATION USING ANALYTICAL AVERAGING WITHIN A SEQUENTIAL METHOD |
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| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-572 | Cody Short | | 9:00 - 9:20 | | Mode Analysis for Long-term Behavior in a Resonant Earth-Moon Trajectory |
| W-S3 Attitude Dynamics and Control - 3 | | **Primrose** | AAS 15-656 | Yuichi Tsuda | | 9:00 - 9:20 | | Generalized Attitude Model for Momentum-Biased Solar Sail Spacecraft |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-729 | Javier Roa | | 9:00 - 9:20 | | Generalized logarithmic spirals for low-thrust trajectory design |
|  | | | | | | | | |
| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-610 | Mai Bando | | 9:20 - 9:40 | | Satellite Formation-Keeping about Libration Points in the Presence of System Uncertainties |
| W-S3 Attitude Dynamics and Control - 3 | | **Primrose** | AAS 15-672 | Lilit Mazmanyan | | 9:20 - 9:40 | | ROBUST AND OPTIMAL FUZZY MODEL-BASED ATTITUDE CONTROL OF SPACECRAFT WITH FUEL SLOSHING |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-723 | Baichun Gong | | 9:20 - 9:40 | | Analytical Covariance Equations for Solutions to the Initial Relative Orbit Determination For Close-in Orbital Proximity Operations |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-756 | Jeffrey Stuart | | 9:20 - 9:40 | | Mission Design Analysis for the Martian Moon Phobos: Close Flybys, Missed Thrusts, and other In-Flight Entertainment |
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| **Break 9:40 - 10:00** | | | | | | | | |
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| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-615 | Rodney Anderson | | 10:00 - 10:20 | | Isolating Blocks as Computational Tools in the Circular Restricted Three-Body Problem |
| W-S3 Attitude Dynamics and Control - 3 | | **Primrose** | AAS 15-714 | Henry Yau | | 10:00 - 10:20 | | Frequency Response Based Repetitive Control Design for Linear Systems with Periodic Coefficients |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-738 | Johnny Worthy | | 10:00 - 10:20 | | Uncued Satellite Initial Orbit Determination Using Signals of Opportunity |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-758 | Nitin Arora | | 10:00 - 10:20 | | TRAJECTORIES FOR A NEAR TERM MISSION TO THE INTERSTELLAR MEDIUM |
|  | | | | | | | | |
| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-618 | Jeremy Petersen | | 10:20 - 10:40 | | End of Life Disposal for Three Libration Point Missions through Manipulation of the Jacobi Constant and Zero Velocity Curves |
| W-S3 Attitude Dynamics and Control - 3 | | **Primrose** | AAS 15-716 | Takuro Furumoto | | 10:20 - 10:40 | | Attitude Dynamics Modeling of Spinning Solar Sail under Optical Property Control |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-746 | Bryan Brown | | 10:20 - 10:40 | | Orbit Determination for Geosynchronous Spacecraft Across Unobserved Station-Keeping Maneuvers |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-766 | Andrew Goodyear | | 10:20 - 10:40 | | Optimal Low-Thrust Geostationary Transfer Orbit Design Using Legendre-Gauss-Radau Collocation |
|  | | | | | | | | |
| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-689 | Navid Nakhjiri | | 10:40 - 11:00 | | Space Partitioning Structures For Efficient Stability Map Generation |
| W-S3 Attitude Dynamics and Control - 3 | | **Primrose** | AAS 15-762 | Kaushik Basu | | 10:40 - 11:00 | | Time-Optimal Reorientation via Inverse Dynamics A Quaternion and Particle Swarm Formulation |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-752 | John Warner | | 10:40 - 11:00 | | On Comparing Precision Orbit Solutions of Geodetic Satellites Given Several Atmospheric Density Models |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-817 | Ossama Abdelkhalik | | 10:40 - 11:00 | | Piecewise Initial Trajectory Design Using Linearized Dynamic Models |
