GRADUATE AND UNDERGRADUATE HONORS THESES SUPERVISED

Current Students

Ph.D. Students

Student Name	Dissertation Topic
Davide Conte	TBD

M.S. Students

Student Name	Thesis Topic
Skyler Shuford	Non-coplanar Earth Moon Trajectory Design (working title)
Andrew Goodyear	Entry, Descent and Landing Optimization (working title)
Jason Reiter	TBD
Mark Bolden	TBD
Peter Scarcella	TBD
Koundinya (Ken) Kuppa	TBD
Mollik Nayyar	TBD

Former Students

Ph.D. Students

Student Name	Date	Dissertation Title
Andrew Abraham (Lehigh Univ.)	5/14	Particle Swarm Optimization of Low-Thrust, Geocentric-to-Halo-Orbit Transfers
Patrick Williams	12/12	Managing Space Situational Awareness Using the Space Surveillance Network
Young Tae Ahn	12/12	Attitude Dynamics and Control of a Spacecraft Using Shifting Mass Distributions
Jung Soo Kim (co-advise with J. Urbina)	8/11	Improvement in Thermospheric Neutral Density Estimation of the Numerical TIE-GCM
Julio Benavides	12/10	Trajectory Design Using Approximate Analytic Solutions of the N-Body Problem
Christopher Scott	5/10	Transfer and Capture into Distant Retrograde Orbits
Matthew Ferringer	8/09	General Framework for the Reconfiguration of Satellite Constellations
Hideaki Yamato	8/03	Trajectory Design Methods for Restricted Problems of Three Bodies with Perturbations

M.S. Students

Student Name	**Date**	**Thesis Title**
Lawrence DiGirolamo	12/14	A Hybrid Stochastic Mition Planning Algorithm for Safe and Efficient, Close Proximity, Autonomous Spacecraft Missions
J.P. Muncks	12/14	An Investigation into the Accuracy of Orbit Determination Methods for Planetary Landers
Michael Policelli	8/14	Hybridized Vertical Takeoff Vertical Landing Spacecraft Trajectory Optimization via Direct Collocation and Evolutionary Algorithms
Davide Conte	5/14	Determination of the Optimal Earth-Mars Trajectories to Target the Moons of Mars
Christopher Hassa (co-advise with S. Bilén)	12/13	Drag Coefficient Estimation Using Satellite Attitude and Orbit Data
Philip Myers	5/13	Application of a Multi-Objective Evolutionary Algorithm to Spacecraft Stationkeeping
Brian Shank	5/13	Development of an Optimized Lambert Problem Solver for Targeting Elliptical Orbits
Christopher Polito	5/11	The Effect of Variable Initial Uncertainty on the Probability of Asteroid-Earth Collisions
Christopher Binz	5/10	Designing for the Space Environment via Trade Space Exploration
Dan Jordan	5/09	Trade Space Application of Trade Space Visualization to Discrete and Continuous Complex Dynamical Systems
Patrick Williams	5/09	Using Numerical Optimization Techniques and General Perturbation Equations to Find Optimal Near-Earth Orbit Transfers
Jung Soo Kim	5/08	Numerical Comparison and Calibration of Atmospheric Density Models
Julio Benavides	5/07	Orbit Insertion into Triangular Libration Points in the Restricted Three-Body Problem
Theodore Stodgell	12/06	Multiobjective Evolutionary Optimization of Satellite Rendezvous Tours

Denise Brown	12/06	Optimal Maneuver Determination for Formation Flying Satellite Constellations
Jeffrey O'Malley	8/06	Formation Flight Control Near a Collinear Libration Point for Interferometric Aperture Plane Modeling
Christopher Bessette	5/06	Optimal Interplanetary Trajectories via Evolutionary Algorithms
Abraham Mathew	8/05	Incorporating Cooperative Learning Activities into Traditional Aerospace Engineering Curricula
Dennis Haeberle	5/05	Investigation of Interplanetary Navigation Using Large Antenna Arrays with Varied Baselines
Ryan Kobrick	5/05	Optimizing Trajectories for Suborbital Human Spaceflight
Chris Scott	5/05	Optimal Bounded Low-Thrust Reconfiguration for Close Proximity Earth Orbiting Satellites
Matthew Ferringer	5/05	Satellite Constellation Design Optimization via Multiple-Objective Evolutionary Computation
Matthew Wissler	5/05	An Orbit Stability Analysis Method Applied to Trajectories for the Dawn Spacecraft Near Vesta
Jugo Igarashi	8/04	Optimal Continuous Thrust Orbit Transfers Using Evolutionary Algorithms
Phill-Sun Hur	5/04	Attitude Determination and Control of a Spinning Nanosatellite Using the Geomagnetic Field Data and Sun Sensors
Keith Akins	12/03	Dynamic Atmosphere Modeling for Precision Orbit Determination
Young Tae Ahn	8/02	Optimal Reconfiguration of Formation Flying Satellites
Anthony Faulds	5/02	Satellite Collision Analysis Using Genetic Algorithms, Parallel Processing and Stochastic Methods
Young Ha Kim	5/01	Optimal Rendezvous of Spacecraft Using Genetic Algorithms

B.S. Honors Students

Student Name	**Date**	**Thesis Title**
Davide Conte	5/14	Survey of Earth-Mars Trajectories Using Lambert's Problem and Applications

Jessica Tramaglini	5/09	A Revisitation of the GPS Constellation Build Up Process
Phillip Ansell	12/08	A Comparison of Spacecraft Relative Motion Models about a Small Body
Donald Sampson (Eng. Sci. & Mech.)	12/04	Reconfigurable Control of Dynamical Systems to Compensate for Failure
Josh Geiple	12/03	Orbit Optimization Study for the Mars Microsatellite Atmospheric Research Constellation
Martin Ozimek	12/03	Mars Science Laboratory Abort Entry Study and Abort Guidance Development
Rebecca Thomas	12/03	Analysis of Differential Correction Accuracy in Low-Earth Orbit Satellites
William Chadwick	5/03	Utilization of Martian Moons for Precision Navigation for Mars Missions
David Navara	5/03	Formation Flying Satellite Reconfiguration During Build-up
Chris Scott	5/03	The Effects of Right Ascension on Orbit Lifetime in the Restricted Three Body Problem
Daniel Silianoff	12/02	Error Modeling for Space Debris Analysis
Chris Ranieri	12/01	The Analysis and Modeling of the Deployment of NASA's X-38 Parafoil
Sara Sheffler	12/01	Dynamic Atmospheric Effects on Satellite Orbits