**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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |