Riccardo Bevilacqua

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Education

Ph.D., Mathematical Methods and Models for Applied Sciences, University of Rome, "La Sapienza", Rome, Italy, 2007.
Laurea Degree (5 years, cum laude), Aerospace Engineering, University of Rome, "La Sapienza", Rome, Italy, 2002.

Professional Employment

Professor, Aerospace Engineering Department, Embry-Riddle Aeronautical University, Daytona Beach Campus. 2021-current.
Associate Professor (Preeminence Initiative), Mechanical and Aerospace Engineering Department University of Florida. 2014-2021.
Assistant Professor, Mechanical, Aerospace, and Nuclear Engineering Department, Rensselaer Polytechnic Institute. 2010-2014.
US National Research Council Post-Doctoral Fellow, Naval Postgraduate School, Monterey, CA. 2007-2010.
Project engineer, Grupo Mecànica del Vuelo (GMV), Tres Cantos, Madrid, Spain. 2003

Honors and Awards

UF Term Professorship Award (2019-2021)
Academic Tenure, University of Florida, 2016.
Air Force, Summer Faculty Fellowship Program (SFFP) Award, 2012, 2015, 2019, 2020, 2021.
Dave Ward Memorial Lecture Award from the Aerospace Control and Guidance Systems Committee, 2014.
Office of Naval Research, Young Investigator Award, 2013.
Air Force Office of Scientific Research, Young Investigator Award, 2012.
Full Member of the International Academy of Astronautics (IAA)
Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA)
Fellow of the American Astronautical Society (AAS)
Excellent Reviewer for the Journal of Guidance, Control, and Dynamics (JGCD) between Oct. 1, 2015 – Sept. 30, 2016
US National Research Council Post-Doctoral Fellowship, 2007-2010.
Ariadna Project Award (**European Space Agency Advanced Concepts Team**), 2005.

Research Experience

Warhead fragmentation predictions using machine learning, Low Earth Orbit atmospheric modeling, Autonomous Multi-robot System, Spacecraft Proximity Operations (Rendezvous and Docking), Coordinated Control, Dynamical Systems, Robotics, Control of Flexible Manipulators, Real Time Optimization and Trajectory Generation, Real Time Code Generation, Attitude Dynamics and Control
For experimental research videos, please visit
http://www.riccardobevilacqua.com/multimedia.html

Teaching Experience

At ERAU: Space Mechanics
At UF: Analytical Dynamics, Astrodynamics, Aerospace Design 1 (capstone senior), Spacecraft Attitude Estimation and Control
At RPI: Space Vehicle Design (capstone senior), Trans-atmospheric Vehicle Design (capstone senior), Spacecraft Attitude Dynamics, Modeling and Control of Dynamic Systems, Nano-Spacecraft for Earth Science
Invited Lecturer at NPS: Advanced Mechanics & Orbital Robotics, Spacecraft Attitude Determination and Control, Introduction to Spacecraft Rotational Dynamics.
Teaching Assistant in Rome, Italy: Orbital Mechanics, Mechanics.

Affiliations

Former Member of the Guidance, Navigation & Control Technical Committee, Modeling and Simulation Technical Committee, Young Professional Committee, and Small satellite technical committee.
Member of the American Astronautical Society (AAS).

	Member of American Society for Engineering Education (ASEE).
	Former Member of the of the Aerospace Guidance and Controls Systems Committee (AGCSC)
LANGUAGES	Fluent in English and Spanish, Italian mother tongue
COMPUTING SKILLS	Operating Systems: Linux, RTAI Linux, UNIX, Windows. CAD: Autocad. Programming: Fortran, C, Matlab. More: Latex, MS Office, Matlab (Simulink), Mathcad, XPCtarget, RTAI Linux and Embedded Matlab, Systems Tool KIT (STK) Certified.
ADVISING ACTIVITIES	Advising 1 PhD student (one NASA Fellow). Graduated 7 PhD. Graduated 9 MSc.
EDITOR ACTIVITIES	Acta Astronautica and the Journal of Small Satellites
SERVICE	Proposer and organizer of the 1st 2nd and 3rd IAA conferences on space situational awareness: Orlando, FL, Nov. 2017, Washington, DC, Jan 2020, and Madrid, Spain, September 2021: www.icssa2022.com Reviewer for AIAA, Elsevier and IEEE journals. Panelist for NSF, NASA, and DoD programs.
SERVICE AT UF	Former Co-chair of the Graduate Recruiting and Admissions Committee. Former Member of the Faculty Search Committee. Faculty Senator.
PUBLICATIONS	All available online at http://www.riccardobevilacqua.com/publications.html

JOURNALS

53. Camilo Riano-Rios, Alberto Fedele, Riccardo Bevilacqua, "Roto-Translational Control of Spacecraft in Low Earth Orbit Using Environmental Forces and Torques", Applied Sciences, 11, 4606. https://doi.org/10.3390/app11104606

52. Omkar Mulekar, Riccardo Bevilacqua, Elisabetta Jerome, Thomas Hatch, "A Transfer Function to Predict Warhead Fragmentation In-Flight Behavior from Static Data" accepted, to appear in the AIAA Journal.

51. Sanny Omar, Camilo Riano-Rios, Riccardo Bevilacqua, "The Drag Maneuvering Device for the Semi-Passive Three-Axis Attitude Stabilization of Low Earth Orbit Nanosatellites', the Journal of Small Satellites (JoSS), Vol. 10, No. 01 (Feb. 2021), pp. 943–957.

50. Camilo Riano-Rios, Runhan Sun, Riccardo Bevilacqua, Warren Dixon, "Aerodynamic and Gravity Gradient based Attitude Control for CubeSats in the presence of Environmental and Spacecraft Uncertainties", Acta Astronautica, Volume 180, March 2021, Pages 439-450, https://doi.org/10.1016/j.actaastro.2020.12.038.

49. Runhan Sun, Camilo Riano-Rios, Riccardo Bevilacqua, Norman Fitz-Coy, Warren Dixon, "CubeSat Adaptive Attitude Control with Uncertain Drag Coefficient and Atmospheric Density", JOURNAL OF GUIDANCE, CONTROL, AND DYNAMICS, published online Dec. 2020: https://doi.org/10.2514/1.G005515

48. Francesco Scialla, Riccardo Bevilacqua. "Innovazione e Marina Militare. Le minacce all'uso dello spazio", Rivista Marittima (Italian Navy Magazine), July-August 2020. Pages 58-63.

