

JULIE BRISSET

2573 Dover Glen Circle, Orlando, FL 32828

Email: julie.brisset@ucf.edu Tel: 321-948-2915

EDUCATION

- 2014 University of Braunschweig Braunschweig, Germany
Doctor of Philosophy, Physics
Thesis: *A Microgravity Sounding-Rocket Experiment on Protoplanetary Dust Aggregation*
- 2005 University of Munich Munich, Germany
Master of Science, Aeronautics and Space Engineering
- 2005 Ecole Nationale Supérieure de l'Aéronautique et de l'Espace Toulouse, France
Master of Science, Aeronautics and Space Engineering
- 2004 University of South Australia Adelaide, Australia
Graduate Certificate, Applied Sciences (Space Studies)
- 2004 International Space University Illkirch-Graffenstaden, France
Graduate Certificate, Space Studies Program
- 2001 Lycee Louis-le-Grand Paris, France
Bachelor of Science, Mechanical Engineering

PROFESSIONAL EXPERIENCE

November 2021 – present **Interim Director**

Florida Space Institute, University of Central Florida

- Manage all institute research and commercial activities
- Implement the strategic research plan of the Florida Space Institute
- Manage the Arecibo Observatory

July 2021 – October 2021 **Deputy Director**

Florida Space Institute, University of Central Florida

- Manage Research and Research Support employees
- Development and support of the strategic research plan of the Florida Space Institute

Aug. 2016 – present

Research Associate in Planetary Science

Florida Space Institute, University of Central Florida

- Low-Earth Orbit CubeSat development
- Development and operation of microgravity experiments for the investigation of dust behavior (planet formation, planetary ring dynamics, asteroid surfaces)
- Thermo-physical modeling of Lunar dust for the study of water extraction (In-Situ Resource Utilization)

Aug. 2015 – Aug. 2016

Center for Microgravity Research Laboratory Manager

University of Central Florida

- Project management for experiment development and operation

- May 2014 – Aug. 2016 - Student supervision and mentoring
Postdoctoral Research Scientist
Department of Physics, University of Central Florida
 - Project management for experiment development and operation
 - Student supervision and mentoring
- Jan. 2007 – Jan. 2011 **Senior Operations Engineer for International Space Station (ISS) payloads**
Microgravity User Support Center (MUSC)
Deutsches Zentrum für Luft-und Raumfahrt (DLR), Cologne, Germany
 - International Space Station payload operation
 - Payload operation preparation (scheduling, procedure redaction, Engineering Model operations)
- Jan. 2006 – Dec. 2006 **Junior Operations Engineer for ISS payloads**
Microgravity User Support Center (MUSC)
Deutsches Zentrum für Luft-und Raumfahrt (DLR), Cologne, Germany
 - Payload operation preparation (scheduling, procedure redaction, Engineering Model operations)
- March 2005 – Oct. 2005 **Graduate Research Scientist**
Galileo Industries Spa., Rome, Italy
 - Master Thesis, *Dissemination strategy of an external service (ERIS) of the Galileo System*
 - GPS satellite swarm simulation for coverage optimization

TEACHING

- Fall 2015 – Fall 2018 **Instructor, University of Central Florida**
 Taught approximately 800 students, AST2002: Introduction to Astronomy.
- Fall 2017 – ongoing **Instructor, University of Central Florida**
 Taught students from the Physics and Mechanical and Aerospace Engineering Departments in laboratory projects, PHY4912 and MAE4912:
 Directed Research

MENTORING

Mentored approximately 50 students at the University of Central Florida since 2014.

Undergraduate research mentoring: I have mentored approximately 40 students since 2014, including 15 as a project PI. Students, from various majors, are mentored in laboratory activities that contribute to planetary science research.

Undergraduate success mentoring: I have mentored 15 students since 2015 to promote Science, Technology, Engineering, and Mathematics (STEM) to undergraduate students in the EXCEL

(an NSF STEP program) and GEMS (Girls EXCELing in Math and Science) programs. I have also mentored students from UCF's COMPASS (Convincing Outstanding Math-Potential Admits to Succeed in STEM) and T-LEARN (Transfer-LEARN, an NSF TUES program) programs. These programs support success in a STEM discipline in various ways including, creating a learning community equipped with research presentations, laboratory tours, and student involvement in research activities.

SUPPR Mentoring: Summer Undergraduate Program for Planetary Research. I have obtained a summer internship student (summer 2020) from this competitive mentoring program led by the Lunar and Planetary Institute.

REU Mentoring: Research Experience for Undergraduates. I have mentored an Aerospace Engineering student during the summer of 2023 in partnership with the Mechanical and Aerospace Engineering Department of UCF.

Internship Mentoring: I have mentored students from other national and international universities during internships in my laboratory. These include the University of Florida, the Technische Universität Aachen in Germany, and the University of Genova in Italy.

PhD thesis committee member: Alexander Madison (2022 – ongoing), Committee Co-Chair, Mechanical and Aerospace Engineering
Rachel Belton (2021 – ongoing) , Committee Chair, Physics
Stephanie Jarmak (2016 – 2020), Committee Member, Physics

Master thesis committee member: Christopher Cox (2022 – ongoing), Committee Chair, Physics

PUBLICATIONS

Authored over 50 papers, abstracts, and book chapters, including over 20 as the primary author, since 2013, with over 170 citations.