|  | | | | | | | | |
| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-696 | Hao Peng | | 11:00 - 11:20 | | TRANSFERRING TO THE MERCURY THROUGH PERIODIC LIBRATION POINT ORBITS IN THE ELLIPTIC SYSTEM |
| W-S3 Attitude Dynamics and Control - 3 | | **Primrose** | AAS 15-772 | Pitcha Prasitmeeboom | | 11:00 - 11:20 | | Using Quadratically Constrained Quadratic Programming to Design Repetitive Controllers: Application to Nonminimum Phase Systems |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-776 | Ryan Handzo | | 11:00 - 11:20 | | OBTAINING NAVIGATION OBSERVABLES FROM HIGH DEFINITION TELEVISION TOWERS |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-757 | Shankar Kulumani | | 11:00 - 11:20 | | SYSTEMATIC DESIGN OF OPTIMAL LOW-THRUST TRANSFERS FOR THE THREE-BODY PROBLEM |
|  | | | | | | | | |
| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-749 | Jin Haeng Choi | | 11:20 - 11:40 | | Design of Optimal Transfer Trajectory from Earth to L2 Lyapunov Orbit via L1 Lagrange point |
| W-S3 Attitude Dynamics and Control - 3 | | **Primrose** | AAS 15-779 | Nathan Houtz | | 11:20 - 11:40 | | Spacecraft Attitude Determination Simulation |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-780 | Byron Davis | | 11:20 - 11:40 | | The Impact of Intersatellite Range Measurements on the Orbit Determination of Satellite Constellations |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-719 | Ashwati Das | | 11:20 - 11:40 | | Solar Sail Transfers from Earth to the Lunar Vicinity in the Circular Restricted Problem |
|  | | | | | | | | |
| W-S2 Astrodynamics - 3 | | **Rocky C/D** | AAS 15-691 | Navid Nakhjiri | | 11:40 - 0:00 | | Convex Constraints on Stability for Impulsive Transfer Optimization |
| W-S1 Space Situational Awareness - 3 | | **Rocky A/B** | AAS 15-807 | Marc Balducci | | 11:40 - 12:00 | | Interplanetary Orbit Uncertainty Propagation Using Polynomial Surrogates |
| W-S4 Trajectory Design and Optimization - 5 | | **Larkspur** | AAS 15-693 | Andrea Turconi | | 11:40 - 12:00 | | SIMPLE GRAVITATIONAL MODELS AND CONTROL LAWS FOR AUTONOMOUS OPERATIONS IN PROXIMITY OF UNIFORMLY ROTATING ASTEROIDS |
|  | | | | | | | | |
| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-550 | Robert Maddock | | 13:30 - 13:50 | | Passive vs. Parachute System Trade For Robotic Sample Return Mission Studies |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-528 | Glenn Peterson | | 13:30 - 13:50 | | EXAMINATION OF POTENTIAL SOURCES OF SMALL HIGH DENSITY PARTICLES IN EARTH ORBIT |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-751 | Rees Fullmer | | 13:30 - 13:50 | | AN EXTENDED KALMAN SMOOTHER FOR DETERMINING UPPER ATMOSPHERE WIND VELOCITIES USING DATA FROM THE FALLING SPHERE PAYLOAD |
| W-S7 Trajectory Design and Optimization - 6 | | **Larkspur** | AAS 15-812 | Nagavenkat Adurthi | | 13:30 - 13:50 | | Conjugate Unscented Transformation Based Collocation Scheme to Solve the Hamilton Jacobi Bellman Equation |
|  | | | | | | | | |
| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-565 | Siamak Hesar | | 13:50 - 14:10 | | Sensitivity Analysis of the OSIRIS-REx Terminator Orbits to Random De-sat Maneuvers |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-534 | Brian Hansen | | 13:50 - 14:10 | | Containment of Moderate-Eccentricity Breakup Debris Clouds within a Maximum Isotropic Spreading Speed Boundary |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-782 | Laila Kazemi | | 13:50 - 14:10 | | Detection strategies for high-rate, low SNR star detections |
| W-S7 Trajectory Design and Optimization - 6 | | **Larkspur** | AAS 15-775 | Kathryn Davis | | 13:50 - 14:10 | | PROGRADE LUNAR FLYBY TRAJECTORIES FROM DISTANT RETROGRADE ORBITS |
|  | | | | | | | | |
| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-642 | Juliana Feldhacker | | 14:10 - 14:30 | | Shape Dependence of Kinetic Deflection for a Survey of Real Asteroids |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-545 | Chiara Tardioli | | 14:10 - 14:30 | | Comparison of non-intrusive approaches to uncertainty propagation in orbital mechanics |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-529 | Paolo Lunghi | | 14:10 - 14:30 | | A Multilayer Perceptron Hazard Detector for Vision-Based Autonomous Planetary Landing |
| W-S7 Trajectory Design and Optimization - 6 | | **Larkspur** | AAS 15-783 | Yinan Xu | | 14:10 - 14:30 | | Piece-wise Constant Charging Strategy For The Reconfiguration Of A 3-Craft Coulomb Formation |
|  | | | | | | | | |
| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-655 | Darren Hitt | | 14:30 - 14:50 | | A POLYHEDRAL-POTENTIAL APPROACH FOR EDUCATIONAL SIMULATIONS OF SPACECRAFT IN ORBIT ABOUT COMET 67P/Churyumov--Gerasimenko |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-557 | Piyush Mehta | | 14:30 - 14:50 | | DEBRIS REENTRY MODELING USING HIGH DIMENSIONAL DERIVATIVE BASED UNCERTAINTY QUANTIFICATION |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-660 | Daniele Mortari | | 14:30 - 14:50 | | Single-point Position Estimation in Interplanetary Trajectories using Star Trackers |
| W-S7 Trajectory Design and Optimization - 6 | | **Larkspur** | AAS 15-785 | Etienne Pellegrini | | 14:30 - 14:50 | | On the Accuracy of Trajectory State Transition Matrices |
|  | | | | | | | | |
| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-669 | Jay McMahon | | 14:50 - 15:10 | | Optimizing Small Body Gravity Field Estimation over Short Arcs |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-584 | William Whittecar | | 14:50 - 15:10 | | Petascale Discovery of Passively Controlled Satellite Constellations for Global Coverage |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-744 | Stoian Borissov | | 14:50 - 15:10 | | IMAGE PROCESSING OF EARTH AND MOON IMAGES FOR OPTICAL NAVIGATION SYSTEMS |
| W-S7 Trajectory Design and Optimization - 6 | | **Larkspur** | AAS 15-598 | Stijn De Smet | | 14:50 - 15:10 | | IDENTIFYING ACCESSIBLE NEAR-EARTH OBJECTS FOR CREWED MISSIONS WITH SOLAR ELECTRIC PROPULSION |
|  | | | | | | | | |
| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-681 | Samantha Rieger | | 15:30 - 15:50 | | ORBITAL STABILITY REGIONS FOR HYPOTHETICAL NATURAL SATELLITES OF 101955 BENNU (1999 RQ36) |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-586 | Jonathon Vallejo | | 15:30 - 15:50 | | Conjunction Assessment Risk Trending Using a Simple Functional Model in a Bayesian Framework |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-813 | Brian Bergh | | 15:30 - 15:50 | | Affine Invariant Tracking of Image Features Utilizing IMU Data |
|  | | | | | | | | |
| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-690 | Trevor Williams | | 15:50 - 16:10 | | Orbit Stability of OSIRIS-REx in the Vicinity of Bennu Using a High-Fidelity Solar-Radiation Model |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-602 | Liam Healy | | 15:50 - 16:10 | | Posterior distribution of an orbital ensemble from position-only observations |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-547 | Nermin Caber | | 15:50 - 16:10 | | Feedback Tracking Control Based On A Trajectory-Specific Finite-Time Causal Inverse |