47. Patrick Kelly, Riccardo Bevilacqua. 2020 Geostationary Debris Mitigation Using Minimum Time Solar Sail Trajectories with Eclipse Constraints. Optim Control Appl Meth. 2020; 1–26. DOI: 10.1002/oca.2676 .

46. Camilo Riano-Rios, Riccardo Bevilacqua, Warren E. Dixon. 2020 Differential Drag-Based Multiple Spacecraft Maneuvering and On-Line Parameter Estimation Using Integral Concurrent Learning, Acta Astronautica, Volume 174, September 2020, Pages 189-203, https://doi.org/10.1016/j.actaastro.2020.04.059

45. Camilo Riano-Rios, Riccardo Bevilacqua, Warren E. Dixon. 2020 Adaptive Control for Differential Drag-Based Rendezvous Maneuvers with an Unknown Target. Invited for an Acta Astronautica Special Issue associated with the 2nd International Academy of Astronautics Conference on Space Situational Awareness. 8 pages In press, available online at https://doi.org/10.1016/j.actaastro.2020.03.011

44. S. Omar(g) and R. Bevilacqua, " Spacecraft Collision Avoidance using Aerodynamic Drag", AIAA Journal of Guidance, Control, and Dynamics, Vol. 43, No. 3, March 2020. https://arc.aiaa.org/doi/10.2514/1.G004518

43. P. Kelly and R. Bevilacqua, " An Optimized Analytical Solution for Geostationary Debris Removal Using Solar Sails", accepted, to appear on Acta Astronautica. Online at https://doi.org/10.1016/j.actaastro.2019.05.055

42. Sanny Omar and Riccardo Bevilacqua, "Hardware and GNC Solutions for Controlled Spacecraft Re-Entry using Aerodynamic Drag", Volume 159, June 2019, Pages 49-64, Acta Astronautica.

41. G. Di Mauro, D. Spiller, R. Bevilacqua, S. D'Amico, "Spacecraft Formation Flying Reconfiguration with Extended and Impulsive Maneuvers", Volume 356, Issue 6, April 2019, Pages 3474-3507, The Journal of the Franklin Institute.

40. S. Rafano, S. Omar, D. Guglielmo, R. Bevilacqua, "SAFETY ANALYSIS FOR SHALLOW CONTROLLED RE-ENTRIES THROUGH REDUCED ORDER MODELING AND INPUTS' STATISTICS METHOD", Volume 155, February 2019, Pages 426-447, Acta Astronautica.

39. S. Omar, R. Bevilacqua, "GUIDANCE, NAVIGATION, AND CONTROL SOLUTIONS FOR SPACECRAFT RE-ENTRY POINT TARGETING USING AERODYNAMIC DRAG", Volume 155, February 2019, Pages 389-405, Acta Astronautica.

38. G. Di Mauro, D. Spiller, S. F. Rafano Carnà, and R. Bevilacqua. "Minimum-Fuel Control Strategy for Spacecraft Formation Reconfiguration via Finite-Time Maneuvers", Journal of Guidance, Control, and Dynamics, Vol. 42, No. 4 (2019), pp. 752-768.

37. S. Rafano and R. Bevilacqua, "High fidelity model for the atmospheric re-entry of CubeSats equipped with the Drag De-Orbit Device", Volume 156, March 2019, Pages 134-156, Acta Astronautica.

36. D. Guglielmo, S. Omar, R. Bevilacqua, et al., "Drag De-Orbit Device - A New Standard Re-Entry Actuator for CubeSats", Journal of Spacecraft and Rockets, Vol. 56, No. 1 (2019), pp. 129-145.

35. G. Di Mauro, R. Bevilacqua, D. Spiller, J. Sullivan, S. D'Amico, "Continuous Maneuvers for Spacecraft Formation Flying Reconfiguration Using Relative Orbit Elements", Volume 153, December 2018, Pages 311-326, Acta Astronautica.

34. Patrick Kelly, Riccardo Bevilacqua, Leonel Mazal, Richard Erwin, "TugSat: Removing Space Debris from Geostationary Orbits Using Solar Sails", Journal of Spacecraft and Rockets, Vol. 55, No. 2 (2018), pp. 437-450.

33. G. Di Mauro, M. Lawn, R. Bevilacqua, " Survey on Guidance Navigation and Control Requirements for Spacecraft Formation Flying Missions", Vol. 41, No. 3 (2018), pp. 581-602. Journal of Guidance, Control, and Dynamics.

32. M. Lawn, G. Di Mauro, R. Bevilacqua, "Guidance Solutions for Spacecraft Planar Rephasing and Rendezvous Using Input Shaping", Journal of Guidance, Control, and Dynamics. Vol. 41, No. 1 (2018), pp. 255-267.

31. Sanny Omar, Riccardo Bevilacqua, et al., "Spacecraft De-Orbit Point Targeting using Aerodynamic Drag", Vol. 40, No. 10 (2017), pp. 2646-2652, Journal of Guidance, Control, and Dynamics.

30. Vincenzo Pesce, Michèle Lavagna, Riccardo Bevilacqua, "Stereovision-based pose and inertia estimation of unknown and uncooperative space objects", Advances in Space Research, Volume 59, Issue 1, 1 January 2017, Pages 236-251 .

29. David Guglielmo, David Perez, Riccardo Bevilacqua, Leonel Mazal, "Spacecraft Relative Guidance via Spatio-Temporal Resolution in Atmospheric Density Forecasting", Volume 129, December 2016, Pages 32–43, Acta Astronautica. http://dx.doi.org/10.1016/j.actaastro.2016.08.016

28. Daniele Gallardo, Onkar Sahni, Riccardo Bevilacqua, "Hammerstein-Wiener based Reduced-Order Model for Vortex-Induced Non-Linear Fluid-Structure Interaction", Engineering with Computers, 2016, DOI 10.1007/s00366-016-0467-9.

27. Leonel Mazal, David Perez, Riccardo Bevilacqua, Fabio Curti, "Spacecraft Rendezvous by Differential Drag under Uncertainties", AIAA Journal of Guidance, Control, and Dynamics, Vol. 39, No. 8 (2016), pp. 1721-1733.

26. Leone Guarnaccia, Riccardo Bevilacqua, and Stefano Pastorelli, "Suboptimal LQR-based Spacecraft Full Motion Control: Theory and Experimentation", Acta Astronautica 122 (2016) 114–136. http://dx.doi.org/10.1016/j.actaastro.2016.01.016

25. David Pérez and Riccardo Bevilacqua. 2016 "Differential Drag-Based Reference Trajectories for Spacecraft Relative Maneuvering Using Density Forecast", AIAA Journal of Spacecraft and Rockets, Vol. 53, No. 1 (2016), pp. 234-239.

24. Mirko Pastorelli, Riccardo Bevilacqua, and Stefano Pastorelli, "Differential-drag-based roto-translational control for propellant-less spacecraft", Acta Astronautica, Vol. 114, pp. 6-21, 2015. DOI 10.1016/j.actaastro.2015.04.014
http://www.sciencedirect.com/science/article/pii/S0094576515001708#

23. David Perez, Riccardo Bevilacqua, "NEURAL NETWORK based calibration of atmospheric density models", Acta Astronautica 110 (2015) 58–76. doi:10.1016/j.actaastro.2014.12.018

22. K. Saulnier, D. Pérez, Rosemary Huang, D. Gallardo, G. Tilton, R. Bevilacqua, "A Six-degree-of-freedom Hardware-in-the-loop Simulator for Small Spacecraft", Acta Astronautica 105 (2014) 444–462, DOI: 10.1016/j.actaastro.2014.10.027

21. Riccardo Bevilacqua, David Perez "Guidance and Control for Spacecraft Planar Re-phasing via Input Shaping and Differential Drag", Nonlinear Dynamics and Systems Theory, 14 (4) (2014) 335–354.

20. David Perez and Riccardo Bevilacqua, "Lyapunov-based Adaptive Feedback for Spacecraft Planar Relative Maneuvering via Differential Drag", Vol. 37, No. 5 (2014), pp. 1678-1684, AIAA Journal of Guidance, Control, and Dynamics.

19. Riccardo Bevilacqua and Thomas Alan Lovell, "ANALYTICAL GUIDANCE FOR SPACECRAFT RELATIVE MOTION UNDER CONSTANT THRUST USING RELATIVE ORBIT ELEMENTS", Acta Astronautica, Volume 102, September–October 2014, Pages 47–61, doi 10.1016/j.actaastro.2014.05.004.

18. David Pérez, Brendt Wohlberg, Thomas Lovell, Michael Shoemaker, and Riccardo Bevilacqua, "ORBIT-CENTERED ATMOSPHERIC DENSITY PREDICTION USING ARTIFICIAL NEURAL NETWORKS", Acta Astronautica 98C (2014), pp. 9-23. Doi: 10.1016/j.actaastro.2014.01.007.

17. Riccardo Bevilacqua, "Analytical Guidance Solutions for Spacecraft Planar Re-phasing via Input-Shaping", AIAA Journal of Guidance, Control, and Navigation, Vol. 37, No. 3 (2014), pp. 1042-1047.

16. Daniele Gallardo, Nader Vadiee, Riccardo Bevilacqua, "An Instructional Wind Tunnel as Learning Platform for Science Technology Engineering and Mathematics at a National Indian Community College", International Journal of Pedagogical Innovations, Vol 2, No. 1, 7-16 (Jan. 2014)

15. Gallardo, D., Bevilacqua, R., Sahni, O., "Data-based hybrid reduced order modeling for vortex-induced nonlinear fluid–structure interaction at low Reynolds numbers", Journal of Fluids and Structures (2013). http://dx.doi.org/10.1016/j.jfluidstructs.2013.10.012

14. Christopher M. Shake, Kelsey Saulnier, and Riccardo Bevilacqua. "Spacecraft Attitude Determination System Using Nano-Optical Devices and Linux Software Libraries", AIAA Journal of Aerospace Information Systems, Vol. 10, No. 8 (2013), pp. 369-384. (doi: 10.2514/1.I010049).

13. Perez, D., Bevilacqua, R., "Differential Drag Spacecraft Rendezvous using an Adaptive Lyapunov Control Strategy", Acta Astronautica 83 (2013) 196–207 http://dx.doi.org/10.1016/j.actaastro.2012.09.005.

12. Bevilacqua, R., Romano, M., Curti, F., Caprari, A., Pellegrini, V., "Guidance Navigation and Control for Autonomous Multiple Spacecraft Assembly: Analysis and Experimentation", International Journal of Aerospace Engineering, Volume 2011, Article ID 308245, 18 pages, doi:10.1155/2011/308245.

11. Bevilacqua, R., Lehmann, T., Romano, M., "Development and Experimentation of LQR/APF guidance and control for Autonomous Proximity Maneuvers of Multiple Spacecraft", Elsevier Acta Astronautica, 68 (2011), pp.1260-1275. doi:10.1016/j.actaastro.2010.08.012.

10. Curti, F., Romano, M., Bevilacqua, R., "Lyapunov-Based Thrusters' Selection for Spacecraft Control: Analysis and Experimentation", JOURNAL OF GUIDANCE, CONTROL, AND DYNAMICS, Vol. 33, No. 4, July–August 2010, pp. 1143-1160.

9. Bevilacqua, R.,Hall, J., S., Romano, M., "Multiple Spacecraft Assembly Maneuvers by Differential Drag and Low Thrust Engines", Celestial Mechanics and Dynamical Astronomy (2010) 106:69–88, DOI 10.1007/s10569-009-9240-3.

8. Bevilacqua, R., Hall, J., Horning, J., Romano, M, "Ad-hoc wireless networking and shared computation based upon linux for autonomous multi-robot systems", AIAA Journal of Aerospace Computing, Information, and Communication, 1542-9423 vol.6 no.5 (328-353) (2009).

7. Bevilacqua, R., Romano, M., Curti, F., "Decoupled-natural-dynamics model for the Relative Motion of two Spacecraft without and with J2 perturbation", Nonlinear Dynamics and Systems Theory, 10 (1) (2010) 11–20.
6. Bevilacqua, R., Yakimenko O., Romano M., "On-line Generation of Quasi-Optimal Docking Trajectories", Elsevier Acta Astronautica, 64 (2009), pp. 345–358.

5. Bevilacqua, R., Romano, M., "Rendezvous Maneuvers of Multiple Spacecraft by Differential Drag under J2 Perturbation", AIAA Journal of Guidance, Control and Dynamics, vol.31 no.6 (1595-1607), 2008.

4. Sabatini, M., Izzo, D., Bevilacqua, R., "Special Inclinations Allowing Minimal Drift Orbits for Formation Flying Satellites", Journal of Guidance, Control and Dynamics, Vol. 31, No. 1, 2008, pp. 94-100.

3. Bevilacqua R., Romano M., "Quasi-Optimal Control For Path Constrained Relative Spacecraft Maneuvers based on Dynamic Programming", Nonlinear Dynamics and Systems Theory, Vol. 8, No. 2, pp. 137-150, 2008.