Reviewed:

Cox, C., **Brisset, J.**, Bitcon, O., Krol, K., Partida, A., *Mechanical properties of fine-coarse grain mixtures of asteroid simulants*, Planetary and Space Sciences, 2023

Brisset, J., Sánchez, P., Cox, C., Corraliza, D., Hatchitt, J., Madison, A. and Miletich, T., 2022. *Asteroid regolith strength: Role of grain size and surface properties*. Planetary and Space Science, 220, p.105533.

Brisset, J., Cox, C., Metzger, J., Miletich, T., Mohammed, N., Rascon, A., Forczyk, L., Dove, A. and Colwell, J., 2022. *Low-speed Impacts into Ice–Dust Granular Mixtures*. The Planetary Science Journal, 3(7), p.176.

Jarmak, S., Colwell, J.E., Dove, A., **Brisset, J.**, Gravitational and Space Research, 2021, *The Adhesive Response of Regolith to Low-Energy Disturbances in Microgravity*

Haynes, M., Virkki, A., Venditti, F., Hickson, D., Pinilla-Alonso, N., **Brisset, J.**, Benner, L., Raymond, C., Lazio, J., Freeman, A. and Castillo-Rogez, J., et al., 2021. Asteroids Inside Out: Radar Tomography. *Bulletin of the American Astronomical Society*, 53(4), p.116.

- Hurley, D., Blewett, D.T., Cahill, J., Chabot, N., Greenhagen, B., Hibbitts, C., Klima, R., Lawrence, D., Mandt, K., Nunez, J.I. and Patterson, W., **Brisset, J.**, et al., 2021. Mission to Characterize Volatiles in Old, Cold, Permanently Shadowed Regions on the Moon. *Bulletin of the American Astronomical Society*, 53(4), p.365.
- Brisset, J.**, Miletich, T., Metzger, P., 2020, Planetary & Space Sciences, *Thermal Extraction of Water Ice from the Lunar Surface - A 3D Numerical Simulation*
- Brisset, J.**, Cox, C. , Anderson, S. , Hatchitt, J., Madison, A. , Mendonca, M., Partida, A., Remie, D., 2020, Astronomy & Astrophysics, *Regolith behavior under asteroid-level gravity conditions: low-velocity impacts into mm- and cm-sized grains*
- Beltran, E., **Brisset, J.**, Royce, A., 2020, Book Chapter in “Lunar Dust and Its Impact on Human Exploration”, Cambridge Scholars Publishing Company, *Testing an integrated Concept of operations through Simulation and Analogs with Technology for Dust Quantification, Characterization, and Mitigation*
- Brisset, J.**, Miletich, T., Metzger, J., Rascon, A., Dove, A., Colwell, J., 2019, Astronomy & Astrophysics, *Multi-Particle Collisions in Microgravity: Coefficient of Restitution and Sticking Threshold for Systems of Mm-Sized Particles.*
- Jarmak, S., **Brisset, J.**, Colwell, J., Dove, A., Maukonen, D., Rawashdeh, S.A., Blum, J. and Roe, L., 2019, Acta Astronautica, *CubeSat Particle Aggregation Collision Experiment (Q-PACE): Design of a 3U CubeSat mission to investigate planetesimal formation*
- Brisset, J.**, Colwell, J., Dove, A., Abukhalil, S., Cox, C., Mohammed, N., 2018, Progress in Earth and Planetary Sciences, *Regolith behavior under asteroid-level gravity conditions: low-velocity impact experiments*
- Fries, M., Abell, P., **Brisset, J.**, Britt, D., Colwell, J., Dove, A., Durda, D., Graham, L., Hartzell, C., Hrovat, K., John, K., Karrer, D., Leonard, M., Love, S., Morgan, J., Poppin, J., Rodriguez, V., Sanchez-Lana, P., Scheeres, D., Whizin, A., 2018, Acta Astronautica, *The Strata-1 experiment on small body regolith segregation*
- Brisset, J.**, Colwell, J., Dove, A., Maukonen, D., 2017, Review of Scientific Instruments, *Design and performance of an experiment studying planet formation on the International Space Station*
- Brisset, J.**, Kothe, S., Weidling, R., Heißelmann, D., Blum, J., 2017, Astronomy & Astrophysics, *Low-velocity collision behaviour of clusters composed of sub-mm sized dust aggregates*
- Brisset, J.**, Kothe, S., Weidling, R., Heißelmann, D., Blum, J., 2016, Astronomy & Astrophysics, *Sub-Millimeter-Sized Dust Aggregate Collision and Growth Properties*
- Metzger, J., **Brisset, J.**, Colwell, J., Dove, A., Amer. Soc. Civ. Eng. Meeting of Earth & Space, Apr. 2016, *An Automated Tracking Method to Study Particle Motion in Microgravity*
- Colwell, J., **Brisset, J.**, Dove, A., Whizin, A., Nagler, H., Brown, N., Rascon, A., Brightwell, K., and Seward, L., Amer. Soc. Civ. Eng. Meeting of Earth & Space, Apr. 2016, *Low-Velocity Impacts into Regolith under Microgravity Conditions*

Brisset, J., Heißelmann, D., Kothe, S., Weidling, R., Blum, J., 2013, Review of Scientific Instruments, *The Suborbital Particle Aggregation and Collision Experiment (SPACE): Studying the Collision Behavior of Submillimeter-Sized Dust Aggregates on the Suborbital Rocket Flight REXUS 12*, **cover page article**