| W-S7 Trajectory Design and Optimization - 6 | | **Larkspur** | AAS 15-800 | Georges Krier | | 15:50 - 16:10 | | Fast and robust optimization of high fidelity low thrust transfer orbits with constraints |
|  | | | | | | | | |
| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-721 | Samuel Ximenes | | 16:10 - 16:30 | | Inflatable Sail for Asteroid Capture |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-631 | Hyun Chul Ko | | 16:10 - 16:30 | | Maneuver Detection with Event Representation using Thrust-Fourier-Coefficients |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-548 | Zhaohui Wang | | 16:10 - 16:30 | | Thrust Vector Control of Upper Stage with Uncertainty of the Centroid |
|  | | | | | | | | |
| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-739 | Michele Lavagna | | 16:30 - 16:50 | | The European Asteroid Impact Mission: phase A design and Mission Analysis |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-635 | Francois Sanson | | 16:30 - 16:50 | | NOISE QUANTIFICATION IN OPTICAL OBSERVATIONS OF RESIDENT SPACE OBJECTS FOR PROBABILITY OF DETECTION AND LIKELIHOOD |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-554 | Jianjun Luo | | 16:30 - 16:50 | | MULTI-CONSTRAINT HANDLING AND A MIXED INTEGER PREDICTIVE CONTROLLER FOR SPACE ROBOTS WITH OBSTACLE AVOIDANCE |
| W-S7 Trajectory Design and Optimization - 6 | | **Larkspur** | AAS 15-682 | Yanning Guo | | 16:30 - 16:50 | | Fuel-efficient Planetary Landing Guidance with Hazard Avoidance |
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| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-786 | Reza Raymond Karimi | | 16:50 - 17:10 | | PREDICTION OF ASTEROID TRAJECTORY DEFLECTION DUE TO ALBEDO CHANGE: An APPLICATION TO APOPHIS DEFLECTION |
| W-S6 Orbital Debris and Conjunction Analysis | | **Rocky A/B** | AAS 15-697 | Jacco Geul | | 16:50 - 17:10 | | REGULARISED METHODS FOR HIGH-EFFICIENCY PROPAGATION |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-788 | Brian Kester | | 16:50 - 17:10 | | Incorporating Angular Rate Sensors for Derivative Control of an Educational CubeSat |
| W-S7 Trajectory Design and Optimization - 6 | | **Larkspur** | AAS 15-794 | Anthony Genova | | 16:50 - 17:10 | | A Free-Return Earth-Moon Cycler Orbit for an Interplanetary Cruise Ship |
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| W-S8 Asteroid and Non Earth Orbiting Missions | | **Rocky C/D** | AAS 15-700 | Jingyang Li | | 17:10 - 17:30 | | Asteroid Rendezvous Problem Part 2: Autonomous Rendezvous Guidance for Distant Relative Motion around Vesta |
| W-S5 Spacecraft GNC - 3 | | **Primrose** | AAS 15-593 | Xiucong Sun | | 17:10 - 17:30 | | A Two-Tiered Approach to Spacecraft Positioning from Significantly Biased Gravity Gradient Measurements |
| W-S7 Trajectory Design and Optimization - 6 | | **Larkspur** | AAS 15-708 | Fenglei WU | | 17:10 - 17:30 | | ORBIT TYPE SELECTION AND ORBIT KEEPING ANALYSES FOR RELAY SATELLITES AROUND THE EARTH-MOON L2 |

**ThuRsday, August 13, 2015 - Sessions**

| **Session** | **Room** | | | **Doc. #** | | **Presenter** | | | **Title** |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-508 | | Xiangyuan Zeng | | 8:00 - 8:20 | Equilibrium Points of Elongated Celestial Bodies as The Perturbed Rotating Mass Dipole | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-709 | | Chiara Tardioli | | 8:00 - 8:20 | COLLISION AND RE-ENTRY ANALYSIS UNDER ALEATORY AND EPISTEMIC UNCERTAINTY | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-818 | | Marcin Pilinski | | 8:00 - 8:20 | Physics-Based Assimilative Atmospheric Modeling for Satellite Drag Specification and Forecasts | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-654 | | Leonel Palacios | | 8:00 - 8:20 | Close-Maneuvering Spacecraft Formation Flying via Immersion and Invariance Adaptive Control | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-510 | | SIHANG ZHANG | | 8:20 - 8:40 | FORMATION FLYING CONSTANT LOW-THRUST CONTROL MODEL BASED ON RELATIVE ORBIT ELEMENTS | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-710 | | Melissa Zemoura | | 8:20 - 8:40 | Impacts of debris removal on future near-Earth-orbit population & Selection of targets at short and long terms | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-592 | | Vladimir Martinusi | | 8:20 - 8:40 | Analytic models for drag-assisted rendezvous and proximity maneuvers | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-692 | | Boyan Jiang | | 8:20 - 8:40 | Stationkeeping control of real Earth-Moon collinear libration points using NMPC | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-524 | | Cyrus Foster | | 8:40 - 9:00 | Orbit Determination and Differential-Drag Control of Planet Labs Cubesat Constellations | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-576 | | Carolin Frueh | | 8:40 - 9:00 | Observability of Space Debris | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-741 | | Craig McLaughlin | | 8:40 - 9:00 | Drag Coefficients and Neutral Density Estimation for the ANDE Satellites | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-695 | | Juan Luis Gonzalo | | 8:40 - 9:00 | Optimal Low Thrust Orbit Correction in Curvilinear Coordinates | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-603 | | Justin Atchison | | 9:00 - 9:20 | Review of Mission Design and Navigation for the Van Allen Probes Primary Mission | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-740 | | Dilshad Veettil | | 9:00 - 9:20 | A UKF-PF based Hybrid Estimation Scheme for Space Object Tracking | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-742 | | Benjamin Margolis | | 9:00 - 9:20 | Model Predictive Control of Planetary Aerocapture Using Takagi-Sugeno Fuzzy Model | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-707 | | Kendrick Amezquita | | 9:00 - 9:20 | PID Tuning Using Genetic Algorithm in Three Axis Stabilized CubeSats | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-604 | | Junquan Li | | 9:20 - 9:40 | ORBIT AND ATTITUDE STABILITY CRITERIA OF SOLAR SAIL ON THE DISPLACED ORBIT | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-745 | | Weston Faber | | 9:20 - 9:40 | A Randomized Sampling based Approach to Multi-Object Tracking with comparison to HOMHT | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-748 | | Zachary Putnam | | 9:20 - 9:40 | Analytical Assessment of Drag-Modulation Trajectory Control for Planetary Entry with Application to Real-Time Guidance | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-711 | | Roberto Furfaro | | 9:20 - 9:40 | Optimal Collision-Avoidance Guidance for Rendezvous in Cluttered Environments via Extreme Learning Machines | |
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| **Break 9:40 - 10:00** | | | | | | | | | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-632 | | Ryan Woolley | | 10:00 - 10:20 | SEP Mission Design Space for Mars Orbiters | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-769 | | Andrew Sinclair | | 10:00 - 10:20 | Singular Maneuvers in Angles-Only Initial Relative-Orbit Determination | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-753 | | Ricky Jedrey | | 10:00 - 10:20 | Hyperbolic Rendezvous at Mars: Risk Assessments and Mitigation Strategies | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-712 | | Roberto Furfaro | | 10:00 - 10:20 | Relative Optical Navigation Around Small