2. Bevilacqua R., Romano M., "Fuel-Optimal Spacecraft Rendezvous with Hybrid On-Off Continuous and Impulsive Thrust", Journal of Guidance, Control and Dynamics, Vol. 30, Issue 4, 2007, pp. 1175-1178.

1. Sabatini M., Bevilacqua R., Pantaleoni M., Izzo D., "Numerical Search of Bounded Relative Satellite Motion", Nonlinear Dynamics and Systems Theory, Vol. 6, No. 4, 2006, pp. 411-419.

CONFERENCES

60. Carlos Carrasquillo, Riccardo Bevilacqua (faculty advisor), "A Versatile and Open-Source Radio Framework for the D3 CubeSat Mission", finalist for the 2021 Frank J. Redd Student Competition, Honorable Mention, SmallSat Conference 2021.

59. Narottama Esser, Riccardo Bevilacqua (faculty advisor), "Spacecraft Attitude Control Using Variable Inertia Reaction Wheels", finalist for the 2021 Frank J. Redd Student Competition, Honorable Mention, SmallSat Conference 2021.

58. Samuel Buckner, Carlos Carrasquillo, Marcus Elosegui and Riccardo Bevilacqua, "A Novel Approach to CubeSat Flight Software Development Using Robot Operating System (ROS)", poster and paper SSC20-P3-18, 2020 SmallSat conference.

57. Omkar Mulekar, Riccardo Bevilacqua, "A MACHINE LEARNING SOLUTION TO OPTIMAL LANDING SITE SELECTION AND LANDER CONTROL", paper AAS 20-455, 2020 Astrodynamics Specialist Conference, August 9-12.

56. Carlos Ojeda, Tanya Martin, Sanny Omar, Michael Kennedy, Brandon Paz, Riccardo Bevilacqua, and Brandon Marsell, "PASSIVE THERMAL COATING OBSERVATORY OPERATING IN LOW-EARTH ORBIT (PATCOOL) – CUBESAT DESIGN TO TEST PASSIVE THERMAL COATINGS IN SPACE", 5th IAA Conference on University Satellite Missions and CubeSat Workshop, Rome, Italy, 2020. **Winner of best poster award.**

55. Sanny Omar & Riccardo Bevilacqua, "Ballistic Coefficient Estimation of Space Objects Based on Observed Orbital Decay", ICSSA 2020, Washington, DC.

54. Camilo Riano-Rios, Riccardo Bevilacqua, & Warren E. Dixon, "Adaptive Control for Differential Drag-Based Rendezvous Maneuvers with an Unknown Target", ICSSA 2020, Washington, DC. **Winner of 2nd best student paper award.**

53. Alberto Fedele, Sanny Omar, Stefania Cantoni, Raffaele Savino & Riccardo Bevilacqua, "Precise Re-Entry and Landing of Propellantless Low Earth Orbit Spacecraft", ICSSA 2020, Washington, DC.

52. M. Greene, C. Riano-Rios, R. Bevilacqua, N. Fitz-Coy, W. E. Dixon, "Approximate Optimal Orbit Transfer of Non-cooperative Debris," In Proc. AIAA SciTech Forum, 2020.

51. C. Riano-Rios, R. Bevilacqua, W. E. Dixon, "Relative Maneuvering for Multiple Spacecraft via Differential Drag using LQR and Constrained Least Squares," In AAS/AIAA Space Flight Mechanics Meeting, 2019

50. C. Riano-Rios, S. Omar, R. Bevilacqua, W. E. Dixon, "Spacecraft Attitude Regulation in Low Earth Orbit Using Natural Torques," In Proc. 4th IEEE Colombian Conference on Automatic Control, 2019.

49. Sanny Omar, Camilo Riano-Rios, and Riccardo Bevilacqua, "Semi-Passive Three Axis Attitude Stabilization for Earth Observation Satellites using the Drag Maneuvering Device", 12th IAA Symposium on Small Satellite for Earth Observation. Berlin, Germany. May, 2019.

48. E. Ausay , L. Bassett-Audain , L. DeWitte, B. Paz A. Rajbhandary, G. Di Mauro , R. Bevilacqua, "SATELLITE FORMATION FLYING: ON-GROUND EXPERIMENT ON RELATIVE ORBIT ELEMENTS-BASED CONTROL", 29th AAS/AIAA Space Flight Mechanics Meeting, Ka'anapali, HI, 2019, AAS 18-429.

47. Camilo Riano-Rios, Riccardo Bevilacqua, and Warren E. Dixon, "RELATIVE MANEUVERING FOR MULTIPLE SPACECRAFT VIA DIFFERENTIAL DRAG USING LQR AND CONSTRAINED LEAST SQUARES", 29th AAS/AIAA Space Flight Mechanics Meeting, Ka'anapali, HI, 2019, AAS 19-346.

46. Sanny Omar and Riccardo Bevilacqua, "Hardware and GNC Solutions for Controlled Spacecraft Re-Entry using Aerodynamic Drag", 2018 IAC, Bremen, Germany.

45. S. Omar, D. Guglielmo, G. Di Mauro, T. Martin, R. Bevilacqua, "CubeSat Mission to Demonstrate Aerodynamically Controlled Re-Entry using the Drag De-Orbit Device (D3)", SmallSat Conference 2018, Logan, UT. SSC18-PI-05

44. P. Kelly, R. Bevilacqua, "Constellation Design for Mars Navigation using Small Satellites", AIAA SciTech 2018, Kissimmee, FL.

43. G. Di Mauro, D. Spiller, R. Bevilacqua, F. Curti, "Optimal Continuous Maneuvers for Satellite Formation Reconfiguration in J2-perturbed Orbits", AIAA SciTech 2018, Kissimmee, FL.

42. Sanny Omar, David Guglielmo, Riccardo Bevilacqua, "DRAG DE-ORBIT DEVICE (D3) MISSION FOR VALIDATION OF CONTROLLED SPACECRAFT RE-ENTRY USING AERODYNAMIC DRAG", IAA CubeSat Conference, Rome, Italy, Dec. 2017.

41. Patrick Kelly and Riccardo Bevilacqua, "THE CONSTELLATION FOR MARS POSITION ACQUISITION USING SMALL SATELLITES: CUBESAT DESIGN FEASIBILITY AND CHALLENGES", IAA CubeSat Conference, Rome, Italy, Dec. 2017.

40. Sanny Omar, Riccardo Bevilacqua, "A HYBRID ADAPTIVE CONTROL ALGORITHM FOR SPACECRAFT GUIDANCE TRACKING USING AERODYNAMIC DRAG", 1st IAA conference on SSA, Orlando, FL, Nov 2017.

39. Patrick Kelly and Riccardo Bevilacqua, "REMOVAL OF ORBITAL DEBRIS FROM GEOSTATIONARY ORBITS USING SOLAR RADIATION PRESSURE AND LYAPUNOV CONTROL", 1st IAA conference on SSA, Orlando, FL, Nov 2017. 3rd prize, best student paper award.

38. David Guglielmo, Sanny Omar, Riccardo Bevilacqua, "Drag De-Orbit Device: A New Standard Re-Entry Actuator for CubeSats", 1st IAA conference on SSA, Orlando, FL, Nov 2017.

37. Simone Flavio Rafano Carnà, Sanny Omar, David Guglielmo and Riccardo Bevilacqua, "SAFETY ANALYSIS FOR SHALLOW CONTROLLED RE-ENTRIES THROUGH REDUCED ORDER MODELING AND INPUTS' STATISTICS METHOD", 1st IAA conference on SSA, Orlando, FL, Nov 2017.

36. Frank Rutherford, Erica Jenson, Kieran Wilson, Faculty Advisor: Riccardo Bevilacqua, "Mission Concept and Design for the Orbiting Aerosol Observatory", paper SSC17-VIII-5 at the SmallSat Conference in Utah, 2017. Winner of the 3rd prize in the Frank J. Redd Student Competition. (senior capstone design project from fall 2016).

35. G. Di Mauro, R. Bevilacqua, D. Spiller, J. Sullivan and S. D'Amico, "CONTINUOUS MANEUVERS FOR SPACECRAFT FORMATION FLYING RECONFIGURATION USING RELATIVE ORBIT ELEMENTS", 9th International Workshop on Satellite Constellations and Formation Flying, University of Colorado Boulder, June 19-21, 2017. Paper IWSCFF 17-76

34. Margaret Lawn, Giuseppe Di Mauro, and Riccardo Bevilacqua, "Guidance solutions for spacecraft planar rephasing and rendezvous using input shaping control", paper AAS 17-379, 27th AAS/AIAA Space Flight Mechanics Meeting, San Antonio, Texas. February 2017.

33. L. Fineberg, J. Treptow, T. Bass, S. Clark, Y. Johnson, B. Poffenberger, "A Novel Approach for Controlled Deorbiting and Reentry of Small Spacecraft", presenting NASA's and UF's work at the 2016 ERAU STM conference.

32. Sanny R. Omar and Riccardo Bevilacqua. "Spacecraft De-Orbit Point Targeting using Aerodynamic Drag", AIAA Guidance, Navigation, and Control Conference, AIAA SciTech Forum, (AIAA 2017-1268) http://dx.doi.org/10.2514/6.2017-1268

31. Patrick Kelly, Richard S. Erwin, Riccardo Bevilacqua, and Leonel Mazal "Solar Radiation Pressure Applications on Geostationary Satellites", GNC AAS Conference 2016, Breckenridge, CO.

30. Leonel Mazal, David Perez, Riccardo Bevilacqua, Fabio Curti, "Rendezvous via Differential Drag with Uncertainties in the Drag Model", 2015 AAS/AIAA Astrodynamics Specialist Conference, Vail, CO, August 9-13 2015

29. David Guglielmo, David Perez, Riccardo Bevilacqua, Leonel Mazal, "DIFFERENTIAL DRAG-BASED GUIDANCE FOR SPACECRAFT RELATIVE MANEUVERING USING PREDICTED DENSITY", 2015 AAS/AIAA Astrodynamics Specialist Conference, Vail, CO, August 9-13 2015

28. Vincenzo Pesce, Michèle Lavagna, Riccardo Bevilacqua, "UNCOOPERATIVE OBJECTS POSE, MOTION AND INERTIA TENSOR ESTIMATION VIA STEREOVISION", 13th Symposium on Advanced Space Technologies in Robotics and Automation (ASTRA) 2015, 11-13 May ESA/ESTEC, Noordwijk, the Netherlands.

27. Dave Guglielmo and Riccardo Bevilacqua, "Propellant-less Atmospheric Differential Drag LEo Spacecraft (PADDLES) Mission", SmallSat Conference 2014, Utah.

26. Space Vehicle Design Fall 2013 Students Group from RPI, Steven Koontz, Riccardo Bevilacqua, and Charles Swenson, "CubeSat technology adaptation for in-situ characterization of NEOs", iCubeSat Workshop 2014, Pasadena, CA.

25. Space Vehicle Design Fall 2013 Students Group from RPI, Steven Koontz, Riccardo Bevilacqua, and Charles Swenson, "The Near Earth Object (NEO) Scout Spacecraft: A low-cost approach to in-situ characterization of the NEO population", SpaceOps Conference 2014, Pasadena, CA.

24. Mirko Pastorelli, Riccardo Bevilacqua, Stefano Pastorelli, "Differential-drag-based Roto-Translational Control for Propellant-less Spacecraft", 2nd IAA Conference on Dynamics and Control of Space Systems, Rome, Italy, 2014.

23. Riccardo Bevilacqua and David Perez, "Guidance and Control for Spacecraft Planar Re-phasing via Input Shaping and Differential Drag", 2nd IAA Conference on Dynamics and Control of Space Systems, Rome, Italy, 2014.

22. Colin Mason, Grace Tilton, Nomita Vazirani, Joseph Spinazola, David Guglielmo,Riccardo Bevilacqua, Johnson Samuel, "Origami-based Drag Sail for CubeSat Propellant-freeManeuvering", for 5th Nano-Satellite Symposium, November 2013, Tokyo, Japan.

21. Kelsey Saulnier, David Perez, Grace Tilton, Daniele Gallardo, Chris Shake, R. Huang, Riccardo Bevilacqua, "Operational Capabilities of a Six Degrees of Freedom Spacecraft Simulator", AIAA GNC Conference 2013, Boston, MA. (AIAA 2013-5253).

20. Bevilacqua, R., and Lovell, T., A., "Analytical Guidance for Spacecraft Relative Motion under Constant Thrust using Relative Orbit Elements", paper AAS 13-471 at the 23rd AAS/AIAA Spaceflight Mechanics Meeting, Kauai, Hawaii, February 2013.

19. Perez, D., Bevilacqua, R., "Spacecraft Maneuvering via Atmospheric Differential Drag using an Adaptive Lyapunov Controller", paper AAS 13-440 at the 23rd AAS/AIAA Spaceflight Mechanics Meeting, Kauai, Hawaii, February 2013.

18. David Menicovich, Daniele Gallardo, Riccardo Bevilacqua, Jason O. Vollen, "Generation and Integration of an Aerodynamic Performance Data-Base within the Concept Design Phase of Tall Buildings", ACADIA 2012, Synthetic Digital Ecologies, in San Francisco on October 18-21, 2012. Daniele Gallardo received the ACADIA 2012 Student Scholarship to attend the conference ($200).

17. Perez, D., Bevilacqua, R., "Differential Drag Spacecraft Rendezvous using an Adaptive Lyapunov Control Strategy", paper IAA-AAS-DyCoSS1-09-05, 1st International Academy of Astronautics Conference on Dynamics and Control of Space Systems – DyCoSS'2012, Porto, Portugal, 19-21 March 2012. WINNER OF THE BEST STUDENT PAPER AWARD FOR THE CATHEGORY: SPACECRAFT GUIDANCE, NAVIGATION, AND CONTROL (see award).

16. Thaddeus Savery, Graziano Vernizzi, Joseph T Kujawski, Riccardo Bevilacqua, Allan T Weatherwax, "A Novel self-localization Protocol for Spacecraft Clusters", poster at the American Geophysical Union, Fall Meeting 2011, San Francisco, CA.

15. Perez, D., Bevilacqua, R.,"Lyapunov-based Spacecraft Rendezvous Maneuvers using Differential Drag", AIAA-2011-6630 paper, AIAA Guidance, Dynamics and Control Conference 2011, Portland, OR.

14. Gallardo, D., Bevilacqua, R., Rasmussen, R. E., "Advances on a 6 Degrees of Freedom Testbed for Autonomous Satellites Operations", AIAA-2011-6591 paper, AIAA Guidance, Dynamics and Control Conference 2011, Portland, OR.

13. Gallardo, D., Bevilacqua, R., "SIX DEGREES OF FREEDOM EXPERIMENTAL PLATFORM FOR TESTING AUTONOMOUS SATELLITES OPERATIONS", poster at the 8th International ESA GNC 2011 Conference, Carlsbad, Czech Republic. DOWNLOAD POSTER.

12. Perez, D., Bevilacqua, R., "Feedback Control of Spacecraft Rendezvous Maneuvers using Differential Drag", 4th International Conference on Spacecraft Formation Flying Missions & Technologies, St-Hubert, Quebec, 18-20 May 2011.

11. Pellegrini, V., Bevilacqua, R., Romano, M., Curti, F., "Spacecraft Proximity Navigation and Autonomous Assembly based on Augmented State Estimation: Analysis and Experiments", AIAA Guidance, Navigation, and Control Conference 2 - 5 August 2010, Toronto, Ontario Canada.

10. Curti, F., Bevilacqua, R., Romano, M., "Failure-Robust Thruster Commanding for Space Vehicles Control", paper AAS 09-403, 2009 AAS/AIAA Astrodynamics Specialist Conference, Pittsburgh, Pennsylvania.

9. Bevilacqua, R., Caprari, A., Hall, J., Romano, M., "Laboratory Experimentation of Multiple Spacecraft Autonomous Assembly", AIAA Guidance, Navigation and Control Conference and Exhibit, Chicago, Illinois, August 2009.

8. Bevilacqua, R., Romano, M., "Rendezvous Maneuvers of Multiple Spacecraft using Differential Drag under J2 Perturbation", AIAA Guidance, Navigation and Control Conference and Exhibit, Honolulu, Hawaii, August 2008.

7. Bevilacqua, R., Hall J., Romano, M. "Multiple Spacecraft Assembly Maneuvers by Differential Drag and Low Thrust Engines", New Trends in Astrodynamics Conference, Milan, Italy, June 2008.

6. Sabatini M., Bevilacqua R., Pantaleoni M., Izzo D., "Periodic Relative Motion of Formation Flying Satellites", Paper AAS 06-206, AAS/AIAA Space Flight Mechanics Conference, Tampa, Florida, USA, 22-26 January 2006.

5. Sabatini M., Bevilacqua R., Pantaleoni M., Izzo D., 2006, "A Search for Invariant Relative Satellite Motion", Proceedings of the 4th International Workshop on Satellite Constellations and Formation Flying, Sao Josè Dos Campos, Brazil, 14-16 February 2005, pp. 222-229.

4. Izzo D., Pettazzi L., Bevilacqua R., "Taking into account Flexibility in Attitude Control", Proceedings of the 6th Dynamics and Control of Systems and Structures in Space Conference, organized by Cranfield University, held in Riomaggiore, Cinque Terre, Italy, 18-22 July 2004, pp. 459-466.

3. Izzo D., Bevilacqua R., Valente C., "Internal Mesh Optimisation and Runge Kutta Collocation in a Direct Transcription Method Applied to Interplanetary Missions", Paper IAC-04-A.6.04, 55th International Astronautical Congress, Vancouver, Canada, October 2004.

2. Izzo D., Bevilacqua R., Valente C., "Optimal Large Reorientation Maneuver of a Spinning Gyrostat", Proceedings of the 6th Dynamics and Control of Systems and Structures in Space Conference, organized by Cranfield University, held in Riomaggiore, Cinque Terre, Italy, 18-22 July 2004, pp. 607-616.

1. Bevilacqua R., Izzo D., Valente C., "Nonlinear Attitude Control of Satellite Platforms Equipped with Variable Speed Control Moment Gyroscopes", Proceedings of the XVII National Congress of AIDAA, Rome, 15-19 September 2003, pp. 501-508.

				Effective Dates		Full Award	Faculty's Portion
Title of Grant	*Funding Agency*	*Role*	*Int/Ext*	*Start Date*	*End Date*	*Total Funding Grant/Contract*	*Total Funding Grant/Contract*
On-Orbit CubeSat structural identification and testing via adaptive control and integral concurrent learning	Florida Space Grant Consortium	PI	Ext	Early 2021 (TBD)	1 year	$ 25,000	$ 25,000