Submitted:

Westcott, C., **Brisset, J.**, *Thermal Extraction of Water Ice from the Lunar Surface – Improving Lunar Regolith Modeling*, Planetary and Space Sciences, 2024

Brisset, J., Blum, J., Brunetto, R., Burchell, M., Grundy, W., Gudipati, M., Gundlach, B., Hénault, E., *Laboratory Studies applicable to Centaurs*, Centaur Review book chapter, IOP, 2024

In preparation:

Brisset, J., Westcott, C., Gibson, S., *Viscosity of icy dust grains in small body rings*, The Astrophysical Journal, 2023

White Papers:

Brisset, J., Fernandez-Valenzuela, E., Sickafoose, A., Venditti, F., Whizin, A., Beltran, E., Bertachini de Almeida Prado, A.F., Castillo-Rogez, J., Grundy, W., Minton, D., Misra, A., Ortiz, J-L., Pinilla-Alonso, N., Ragozzine, D., Merguizo Sanchez, D., Sarid, G., and Stansberry, J., NASA Decadal Survey in Planetary Science and Astrobiology 2023-2032, 2020, *Understanding the Formation and Evolution of the Kuiper Belt by Exploring the Haumea System*

Davidsson, B. J. R., **Brisset, J.**, Daly, R. T., Denk, T., Ermakov, A., Feaga, L., Gritsevich, M., Holt, T., Hu, Z. W., Landis, M., Lucchetti, A., Masiero, J., Pajola, M., Sarid, G., NASA Decadal Survey in Planetary Science and Astrobiology 2023-2032, 2020, *What do small bodies tell us about the formation of the Solar System and the conditions in the early solar nebula?*

Haynes, M., Virkki, A., Venditti, F., Hickson, D., Pinilla-Alonso, N., **Brisset, J.**, Benner, L., Raymond, C., Lazio, J., Freeman, A., Castillo-Rogez, J., Asphaug, E., Taylor, P., Herique, A., Kofman, W., Sava, P., Pajola, M., Lucchetti, A., Nascimento De Pra, M., Rivera-Valentín, E.G., NASA Decadal Survey in Planetary Science and Astrobiology 2023-2032, 2020, *Asteroids Inside Out: Radar Tomography*

Prem, P., Kereszturi, A., Deutsch, A.N., Hibbitts, C.A., Schmidt, C.A., Grava, C., Honniball, C.I., Hardgrove, C.J., Pieters, C.M., Goldstein, D.B., Barker, D.C., Needham, D.H., Hurley, D.M., Mazarico, E., Kramer, G.Y., Dominguez, G., **Brisset, J.**, Gillis-Davis, J.J., Mitchell, J.L., Szalay, J.R., Halekas, J.S., Keane, J.T., Mandt, K.E., Robinson, K.L., Magaña, L.O., Siegler, M.A., Landis, M.E., Poston, M.J., Petro, N.A., Lucey, P.G., Killen, R.M., Li, S., Narendranath, S., Shukla, S., Barrett, T.J., Orlando, T.M., and Farrell, W.M., NASA Decadal Survey in Planetary Science and Astrobiology 2023-2032, 2020, *Lunar Volatiles and Solar System Science*

Hurley, D., Prem, P., Gertsch, L., Hayne, P., Deutsch, A., Colaprete, A., Stickle, A., Hibbitts, C., Elphic, R., Farrell, W., Lucey, P., Li, S., Zacny, K., Atkinson, J., Delitsky, M., Hosseini, S., Liu, Y., Needham, D., Retherford, K., Benna, M., Flahaut, J., Barnes, J., Cahill, J.,

Livengood, T., Sefton-Nash, E., Grava, C., Siegler, M., Patterson, W., Kumari, N., Barker, D., Shukla, S., Bhiravarasu, S., **Brisset, J.**, +19 co-authors, NASA Decadal Survey in Planetary Science and Astrobiology 2023-2032, 2020, *Mission to Characterize Volatiles in Cold, Old, Permanently Shadowed Regions on the Moon*

Savin, D.W., Babb, J.F., Barklem, P., Bellan, P.M., Betancourt-Martinez, G., Blum, J., Boersma, C., Boryta, M.D., **Brisset, J.**, +56 authors, NASA Astrophysics Decadal Survey, 2019, *State of the Profession Considerations for Laboratory Astrophysics*

Abstracts:

Brisset, J., McNair, D., Trujillo, F., Barrier, D., Neal, C., Fu, Y., El Ghzaoui, C., Seal, S., Yu, X. and McGuiggan, P., 2023, October. Soil Strength on Titan: A Laboratory Study Using a Custom Simulant. In *AAS/Division for Planetary Sciences Meeting Abstracts* (Vol. 55, No. 8, pp. 205-03).

Cox, C., **Brisset, J.**, Bennett, C., Haynes, J., Zayats, S. and Prater, C., 2023, October. Revolutionizing IR Spectroscopy in Planetary Science using Photothermal Instrumentation. In *AAS/Division for Planetary Sciences Meeting Abstracts* (Vol. 55, No. 8, pp. 319-05).