Bodies via Extreme Learning Machines: Preliminary Results | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-657 | | Try Lam | | 10:20 - 10:40 | Europa Clipper Mission Concept: Trajectory Design Trades and Challenges | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-760 | | Jin Haeng Choi | | 10:20 - 10:40 | EFFECTS OF ATMOSPHERIC DENSITY MODELS AND ESTIMATION TECHNIQUES ON UNCONTROLLED RE-ENTRY PREDICTION | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-720 | | Christopher Roscoe | | 10:20 - 10:40 | CubeSat Proximity Operations Demonstration (CPOD) Mission: End-to-End Integration and Mission Simulation Testing | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-661 | | Claudio Bombardelli | | 10:40 - 11:00 | Compact Solution of Circular Orbit Relative Motion in Curvilinear Coordinates | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-617 | | Christopher McGrath | | 10:40 - 11:00 | DISTRIBUTED COMPUTATION FOR REAL-TIME FOOTPRINT GENERATION | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-765 | | Carlos Marc Alberto Deccia | | 10:40 - 11:00 | PRELIMINARY DESIGN OF A MULTI-SPACECRAFT MISSION TO INVESTIGATE SOLAR SYSTEM EVOLUTION USING SOLAR ELECTRIC PROPULSION | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-732 | | Weihua Ma | | 10:40 - 11:00 | DIRECTIVE POSITIONING AND AUTONOMOUS NAVIGATION ALGORITHM BASED ON DUAL CONE-SCANNING HORIZON SENSOR/STAR SENSOR | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-761 | | Atri Dutta | | 11:00 - 11:20 | GRASP ALGORITHM FOR MULTI-RENDEZVOUS MISSION PLANNING WITH OPTIMIZED TRIP TIMES | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-630 | | Paul Frontera | | 11:00 - 11:20 | Analysis of Hyper-pseudospectral Transformation of Random Variables | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-787 | | Xiaosheng Xin | | 11:00 - 11:20 | DYNAMICAL SUBSTITUTES OF EQUILIBRIUM POINTS OF ASTEROIDS UNDER SOLAR RADIATION PRESSURE | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-736 | | Ann Dietrich | | 11:00 - 11:20 | Autonomous Observation Planning with Flash LIDAR around Small Bodies | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-678 | | Alex Perez | | 11:20 - 11:40 | Applications of Relative Satellite Motion Modeling using Curvilinear Coordinate Frames | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-755 | | Joshua Sullivan | | 11:20 - 11:40 | Observability Assessment of Angles-Only Relative Navigation Using Different State Representations | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-815 | | Dean Chai | | 11:20 - 11:40 | ORBITAL MANEUVERING SYSTEM DESIGN AND PERFORMANCE FOR THE MAGNETOSPHERIC MULTISCALE FORMATION | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-810 | | Kumar Vishwajeet | | 11:20 - 11:40 | Random Matrix based Approach for Statistical Analysis of the Optimal Linear Attitude Estimator | |
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| R-S2 Astrodynamics - 4 | | **Juniper Room** | AAS 15-679 | | Alex Perez | | 11:40 - 12:00 | Relative Satellite Motion Optimal Control using Convex Optimization | |
| R-S3 Orbital Debris Analysis and Uncertainty Propagation | | **Rocky A/B** | AAS 15-536 | | Ernest Bowden | | 11:40 - 12:00 | USING IN-FLIGHT NAVIGATION INFORMATION TO CREATE A DEFINED 3-D FORMATION OF TWENTY-FOUR DEPLOYED SUB-PAYLOADS | |
| R-S4 Space Environment and Spacecraft GNC | | **Rocky C/D** | AAS 15-520 | | Leonel Mazal | | 11:40 - 12:00 | Rendezvous via Differential Drag with Uncertainties in the Drag Model | |
| R-S1 Spacecraft GNC - 4 | | **Blue Spruce** | AAS 15-517 | | James Turner | | 11:40 - 12:00 | Differential geometry for Motion Along a rotating ellipse for Remote Sensing | |