FUNDED RESEARCH AT UF[1]

| Title of Grant | Funding Agency | Role | Int/Ext | Effective Dates | | Full Award | Faculty's Portion |
				Start Date	End Date	Total Funding Grant/Contract	Total Funding Grant/Contract
Propellant-free Spacecraft Relative Maneuvering via Atmospheric Differential Drag	Rensselaer Polytechnic Inst	PI	Ext	8/15/2014	4/14/2015	$ 33,161.99	$ 33,161.99
Measuring Spatio-temporal Variations in Upper Atmosphere via PADDLES and RAMS	Rensselaer Polytechnic Inst	PI	Ext	10/15/2014	12/31/2014	$ 91,456.11	$ 91,456.11
Measuring Spatio-temporal Variations in Upper Atmosphere via PADDLES and RAMS	ONR	PI	Ext	3/1/2015	12/30/2016	$ 266,747.00	$ 266,747.00
LSP 15-025: A Drag Device for Controlled Deorbiting of LEO Spacecraft	A.I. Solutions	PI	Ext	10/27/2015	2/28/2017	$ 85,070.88	$ 85,070.88
Improved Dynamics Modeling of Proximity Flight Using Relative Orbit Elements	Stanford University	PI	Ext	3/7/2016	2/26/2019	$ 313,861.00	$ 313,861.00
Integrated Space Situational Awareness: Data, Algorithms and Sensors	UCF FL Space Inst.	PI	Ext	3/15/2016	3/14/2017	$ 51,574.00	$ 51,574.00
SOLAR SAIL CUBESATS FOR MARS GPS AND COMMUNICATION SERVICES	UCF FL Space Inst.	PI	Ext	9/1/2016	8/31/2017	$ 25,000.00	$ 25,000.00
A Drag Device for Controlled Deorbiting of LEO Spacecraft (Phases 5 through 7)	A.I. Solutions	PI	Ext	3/1/2017	2/14/2018	$ 156,299.00	$ 156,299.00
A Drag Device and Control Algorithm for Spacecraft Attitude Stabilization and De-Orbit Point Targeting using Aerodynamic Drag	NASA GRAD STUDENT RES PRGM	PI	Ext	8/15/2017	1/31/2020	$ 189,000.00	$ 189,000.00

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[1] Two of our CubeSats have been selected by NASA's CubeSat Launch Initiative (CSLI) to deploy from the International Space Station towards the end of 2021. The CSLI program covers integration and launch expenses up to $300k per CubeSat. These amounts do not go to the University directly, they are services offered to the University delivering the spacecraft to NASA.

Preliminary Design for a Cubesat to Test the Performance of a Thermal Coating in Space (PATCOOL mission)	A.I. Solutions	PI	Ext	9/14/2018	2/7/2019	$	63,686.00	$	63,686.00
UF component for SRI program Fall 2015	UCF SPACE INST	PI	Ext	4/1/2018	8/31/2019	$	95,000.00	$	95,000.00
Center of Excellence: Assured Autonomy in Contested Environments	AFOSR	Co-PI	Ext	4/1/2019	3/31/2024	$	6,685,496.00	$	474,432.00
LSP 19-003 Highly Reflective Coating CubeSat	A.I. Solutions	PI	Ext	4/15/2019	5/15/2021	$	324,430.00	$	324,430.00
All terrain lunar landing using adjustable strut systems and stereo-vision with machine learning based navigation	NASA GRAD STUDENT RES PRGM	PI	Ext	8/15/2020	8/14/2021	$	80,000.00	$	80,000.00
A machine learning based transfer to predict warhead in-flight behavior from static arena test data	AFOSR	PI	Ext.	08/01/2020	07/31/2024	$	561,686.00	$	561,686.00
					Totals	$	9,022,467.98	$	2,811,403.98

Previous funding at RPI

Role	Agency	Grant Title & Dates	Total Award	Faculty portion
PI	New York Space Grant Consortium	The Near Earth Object (NEO) Scout Spacecraft: A low-cost approach to in-situ characterization of the NEO population", paper at SpaceOps AIAA conference 2014	US$ 1,000	US$ 1,000
PI	Arctic Slope Regional Corporation Federal	SSCO Technology Development for Robotic Servicing of Orbital Space Assets – 1 March 2014 - 30 Sept. 2014	US$ 166,476	US$ 111,547
PI	Office of Naval Research Young Investigator Program	Measuring Spatio-Temporal Variations in Upper Atmosphere via Drag Controlled Nano Satellites and WINCS (Winds-Ion-Neutral-Composition-Suite) - 5/15/2013 – 5/14/2016	US$ 510,000	US$ 510,000
PI	West Virginia University	National Center for the Robotic Servicing of Orbital Space Assets – 1/1/2013-9/30/2013	US$ 100,000	US$ 100,000
PI	New York Space Grant Consortium	Proposed use of Nano/Microsat launcher on the ISS: removal of space debris using nanosatellites - Fall Semester 2012, Space Vehicle Design class	US$ 1,000	US$ 1,000
PI	Defense Advanced Research Projects Agency Tactical Technology Office	Real-time Heterogeneous Optimal Control of Spacecraft 11/20/2012 – 5/19/2014	US$ 119,715	US$ 119,715

PI	Air Force Office of Scientific Research Young Investigator Program	Propellant-free Spacecraft Relative Maneuvering via Atmospheric Differential Drag 15 April 2012 – 14 April 2015	US$ 333,991	US$ 333,991
PI	Rensselaer Polytechnic Institute (internal seed funding FY2012)	The P.A.D.D.LE.S. Mission: Creating A Nano-Satellite Program At Rensselaer (Propellant-Less Atmospheric Differential Drag Leo Satellites) FY 2012 – 30 June 2013	US$ 13,000	US$ 13,000
PI	National Space Grant, ESMD (Exploration System Mission Directorate, NASA-directed senior design project)	ISS as a Nano/Micro Satellite Base, project JSC4-43-SD, Spacecraft Fall Semester 2011, Trans-atmospheric Vehicle Design class	US$ 4,000	US$ 4,000
PI	New York Space Grant Consortium	Spacecraft Inertial and Relative Navigation based on Neuromorphic Sensing and Input Estimation 15 Nov. 2010 - 22 April 2012	US$ 15,000	US$ 15,000
	TOTALS:		**US$ 1,264,182**	**US$ 1,209,253**

"Turning Point" Interview on Nature:
http://www.nature.com/naturejobs/science/articles/10.1038/nj7455-529a

Orlando Sentinel: "Mars is the big prize to inspire America's reach into space":
http://www.orlandosentinel.com/opinion/os-ed-mars-front-burner-070516-20160701-story.html

The Conversation: "Can I trust my robot? And should my robot trust me?":
https://theconversation.com/can-i-trust-my-robot-and-should-my-robot-trust-me-55553

University of Sydney, Australia, "Adaptive Control and Integral Concurrent Learning for Spacecraft Control and on-line Estimation", July 2021.

University of Arizona, "Adaptive Control and Integral Concurrent Learning for Differential Drag-Based Spacecraft Formations", March 2021.

Auburn University, "Adaptive Control and Integral Concurrent Learning for Differential Drag-Based Spacecraft Formations", February 2021.

University of Minnesota, "Adaptive Control and Integral Concurrent Learning for Differential Drag-Based Spacecraft Formations", February 2021.

University of Sydney, Australia, "Adaptive Control and Integral Concurrent Learning for Differential Drag-Based Spacecraft Formations", February 2021.

Embry-Riddle Aeronautical University, "Servicing the geostationary belt using spacecraft thrusted by solar radiation pressure: one step towards a responsible use of space", November 2019

US Air Force Academy, "Servicing the geostationary belt using spacecraft thrusted by solar radiation pressure: one step towards a responsible use of space", November 2019

Eglin, AFB (UF REEF), "A machine learning based transfer function to predict warhead in-flight behavior from static arena test data, October 2019.

DLR, Germany, "Introduction to G&C Activities at the University of Florida", March 2019.

Air Force Institute of Technology, "Let me drag you into my world: the beauties of spacecraft in atmospheric resistance", October 2018.

Georgia Institute of Technology, "Let me drag you into my world: the beauties of spacecraft in atmospheric resistance", November 2017.

University of Sydney, Australia, "Exploiting the space environment to keep space clean" March 2017.

Embry Riddle, Daytona Beach, FL, "Exploiting the space environment to keep space clean" February 2017.

University of South Florida, "Solar Radiation Pressure Applications on Geostationary Satellites", Tampa, FL, November 2016.

Naval Postgraduate School, "Solar Radiation Pressure Applications on Geostationary Satellites", Monterey, CA, August 2016.

NASA JPL, "Propellant-less orbit and attitude control", Pasadena, CA, August 2016.

SNAP Nanosatellite / CubeSat Subject Matter Expert Exchange, "Consideraciones sobre control y ajustes de orientación sin combustible", Bogota', Colombia, May 2016.

ACGSC meeting 117, "Solar Radiation Pressure Applications on Geostationary Satellites" Napa, CA, March 2016.

TEXAS A&M UNIVERSITY, "Guidance and Control for Spacecraft Planar Relative Maneuvering via Input Shaping and Differential Drag" OCTOBER 26 - 28, 2015.

University of New Mexico, Electrical Computer Engineering Department, "Propellant-Less Atmospheric Differential Drag LEO Spacecraft (PADDLES)", Jul 7, 2015.

NASA Ames, "From spacecraft formation flight to human-space robot interaction", 3 March 2015.

Brigham Young University, Mechanical Engineering Department, "Propellant-less guidance and control of spacecraft using drag and an origami sail", 2 March 2015.

University of Central Florida, MAE Dept., "Propellant-less guidance and control of spacecraft using drag and an origami sail", 20 Feb 2015.

Small Satellite Club at UF, invited talk: "Sailing through LEO: engineering and science using drag-controlled nano-satellites", November 2014

University of Rome, Sapienza, Italy, invited talk: "Guidance and Control for Spacecraft Planar Re-phasing via Input Shaping and Differential Drag", March. 2014.

University of Florida, invited talk: "Sailing through LEO: engineering and science using drag-controlled nano-satellites", Mar. 2014 (faculty position interview)

Purdue University, invited talk: "Sailing through LEO: engineering and science using drag-controlled nano-satellites", Feb. 2014 (faculty position interview)

University of Michigan, invited talk: "Sailing through LEO: engineering and science using drag-controlled nano-satellites", Jan. 2014 (faculty position interview)

Embry-Riddle Aeronautical University, invited talk: "Sailing through LEO: engineering and science using drag-controlled nano-satellites", Jan. 2014

University of Illinois at Urbana Champaign, invited talk: "Sailing through LEO: engineering and science using drag-controlled nano-satellites", Dec. 2013 (faculty position interview)

AIAA/ASME/STLE/Vibration Institute Event 2013, Latham, NY. "From Ground to Orbit: Testing Nano-Satellites and their Onboard Algorithms in a Laboratory Environment"

Naval Postgraduate School, Monterey, CA, "Guidance and Control for Spacecraft Planar Re-phasing via Input Shaping and Differential Drag", February 2013.

OBDH Group Surrey Space Centre, University of Surrey, Guildford, UK, "Advanced Autonomous Multiple Spacecraft laboratory: theory and experiments", 18 September 2012.

Kirtland Air Force Base, Air Force Research Laboratory, Space Vehicle Directorate, (Albuquerque, NM, during summer fellowship), "Differential Drag Spacecraft Rendezvous using an Adaptive Lyapunov Control Strategy", August 20, 2012.

Southwestern Indian Polytechnic Institute (SIPI), Albuquerque, NM, "Introduction to Aerodynamics and Wind Engineering (IAWE)", July 25, 2012. (PRESENTED BY GRADUATE STUDENT DANIELE GALLARDO, IN LIGHT OF DEVELOPING A COURSE AT SIPI, LED BY HIM, AND SUPPORTING LONG TERM EDUCATION PLANS AND BROADER IMPACTS)

NASA GSFC: presenting research activities in the ADAMUS laboratory, January 13th, 2012.

University of Texas at Austin, "Advanced Autonomous Multiple Spacecraft laboratory: theory and experiments", 17 November 2011.

School of Aerospace Engineering, Rome, Italy, "Research activities on multiple-satellite systems at the AD.A.MU.S. laboratory", 15 June 2011.

NASA Headquarters, Washington DC: presenting research activities in the ADAMUS laboratory at the Early Stage Innovation group, Office of Chief Technologist, April 1st 2011.

Polytechnic Institute of New York University, invited talk: " Lyapunov-based on-off control: current research on satellites differential drag applications", 28 Feb 2011.

Siena College, NY, invited talk: "Multi-Satellite Differential Drag Control", Nov. 2010

West Virginia University, invited talk: "Multiple Spacecraft Autonomous Systems: Theoretical Research & Laboratory Experimentation", Jan. 2010 (faculty position interview)

Saint Louis University, invited talk: "Multiple Spacecraft Autonomous Systems: Theoretical Research & Laboratory Experimentation", Jan. 2010 (faculty position interview)

Embry-Riddle Aeronautical University, invited talk: "Multiple Spacecraft Autonomous Systems: Theoretical Research & Laboratory Experimentation", Jan. 2010 (faculty position interview)

RPI, invited talk: "Multiple Spacecraft Autonomous Systems: Theoretical Research & Laboratory Experimentation", Dec. 2009 (faculty position interview)

Mississippi State University, invited talk: "Multiple Spacecraft Autonomous Systems: Theoretical Research & Laboratory Experimentation", Nov. 2009 (faculty position interview)

Invited as expert on differential drag control at the Critical Design Review of the JC2Sat, Canadian-Japanese joint mission, scheduled to fly in 2011. Proposing an alternative methodology to perform differential drag control. August 2009.