Lowers, R., McNair, D. and **Brisset, J.**, 2023, October. Gentle collisions between icy dust aggregates with applications to KBO formation. In *AAS/Division for Planetary Sciences Meeting Abstracts* (Vol. 55, No. 8, pp. 219-05).

Anand, K., Minton, D. and **Brisset, J.**, 2023, October. Origin of TNO and Centaur Ring Systems from Surface Regolith. In *AAS/Division for Planetary Sciences Meeting Abstracts* (Vol. 55, No. 8, pp. 110-02).

Brisset, J., Neal, C., Fu, Y., El Ghzaoui, C., Seal, S., Yu, X., McGuiggan, P., Cox, C., McNair, D., 2022, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #54, *Titan Regolith: Developing and Characterizing Simulants*

Cox, C., **Brisset, J.**, Partida, A., Madison, A., Bitcon, O., 2022, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #54, *Strength of fine-coarse mixtures in rubble pile asteroids*

Von Borstel, I., Blum, J., Schräpler, R., Aktas, C., Balapanov, D., Vedernikov, A., **Brisset, J.**, Molinski, N., and Schubert, B., 2022, Europlanet Science Congress (EPSC), *The ICAPS & Laplace experiments to investigate the initial stage of planet formation*

Brisset, J., Westcott, C., 2021, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #53, *Collisional viscosity of icy dust aggregates in planetary rings*

Carballo-Rubio, R., **Brisset, J.**, 2021, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #53, *Growing small KBOs through gentle collisions: Implementing particle spin and SSDEM into REBOUND*

Cox, C., **Brisset, J.**, Partida, A., Madison, A. and Bitcon, O., 2021, Europlanet Science Congress (EPSC), *Mechanical properties of fine-coarse grain mixtures of asteroid regolith*

Beltran, E., **Brisset, J.**, Royce, A., Hill, E., Proppe, C. and Rivera, P., 2021. *Testing an Integrated Concept of Operations in Analog Surfaces for Lunar Exploration*. LPI Contributions, 2595, p.8049.

- Brisset, J.**, 2020, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #52, *Surface activity on small bodies and regolith mechanical properties*
- Brisset, J.**, Cox, C., Miletich, T., Sanchez, P., Partida, A., Hatchitt, J., Madison, A., Corraliza, D., 2020, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #52, *Frost and fines as a cohesion factor in asteroid regoliths*
- Brisset, J.**, Cox, C. , Anderson, S. , Hatchitt, J., Madison, A. , Mendonca, M., Partida, A., Remie, D., 2020, Europlanet Science Congress (EPSC), *Regolith behavior under asteroid-level gravity conditions: low-velocity impacts into mm- and cm-sized grains*
- Jarmak, S., Colwell, J., Dove, A., **Brisset, J.**, Massaro, J., 2019, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #51, *Experimental Investigation of Regolith Adhesion in Low-Energy, Microgravity Interactions*
- Brisset, J.**, Colwell, J., Dove, A.R., Cox, C. and Mohammed, N., 2018, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #50, *Slow Impacts on Surfaces of Small Bodies: Coefficient of Restitution and Penetration Depth into the Regolith*
- Minton, D.A., Hesselbrock, A. and **Brisset, J.**, 2018, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #50, *Formation of Centaur Rings from Binary Collapse*
- Brisset, J.**, Colwell, J., Dove, A. and Maukonen, D., 2017, Accretion: Building New Worlds Conference (Vol. 2043), *Using Orbital Platforms to Study Planet Formation*
- Jarmak, S. G., Colwell, J. E., **Brisset, J.**, Dove, A., Brown, A. Q., 2017, American Geophysical Union (AGU), *Mass Transfer via Low-Velocity Rebound in a Microgravity Environment*
- Brisset, J.**, Colwell, J.E., Dove, A., Jarmak, S., Anderson, S., 2017, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #49, *Cohesion of Mm- to Cm-Sized Asteroid Simulant Grains: An Experimental Study*
- Whizin, A. D., Abell, P. A., **Brisset, J.**, Britt, D., Colwell, J. C., Dove, A. R., Durda, D. D., Fries, M. D., Graham, L. D., Hartzell, K., John, K. K., Leonard, M. J., Love, S. G., Morgan, J. A., Poppin, J. N., Sanchez-Lana, D., Scheeres, D., 2017, 48th Lunar and Planetary Science Conference (LPSC), *The Strata-1 Microgravity Experiment on Small Body Regolith Dynamics*
- Fries, M., Abell, P., **Brisset, J.**, Britt, D., Colwell, J., Durda, D., Dove, A., Graham, L., Hartzell, C., John, K., Leonard, M., Love, S., Sanchez, D. P., Scheeres, D. J., 2016, 79th Annual Meeting of the Meteoritical Society (MetSoc), *The Strata-1 Experiment on Microgravity Regolith Segregation*
- Dove, A., Colwell, J. E., **Brisset, J.**, Kirstein, J., Brightwell, K., Hayden, R., Jorges, J., Schwartzberg, D., Strange, J., Yates, A., 2016, American Geophysical Union (AGU), *Progress update on a 2015 USIP interdisciplinary undergraduate student microgravity experiment*
- Brisset, J.**, Colwell, J. E., Dove, A., Rascon, A. N., Mohammed, N., Cox, C., 2016, American Geophysical Union (AGU), *Mixing water ice into regolith in low-velocity impact experiments*
- John, K. K., Abell, P., **Brisset, J.**, Britt, D., Colwell, J., Durda, D., Dove, A., Fries, M., Graham, L., Hartzell, C., Leonard, M., Love, S., Sanchez, D. P., Scheeres, D. J., 2016, 3rd

- International Workshop on Instrumentation for Planetary Mission, *Strata-1: A Planetary Science Experiment on the Behavior of Asteroid Regolith in Microgravity*
- Brisset, J.**, Colwell, J.E., Dove, A., Rascon, A., Mohammed, N., Cox, C., 2016, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #48, *Low-velocity impacts into cryogenic icy regolith*
- Jarmak, S., Colwell, J.E., **Brisset, J.**, Dove, A., 2016, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #48, *Mass Transfer via Low Velocity Impacts into Regolith*
- Whizin, A., Colwell, J.E., Dove, A., **Brisset, J.**, Cruz, R., Foster, Z., 2016, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #48, *Collision experiments between centimeter-sized protoplanetesimals in microgravity*
- Blum, J., **Brisset, J.**, Bukhari, M., Kothe, S., Landeck, A., Schraepfer, R., Weidling, R., 2016, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #48, *Updates to the dust-agglomerate collision model and implications for planetesimal formation*
- Fries, M., Abell, P., **Brisset, J.**, Britt, D., Colwell, J., Durda, D., Dove, A., Graham, L., Hartzell, C., John, K., Leonard, M., Love, S., Sanchez, D. P., Scheeres, D. J., 2016, 47th Lunar and Planetary Science Conference (LPSC), *Strata-1: An International Space Station Experiment into Fundamental Regolith Properties in Microgravity*
- Brisset, J.**, Colwell, J. E., Dove, A., Maukonen, D., Brown, N., Lai, K., Hoover, B., 2015, American Geophysical Union (AGU), *NanoRocks: A Long-Term Microgravity Experiment to Study Planet Formation and Planetary Ring Particles*
- Colwell, J. E., Dove, A., **Brisset, J.**, Rascon, A. N., Brightwell, K., 2015, American Geophysical Union (AGU), *Ejecta Production in Microgravity from Low Velocity Impacts in Regolith*
- Colwell, J.E., **Brisset, J.**, Dove, A.R., Metzger, J., Rascon, A., 2015, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #47, *NanoRocks: Experimental Study of Collisional Damping and Aggregation at Low Velocities*
- Brisset, J.**, Colwell, J., Dove, A., Maukonen, D., Brown, N., Lai, K., Hoover, B., 2015, European Planetary Science Congress (EPSC), *NanoRocks: Studying Planet Formation and Planetary Rings on the International Space Station*
- Colwell, J., **Brisset, J.**, Dove, A., Whizin, A., Nagler, H., Brown, N., 2015, European Planetary Science Congress (EPSC), *PRIME: Studying Low-Velocity Impacts in Microgravity*
- Brisset, J.**, Kothe, S., Weidling, R., Heisselmann, D., Blum, J., 2014, American Astronomical Society (AAS), Division for Planetary Sciences (DPS) Meeting #46, *Growth properties of protoplanetary dust in a long-term microgravity experiment*
- Brisset, J.**, Kothe, S., Heißelmann, D., Weidling, R., Blum, J., 2011, European Planetary Science Congress (EPSC), *Suborbital Particle Aggregation and Collision Experiment (SPACE)*
- Uffmann, L., Hambloch, P., Diefenbach, A., Willnecker, R., Steinbach, S., Enz, T., Simicic, D., Nemirovski, A., **Brisset, J.**, Weiss, P., Aicher, W., 2010, American Institute of Aeronautics

and Astronautics, SpaceOps Conference, *Decentralized payload operations: ESA's Materials Science Laboratory in NASA's Materials Science Research Rack*

Hambloch, P., Uffmann, L., Diefenbach, A., Willnecker, R., Nemirovski, A., **Brisset, J.**, Weiß, P., Steinbach, S., Enz, T., Simicic, D. and Schiemann, J., 2010, 61st International Astronautical Congress (IAC), *Operational results of the materials science laboratory after on year in-orbit.*

HONORS & AWARDS

Recipient of 3 awards in recognition of academic achievements and education outreach since 2016. Additionally, recipient of fellowships with an equivalent value of \$250k during my education.

University of Central Florida Luminary Award (2018), honoring those who are academic leaders in their field and are making contributions to the world with a significant impact

College of Engineering and Computer Sciences Appreciation Award (2017), recognition for efforts to broaden the participation of underrepresented students in engineering and computer sciences at the University of Central Florida

Outstanding First Year Advocate Faculty Recipient (2016), recognition for mentoring and supporting first year students at the University of Central Florida

International Max-Planck Research School (IMPRS) Doctoral Fellowship (2011-2014), recipient of competitive fellowship from the Max-Planck Institute for Solar System Research, Germany, \$200k equivalent value

TIME Double Degree Fellowship (2003-2005), recipient of fellowship from the Top Industrial Managers for Europe (TIME) Program for accomplishments as an engineering student, ~\$50k equivalent value

RESEARCH PROJECTS AND GRANTS

Participation in external grants and flight opportunities with a collective value of about \$86M, including \$83.5M as Principal Investigator.

Principal investigator, Project title: Management and Operations of the Arecibo Observatory, 2018-2023, ~\$80M, **National Science Foundation/AST**

Principal investigator, Project title: Sintering of Lunar Regolith using Microwaves, 2022-2023, \$25k, **Florida Space Grant Consortium (FSGC)**

Principal investigator, Project title: ORIGINS: Photothermal Spectroscopy for Planetary Sciences, 2022-2025, \$1M, **NASA Planetary Instrument Concepts for the Advancement of Solar System Observations (PICASSO)**

Principal investigator, Project title: Understanding icy collisions in the early outer Solar System, 2021-2024, \$430k, **NASA Emerging Worlds (EW)**

Principal investigator, Project title: Understanding Surface Material on Titan, 2021-2024, \$550k, **NASA Cassini Data Analysis Program (CDAP)**

Principal investigator, Project title: Seismic Wave Propagation in Regolith under Low-Gravity Conditions, 2020-2021, ~\$15k, **Florida Space Grant Consortium (FSGC)**

Principal investigator, Project title: Investigating a ring formation mechanism for Centaurs and TNOs, 2019-2022, \$500k, **NASA Solar System Workings (SSW)**

Principal investigator, Project title: Active Asteroids: Investigating Surface Structural Failure As a Source of Mass Loss, 2018-2021, \$500k, **National Science Foundation/AST**

Principal investigator of the Dust In-Situ Manipulation System (DIMS): suborbital flight campaign scheduled for April 2021, Blue Origin, West Texas Launch Site, TX, ~\$250k equivalent value, **NASA Flight Opportunities Program**

Principal investigator and payload manager of SPACE (Suborbital Particle Aggregation and Collision Experiment): participation in a drop tower campaign at the ZARM drop tower (Bremen, Germany, August 2011) and in the REXUS-12 flight campaign (Kiruna, Sweden, March 2012) - ~\$250k equivalent value, **ESA/SNSC Rocket Experiments for University Students Program**

Principal investigator and payload manager of SPACE-2: suborbital flight campaign scheduled for May 2018, Exos Aerospace, Spaceport America, NM - \$100k, **NASA Flight Opportunities Program**

Co-investigator/Project Manager of Q-PACE (CubeSat-Particle Aggregation and Collision Experiment): CubeSat development, flight in 2021 - \$450k, **NASA SIMPLEx Award**, PI: Joshua Colwell

Co-investigator of CuPACE (CubeSat-Particle Aggregation and Collision Experiment): CubeSat launch on-board Virgin Galactic's ELaNaXX for a current flight date in 2019 - \$250k equivalent value, **NASA CubeSat Launch Initiative (CSLI) Program**, PI: Joshua Colwell

Co-investigator of PR-CuNaR2 (Puerto Rico CubeSat NanoRocks-2): CubeSat launch with SpaceX to the ISS in September 2021 - \$250k equivalent value, **NASA CubeSat Launch Initiative (CSLI) Program**, PI: Amilcar Rincon

Co-investigator of the CEMPS (Collision and Erosion in a Multi-Particle System) experiment: participation in the 99th and 101st Parabolic Flight Campaigns (2012), Bordeaux, France - ~\$250k equivalent value, **ESA Flight Opportunities Program**, PI Stefan Kothe

Co-Investigator for COLLIDE-3 (COLLisions Into Dust Experiment): suborbital flight campaign in April 2016, Blue Origin, West Texas, TX - \$250k equivalent value, **Blue Origin Pathfinder**, PI: Joshua Colwell

Co-Investigator for NanoRocks: flown on the International Space Station from September 2014 to March 2016 - \$100k equivalent value, **NanoRacks SFISS Award**, PI: Joshua Colwell

Co-Investigator for PRIME-3 (Physics of Regolith Impacts in Microgravity Experiment): participation in the NASA Flight Opportunities Program parabolic flight campaign 2014, Houston, TX - \$150k, **NASA Flight Opportunities Program**, PI: Joshua Colwell

Co-Investigator for PRIME-4 (Physics of Regolith Impacts in Microgravity Experiment): participation in the ZeroG parabolic flight campaign 2017, Sanford, FL - \$150k, **NASA Flight Opportunities Program**, PI: Joshua Colwell

Co-Investigator for the Strata-1 payload: flown on the International Space Station from March 2016 to March 2017 - \$150k, **NASA Internal ISS E1 Award**, PI: Marc Fries

Co-investigator for the Undergraduate Student Instrument Project (USIP) Simulating Low-Gravity Planetary Environments of Asteroids and Comets, ZeroG parabolic flight campaign 2018, Sanford, FL - \$100k, **NASA Undergraduate Student Instrument Project (USIP)**, PI: Adrienne Dove

Co-investigator for the United Launch Alliance (ULA) project Optimizing Lunar Water Thermal Extraction - \$25k, **United Launch Alliance, LLC**, PI: Phil Metzger

Participating scientist for the MEDEA (Microgravity Experiment on Dust Environments in Astrophysics) experiment: 3 flight campaigns on Armadillo's STIG-B Rocket (2012-2013), Spaceport America, NM - \$200k equivalent value, **DLR Flight Opportunities Program**, PI: René Weidling

ORAL PRESENTATIONS

More than 55 talks have been given, including over 25 invited talks since 2014.

Asteroid, Comets, Meteors (ACM) Meeting, 2023, Flagstaff, AZ, *From NEOs to TNOs: How regolith is shaping the small worlds of our Solar System*, **invited plenary talk**

Florida Research Development Alliance (FloRDA), 2022, Virtual, *Challenges and Opportunities for Space Research and Education in Florida*, **invited**

National Council of Space Grant Directors South East Regional Meeting, 2022, San Juan, Puerto Rico, *Arecibo Observatory: Status, Plans, Collaboration Opportunities*, **invited**

54th Annual Division of Planetary Science (DPS) Meeting, 2022, London, Canada, *The MESS Payload: Hands-on Experience for Undergraduates in Planetary Science Spaceflight Hardware*

International Max-Planck Research School (IMPRS) Alumni Conference, 2022, Virtual, *From the ISS to the Arecibo Telescope: My Career in STEM*, **invited**

UCF NanoTechnology Center Seminar Series, 2021, Orlando, FL, *The Florida Space Institute*, **invited**

53rd Annual Division of Planetary Science (DPS) Meeting, 2021, Virtual, *Collisional viscosity of icy dust aggregates in planetary rings*

53rd Annual Division of Planetary Science (DPS) Meeting, 2021, Virtual, *Inclusion of spin and soft-sphere properties into REBOUND for the study of gentle impacts in the outer Solar System*

European Planetary Science Congress (EPSC), 2021, Virtual, *Mechanical properties of fine-coarse grain mixtures of asteroid regolith*

52nd Annual Division of Planetary Science (DPS) Meeting, 2020, Virtual, *Surface activity on small bodies and regolith mechanical properties*, **invited**

52nd Annual Division of Planetary Science (DPS) Meeting, 2020, Virtual, *Mechanical properties of asteroid regoliths: role of grain size and frost on strength and cohesion*

European Planetary Science Congress (EPSC), 2020, Virtual, *Regolith behavior under asteroid-level gravity conditions: low-velocity impacts into mm- and cm-sized grains*

Interactions in Cosmic and Atmospheric Particle Systems (ICAPS) Workshop, 2020, Virtual, *Future Prospects of ICAPS with NASA*, **invited**

MUREP Aerospace Academy for Engaging Future Explorers in South Florida with Grades 6-12 NASA STEM Education, Teachers' Professional Development Training, Virtual, *Studying Planet Formation in the Laboratory*, **invited**

Southwest Research Institute Seminar Series, 2020, Boulder, CO, *Interacting with regolith surfaces in low-gravity environments*, **invited**

Next-generation Suborbital Research Conference, 2020, Broomfield, CO, *The ICAPS Sounding Rocket Experiment*

Next-generation Suborbital Research Conference, 2020, Broomfield, CO, *The Florida Space Institute*, **invited**

UCF Department of Material Science Engineering Journal Club, 2020, Orlando, FL, *Development of Polymer-Graphene Nanocomposites and Regolith Grains as Shielding Material*, **invited**

Central Florida Astronomical Society (CFAS) Seminar Series, 2020, Orlando, FL, *Using orbital platforms to study planet formation*, **invited**

Space Resources Workshop, 2019, Luxexpo, Luxembourg, *In-Situ Water Extraction on the Lunar Surface*

Cosmic Dust Conference, 2019, Chiba Conference Center, Narashino, Japan, *Levitating dust clouds on orbit: Pathways to support the experimental calibration of interstellar dust models*, **invited**

Granular Materials: From Physical Experiments to Planetary Science Workshop, 2019, Universidad Nacional de La Plata, Argentina, *Experimental aspects of icy regolith mechanics on small body surfaces*, **invited**

Institut für Geophysik und Extraterrestrische Physik (IGEP) Seminar Series, 2019, Technische Universität Braunschweig, Germany, *Using orbital platforms to study planet formation*, **invited**

The Main Belt: A Gateway to the Formation and Early Evolution of the Solar System, 2019, Villasimius, Italy, *Cohesive strength between regolith grains and activity on main belt asteroids*

Arecibo Observatory Futures Conference, 2019, San Juan, PR, *Exploring options to use the Arecibo X-Band capabilities for interplanetary CubeSat applications*, **invited**

50th Annual Division of Planetary Science (DPS) Meeting, 2018, Knoxville, TN, *Slow Impacts on Surfaces of Small Bodies: Coefficient of Restitution and Penetration Depth*

NASA Exploration and Science Forum (NSEF), 2018, Mountain View, CA, *Interacting with Surfaces of Small Bodies: Penetration Depth and Coefficient of Restitution*

Arecibo Observatory Seminar Series, 2018, Arecibo, PR, *Using orbital platforms to study planet formation*, **invited**

Earth, Atmospheric, Planetary Sciences (EAPS) Seminar Series, 2018, Purdue University, IN, *Dust behavior in microgravity: Learning about small body interiors and surfaces*, **invited**

Water during Planet Formation and Evolution, 2018, Zurich, Switzerland, *The influence of water ice grains on ejecta production upon low-velocity impacts*

Young Aviation Zone (YAZ), US Sport Aviation Exposition, 2018, Sebring, FL, *Microgravity at 30,000 feet: Flying Parabolas for Planetary Science*, **invited**

Space Life Science Laboratory (SLSL) DreamUp Session/SpaceX-13 Launch, 2017, Kennedy Space Flight Center, FL, *Dust behavior in microgravity: Learning about small body interiors and surfaces*, **invited**

49th Annual Division of Planetary Science (DPS) Meeting, 2017, Provo, UT, *Cohesion of Mm- to Cm-Sized Asteroid Simulant Grains: An Experimental Study*

Accretion: Building New Worlds, 2017, Lunar and Planetary Institute, Clearlake, TX, *Using orbital platforms to study planet formation*

NASA Small Bodies Assessment Group (SBAG) Steering Committee Meeting, 2017, Glenn Dale, MD, *Dust behavior in microgravity: learning about small body interiors and surfaces*, **invited**

Japanese Geophysical Union (JpGU) Annual Meeting, 2017, Chiba, Japan, *Regolith behavior under asteroid-level gravity conditions: low-velocity impact experiments*, **invited**

Space Life Science Laboratory (SLSL) Seminar Series, 2017, Kennedy Space Flight Center, FL, *Using orbital platforms to study planet formation*, **invited**

Asteroid, Comets, Meteors (ACM) Meeting, 2017, Montevideo, Uruguay, *Regolith Under Microgravity Conditions: Low-Velocity Impacts Experiments*

Planetary Sciences Journal Club (PSJC), 2017, Orlando, FL, *The many mysteries of active asteroids*, **invited**

American Geophysical Union (AGU) Fall Meeting, 2016, San Francisco, CA, *Mixing water ice into regolith in low-velocity impact experiments*

48th Annual Division of Planetary Science (DPS) Meeting, 2016, Pasadena, CA, *Low-velocity impacts into cryogenic icy regolith*

Intergalactic Space Jam (ISJ), 2016, Orlando, FL, *Exploration of Small Bodies: Challenges*, **invited**

NASA Exploration and Science Forum (NESF), 2016, Mountain View, CA, *Microgravity Experiments On The Response Of Planetary Regolith To Low-Velocity Impacts*

SouthWest Research Institute (SWRI) Seminar Series, 2016, San Antonio, TX, *Studying planet formation on orbit using miniature payloads*, **invited**

Planetary Sciences Journal Club (PSJC), 2016, Orlando, FL, *Studying planet formation on the ISS: Results of the NanoRocks experiment*, **invited**

European Planetary Science Congress (EPSC), 2015, Nantes, France, *PRIME: Studying Low-Velocity Impacts in Microgravity*

European Planetary Science Congress (EPSC), 2015, Nantes, France, *NanoRocks: Studying Planet Formation and Planetary Rings on the International Space Station*

46th Annual Division of Planetary Science (DPS) Meeting, 2014, Tucson, AZ, *Growth Properties of Protoplanetary Dust in a Long-Term Microgravity Experiment*

Planetary Sciences Journal Club (PSJC), 2014, Orlando, FL, *Studying Planet Formation in Microgravity Experiments*, **invited**

21st ESA Symposium on European Rocket and Balloon Programmes and Related Research, 2013, Thun, Switzerland, *The SPACE Experiment: Studying Planet Formation Processes on a Suborbital Rocket*

Next-Generation Suborbital Researchers Conference (NSRC), 2013, Broomfield, CO, *The SPACE Experiment: Using the REXUS Suborbital Rocket to Study Planet Formation Processes*

Rocks'n'Stars Conference, 2012, Göttingen, Germany, *Studying Planet Formation on the REXUS Suborbital Rocket*, **invited**

European Planetary Science Congress (EPSC), 2011, Nantes, France, *Suborbital Particle Aggregation and Collision Experiment (SPACE)*

European Low-Gravity Research Association (ELGRA) Symposium, 2011, Antwerpen, Belgium, *Microgravity Experiments on the Formation of Planets*

European Low-Gravity Research Association (ELGRA) Symposium, 2011, Antwerpen, Belgium, *Suborbital Particle Aggregation and Collision Experiment (SPACE)*

PROFESSIONAL SERVICE ACTIVITIES & MEMBERSHIPS

University of Central Florida (UCF) Faculty Senate:

- Appointment to the UCF Research Compliance Senate Subcommittee, Spring 2021 - ongoing

- Appointment to the UCF Research Faculty Senate, Spring 2020 - ongoing
- Appointment to the UCF Research Incentive Award Committee, Fall 2020

Manuscript Review:

- Nature Astronomy
- Monthly Notices of the Royal Astronomical Society (MNRAS)
- Planetary and Space Sciences (PSS)
- Journal of the American Astronomical Society (AAS)
- Astrophysical Journal (ApJ)
- Astrophysical Journal Letters (ApJL)
- Acta Astronautica
- Icarus
- Planetary Science Journal (PSJ)

Conference Organization Committees:

- 47th Annual Division of Planetary Science (DPS) Meeting Scientific Organizing Committee (SOC), 2015
- 53rd Annual Division of Planetary Science (DPS) Meeting Scientific Organizing Committee (SOC), 2021
- American Astronomical Society (AAS) Laboratory Astrophysics Division (LAD) South East Laboratory Astrophysics Conference (SELAC) SOC, 2022

Memberships:

- American Geophysical Union (AGU), since 2014
- American Astronomical Society (AAS) Division of Planetary Science (DPS), since 2014
- American Astronomical Society (AAS) Laboratory Astrophysics Division (LAD), since 2019
- Center for Lunar and Asteroid Surface Science (CLASS), Co-Investigator since 2019