

Dr. Mitchell Revalski

Professional Affiliation

Staff Scientist II, WFC3
Instruments Division (INS)
Space Telescope Science Institute
3700 San Martin Drive
Baltimore, MD 21218

Email: mrevalski@stsci.edu
Office: Rotunda East #205
Phone: (410)-338-2417
Website: www.mitchellrevalski.com
ORCID Page: [0000-0002-4917-7873](https://orcid.org/0000-0002-4917-7873)
Github: <https://github.com/mrevalski>

SELECTED HIGHLIGHTS

- 32 peer-reviewed publications (7 first-authored, 25 co-authored) with > 535 citations
- Secured a total of \$326,384 in competitive grant funding as the Primary Investigator
- Awarded 14 orbits with HST in Cycle 28 (Program ID 16246, PI: Revalski, \$138,854)
- Completed > 75 public outreach events for several thousand adults and K-12 students
- Highly proficient with python, jupyter, astropy, scipy, conda, github, source extractor

RESEARCH EXPERTISE

Galaxy evolution, active galactic nuclei (AGN), and supermassive black holes (SMBHs), including outflows, metallicity, emission line diagnostics, and photoionization modeling, using observations from the *Hubble Space Telescope* and integral field unit spectrographs.

EDUCATION

Ph.D. in Astronomy, Georgia State University <i>Quantifying Feedback from Narrow Line Region Outflows in Nearby Active Galaxies</i>	2019
M.S. in Physics, Georgia State University <i>Astronomy Concentration</i>	2017
B.S. in Physics, The College of New Jersey <i>Astrophysics Concentration</i>	2014

RECENT EMPLOYMENT

Staff Scientist II on the WFC3 Team, Space Telescope Science Institute <i>Member of the Wide Field Camera 3 Team for the Hubble Space Telescope</i>	2023 - Present
Postdoctoral Researcher, Space Telescope Science Institute <i>Galaxy evolution studies using HST and MUSE with Dr. Marc Rafelski</i>	2019 - 2023
NSF Graduate Research Fellow, Georgia State University <i>Determining the Importance of Mass Outflows in Active Galactic Evolution</i>	2016 - 2019
Graduate Teaching Assistant, Georgia State University <i>Taught labs for introductory solar system and extragalactic astronomy courses</i>	2014 - 2016

Observatory Technician, The College of New Jersey <i>Operated campus observatory and assisted with educating astronomy students</i>	2012 - 2014
--	-------------

PROFESSIONAL AFFILIATIONS

International Astronomical Union (IAU) Junior Member	2020 - Present
American Association for the Advancement of Science (AAAS)	2019 - 2022
Space Generation Advisory Council (SGAC)	2019 - Present
AAS Division on Dynamical Astronomy (DDA) Member	2019 - Present
Golden Key International Honour Society	2017 - Present
American Institute of Aeronautics and Astronautics (AIAA)	2015 - 2019
AAS High Energy Astrophysics Division (HEAD) Member	2014 - Present
American Astronomical Society (AAS) Member	2013 - Present
Sigma Pi Sigma National Physics Honors Society	2013 - Present
Society of Physics Students Member	2013 - Present

AWARDS & HONORS

New Jersey Astronomical Association Honorary Lifetime Membership	2019
GSU Advanced Graduate Student Award for Astronomy	2018
Tie for Best Poster at GSU High Performance Computing Day	2016
Best Poster Award at The Great Lakes Quasar Symposium	2016
National Science Foundation Graduate Research Fellowship Recipient	2016
Research Featured in TCNJ Journal of Student Scholarship	2015
GSU Second Century Initiative (2CI) Fellowship Recipient	2014
TCNJ Department of Physics, Departmental Service Award	2014
Young Scientist Honorable Mention, Sant Cugat Forum on Astrophysics	2014
Edward J. Bloustein Distinguished Scholar Scholarship	2010
California Technical Institute Signature Book Award	2009
Lebanon Township Schools Science Award	2006
New Jersey Earth Science Teachers Award	2004

LEADERSHIP POSITIONS

AAS Employment Committee Member	2019 - 2022
AstroPAL (Peer Advising Leader), Georgia State University	2016 - 2019
Graduate Student Liaison, Georgia State University Astronomy Club	2015 - 2018
President, The College of New Jersey Astronomy Club	2013 - 2014
Transfer Student Peer Mentor, The College of New Jersey	2013 - 2014
Vice President, The College of New Jersey Physics Club	2012 - 2014
Vice President, The College of New Jersey Astronomy Club	2012 - 2013
Vice President, The College of New Jersey Society of Physics Students	2012 - 2013
President, The College of New Jersey Swing Dance Club	2011 - 2014
Research Team, The New Jersey Astronomical Association	2011 - Present
President, Voorhees High School Astronomy Club	2008 - 2010
Qualified Observer, The New Jersey Astronomical Association	2006 - Present

RESEARCH EXPERIENCE

Postdoctoral Fellow, Space Telescope Science Institute <i>The MUSE Ultra Deep Field Program</i> Advisor: Dr. Marc Rafelski	2019 - 2023
NSF Graduate Research Fellow, Georgia State University <i>Quantifying Feedback from Narrow Line Region Outflows in Nearby Active Galaxies</i> Advisor: Dr. D. Michael Crenshaw	2016 - 2019
Second Century Initiative Fellow, Georgia State University <i>Quantifying Feedback from Narrow Line Region Outflows in Nearby Active Galaxies</i> Advisor: Dr. D. Michael Crenshaw	2014 - 2016
Undergraduate Thesis, The College of New Jersey <i>Electromagnetic Radiation from Charges Accelerated by Gravitational Waves</i> Advisor: Dr. Thulsi Wickramasinghe	2013
Mentored Undergraduate Summer Experience, The College of New Jersey <i>A Further Examination of Quasar Variability Using the Kepler Satellite</i> Advisor: Dr. Paul J. Wiita	2013
Mentored Undergraduate Summer Experience, The College of New Jersey <i>Investigating Quasar Variability Utilizing Kepler</i> Advisor: Dr. Paul J. Wiita	2012

TEACHING EXPERIENCE

Georgia State University Lab Instructor <i>Taught a total of 12 introductory astronomy lab sections.</i>	2014 - 2016
Georgia State University Substitute Lecturer <i>Taught two astronomy lectures as substitute instructor.</i>	2014 - 2018

OBSERVING EXPERIENCE

200-inch Hale Telescope - Palomar Observatory, Palomar Mountain, CA <i>Optical IFU spectroscopy with PCWI.</i>	2020
3.50m ARC Telescope - Apache Point Observatory, Sunspot, NM <i>Optical long-slit spectroscopy and broadband imaging.</i>	2015 - 2019
0.66m NJAA Telescope - Paul Robinson Observatory, High Bridge, NJ <i>Broadband imaging and photometry.</i>	2006 - Present
0.60m Miller Telescope - Hard Labor Creek Observatory, Rutledge, GA <i>Imaging and photometric monitoring of AGN variability.</i>	2014 - 2019

ASTRONOMY SERVICE

Served as a referee for seven papers in *ApJ*, *MNRAS*, and *A&A* (average report time is 12 ± 4 days).
Served as a Chambliss Poster Judge at the 237th AAS Meeting.
Served as a leveler to ensure anonymity for HST and JWST TACs.
Serving as co-organizer of STScI weekly Friday Science Coffees.

DEPARTMENTAL SERVICE

Served on the GSU Graduate Handbook Development Committee as student representative.
Wrote an Unofficial New Student Orientation Handbook for GSU Astronomy Program.
Provided orientation to incoming GSU students through the Peer Advising Leaders program.
Wrote the Unofficial Student Handbook for TCNJ Physics Department ([click here](#)).

STUDENT MENTORING

Provided guidance to three undergraduate students and three graduate students. Training on space and ground-based observing, spectroscopic and imaging data reduction and analysis, spectral diagnostics, database queries, and scientific presentation and writing development.

APPLICABLE SKILLS

High-Proficiency: Python, Astropy, Mathematica, DS9, Windows, Microsoft Office, L^AT_EX
Very-Proficient: Fortran, IDL, Linux, MacOS, Github, Conda, Anaconda, Scipy, SExtractor
Basic-Proficiency: C++, IRAF, MaximDL, Matlab, Blender, Perl, Bash Scripting
Analysis of *Hubble Space Telescope* and ground-based long-slit/IFU spectroscopy
Multi-component spectral fitting using Bayesian techniques
Photoionization modeling of ionized plasmas with the CLOUDY code
Computerized Numerical Control (CNC) machining and G/M type codes
Telescope mirror fabrication, Foucault, Ronchi, Auto Collimation, Ross Null tests
Laser safety trained for research in fluid dynamics lab
Comfortable with basic Spanish at the conversational level

GRANTS AS PRIMARY INVESTIGATOR

3. **\$138,854**: “Are Narrow Line Region Outflows an Effective Mode of AGN Feedback?”, Revalski, M. (Science P.I.), STScI, NASA, HST Cycle 28 Program ID 16246, 14 Orbits, 2020-2023 ([click here](#))
2. **\$45,530**: “The Energetic Role of Mass Outflows in Galaxy Evolution”, Revalski, M. (Science P.I.), Rafelski, M. (Admin P.I.), STScI Directors Discretionary Research Fund Proposal 82490, 2019-2021
1. **\$142,000**: “Determining the Importance of Mass Outflows in the Evolution of Active Galactic Nuclei”, Revalski, M., National Science Foundation Graduate Research Fellowship Program, 2016-2020

***Contributed as a co-investigator to 8 additional approved observing and archival proposals.**

PEER-REVIEWED PUBLICATIONS

Click here to see my publication record in the SAO/NASA ADS system:

<https://ui.adsabs.harvard.edu/public-libraries/G1Iagqe-SzSPJwwB4aD3Xw>

(32 publications: 7 first-author (†), 25 co-author, h -index = 12, $i10$ -index = 14, refereed citations = 535)

32. † “The MUSE Ultra Deep Field (MUDF). V. Characterizing the Mass-Metallicity Relation for Low Mass Galaxies at $z \sim 1-2$ ”, **Revalski, M.**, Rafelski, M., Henry, A., Fossati, M., Fumagalli, M., Dutta, R., Pirzkal, N., Beckett, A., Battaia Arrigoni, F., Dayal, P., D’Odorico, V., Lusso, E., Nedkova, K.V., Prichard, L.J., Papovich, C., Peroux, C. 2024, *ApJ*, *submitted*
31. “Constraints on the Seyfert 2 NLR densities”, Binette, L., Zovaro, H.R.M., Martín, M.V., Dors, O.L., Krongold, Y., Morisset, C., **Revalski, M.**, Alarie, A., Riffel, R.A., Dopita, M. 2024, *A&A*, *submitted*
30. “The MUSE Ultra Deep Field (MUDF). IV. A pair of X-ray weak quasars at the heart of two extended Ly α nebulae”, Lusso, E., Nardini, E., Fumagalli, M., Fossati, F., Arrigoni Battaia, F., **Revalski, M.**, Rafelski, M., D’Odorico, V., Peroux, C., Cristiani, S., Dayal, P., Haardt, F., Lofthouse, E.K. 2023, *MNRAS*, **525**, 4388
29. “Complex AGN feedback in the Teacup galaxy. A powerful ionised galactic outflow, jet-ISM interaction, and evidence for AGN-triggered star formation in a giant bubble”, Venturi, G., Treister, E., Finlez, C., DAgo, G., Bauer, F., Harrison, C., Ramos Almeida, C., **Revalski, M.**, Ricci, F., Sartori, L.F., Girdhar, A., Keel, W.C., Maksym, W.P., Tubín, D. 2023, *A&A*, **678**, 127
28. “Metal line emission from galaxy haloes at $z \approx 1$ ”, Dutta, R., Fossati, M., Fumagalli, **Revalski, M.**, M., Lofthouse, E.K., Nelson, D., Papini, G., Rafelski, M., Cantalupo, S., Arrigoni B.F., Dayal, P., Longobardi, A., Péroux, C., Prichard, L.J., Prochaska, J.X. 2022, *MNRAS*, **522**, 535
27. “Chemical abundances in Seyfert galaxies - X. Sulphur abundance estimates”, Dors, O., Valerdi, M., Riffel, R.A., Riffel, R., Cardaci, M.V., Hägele, G.F., Armah, **Revalski, M.**, M., Flury, S.R., Freitas-Lemes, P., Amôres, E.B., Krabbe, A.C., Binette, L., Feltre, A., Storchi-Bergmann, T. 2022, *MNRAS*, **521**, 1969
26. “The AGNIFS survey: spatially resolved observations of hot molecular and ionised outflows in nearby active galaxies”, Riffel, R.A., Storchi-Bergmann, T., Riffel, R., Bianchin, M., Zakamska, N.L., Ruschel-Dutra, D., Bentz, M.C., Burtscher, L., Crenshaw, D.M., Dahmer-Hahn, L.G., Dametto, N.Z., Davies, R.I., Diniz, M.R., Fischer, T.C., Harrison, C.M., Mainieri, V., **Revalski, M.**, Rodriguez-Ardila, A., Rosario, D.J., Schönell, A.J. 2022, *MNRAS*, **521**, 1832
25. † “The MUSE Ultra Deep Field (MUDF). III. Hubble Space Telescope WFC3 Grism Spectroscopy and Imaging”, **Revalski, M.**, Rafelski, M., Fumagalli, M., Fossati, M., Pirzkal, N., Sunnquist, B., Prichard, L.J., Henry, A., Bagley, M., Dutta, R., Papini, G., Battaia Arrigoni, F., D’Odorico, V., Dayal, P., Estrada-Carpenter, V., Lofthouse, E.K., Lusso, E., Morris, S.L., Nedkova, K.V., Papovich, C., Peroux, C. 2023, *ApJS*, **265**, 40
24. “A Catalog of 71 Coronal Line Galaxies in MaNGA: [Ne V] is an Effective AGN Tracer”, Negus, J., Comerford, J.M., Müller Sánchez, F., **Revalski, M.**, Riffel, R.A., Bundy, K., Nevin, R., Rembold, S.B. 2022, *ApJ*, **945**, 127
23. “Investigating the Narrow Line Region Dynamics in Nearby Active Galaxies”, Meena, B., Crenshaw, D.M., Schmitt, H.R., **Revalski, M.**, Chapman, Z., Fischer, T.C., Kraemer, S.B., Robinson, J.H., Falcone, J., Polack, G.E. 2022, *ApJ*, **943**, 98

22. “Hubble Space Telescope Observations of Tadpole Galaxies Kiso 3867, SBS0, SBS1, and UM461”, Elmegreen, D.M., Elmegreen, B.G., Gallagher, J.S., Kotulla, R., Sanchez Almeida, J., Munoz-Tunon, C., Caon, N., Rafelski, M., Sunnquist, B., **Revalski, M.**, Andersen, M. 2022, *ApJ*, 941, 157
21. “A Massive, Dusty, HI Absorption-Selected Galaxy at $z \approx 2.46$ Identified in a CO Emission Survey”, Kaur, B., Kanekar, N., **Revalski, M.**, Rafelski, M., Neeleman, M., Prochaska, J. X., Walter, F. 2022, *ApJ*, 934, 87
20. “Jansky Very Large Array Detections of CO(1-0) Emission in H I-absorption-selected Galaxies at $z \gtrsim 2$ ”, Kaur, B., Kanekar, N., Rafelski, M., Neeleman, M., Prochaska, J.X., **Revalski, M.** 2022, *ApJL*, 933, L42
19. † “Quantifying Feedback from Narrow Line Region Outflows in Nearby Active Galaxies. IV. The Effects of Different Density Estimates on the Ionized Gas Masses and Outflow Rates”, **Revalski, M.**, Crenshaw, D.M., Rafelski, M., Kraemer, S.B., Polack, G.E., Trindade Falcão, A., Fischer, T.C., Meena, B., Martinez, F., Schmitt, H.R., Collins, N.R., Falcone, J. 2022, *ApJ*, 930, 14
18. “Tracking X-ray Outflows with Optical/IR Footprint Lines”, Trindade Falcão, A., Kraemer, S.B., Crenshaw, D.M., Melendez, M., **Revalski, M.**, Fischer, T.C., Schmitt, H.R., Turner, T.J. 2022, *MNRAS*, 511, 1420
17. “Lyman Continuum Galaxy Candidates in COSMOS”, Prichard, L.J., Rafelski, M., Cooke, J., Mestric, U., Bassett, R., Ryan-Weber, E.V., Sunnquist, B., Alavi, A., Hathi, N., Wang, X., **Revalski, M.**, Bajaj, V., O’Meara, J.M., Spitler, L. 2022, *ApJ*, 924, 14
16. “The nature of HI-absorption-selected galaxies at $z \approx 4$ ”, Kaur, B., Kanekar, N., Rafelski, M., Neeleman, M., **Revalski, M.**, Prochaska, J.X. 2021, *ApJ*, 921, 68
15. “Hubble Space Telescope [O III] Emission-Line Kinematics in Two Nearby QSO2s: A Case for X-ray Feedback”, Trindade Falcão, A., Kraemer, S.B., Fischer, T.C., Crenshaw, D.M., **Revalski, M.**, Schmitt, H.R., Maksym, W.P., Vestergaard, M., Elvis, M., Gaskell, C.M., Hamann, F., Ho, L.C., Hutchings, J., Mushotzky, R., Netzer, H., Storchi-Bergmann, T., Turner, T.J., Ward, M.J. 2021, *MNRAS*, 505, 3054
14. “Radiative Driving of the AGN Outflows in the Narrow-Line Seyfert 1 Galaxy NGC 4051”, Meena, B., Crenshaw, D.M., Schmitt, H.R., **Revalski, M.**, Fischer, T.C., Polack, G.E., Kraemer, S.B., Dashtamirova D. 2021, *ApJ*, 916, 31
13. † “Quantifying Feedback from Narrow Line Region Outflows in Nearby Active Galaxies. III. Results for the Seyfert 2 Galaxies Markarian 3, Markarian 78, and NGC 1068”, **Revalski, M.**, Meena, B., Martinez, F., Polack, G.E., Crenshaw, D.M., Kraemer, S.B., Collins, N.R., Fischer, T.C., Schmitt, H.R., Schmidt, J., Maksym, W.P., Rafelski, M. 2020, *ApJ*, 910, 139
12. “Hubble Space Telescope Observations of [O III] Emission in Nearby QSO2s: Physical Properties of the Ionized Outflows”, Trindade Falcão, A., Kraemer, S.B., Fischer, T.C., Crenshaw, D.M., **Revalski, M.**, Schmitt, H.R., Vestergaard, M., Elvis, M., Gaskell, C.M., Hamann, F., Ho, L.C., Hutchings, J., Mushotzky, R., Netzer, H., Storchi-Bergmann, T., Turner, T.J., Ward, M.J. 2021, *MNRAS*, 500, 1491
11. “Mass Outflow of the X-ray Emission Line Gas in NGC 4151”, Kraemer, S.B., Turner, T.J., Couto, J.D., Crenshaw, D.M., Schmitt, H.R., **Revalski, M.**, Fischer, T.C. 2020, *MNRAS*, 493, 3893
10. “Gemini Near Infrared Field Spectrograph Observations of the Seyfert 2 Galaxy Mrk 3: Feeding and Feedback on Galactic and Nuclear Scales”, Gnilka, C.L., Crenshaw, D.M., Fischer, T.C., **Revalski, M.**,

- Meena, B., Martinez, F., Polack, G.E., Machuca, C., Dashtamirova, D., Kraemer, S.B., Schmitt, H.R., Riffel, R. A., Storchi-Bergmann, T. 2020, *ApJ*, 893, 80
9. “Multicomponent power-density spectra of Kepler AGNs, an instrumental artefact or a physical origin?”, Dobrotka, A., Bezák, P., **Revalski, M.**, Strémy, M. 2019, *MNRAS*, 483, 38
 8. † “Quantifying Feedback from Narrow Line Region Outflows in Nearby Active Galaxies. II. Spatially Resolved Mass Outflow Rates for the QSO2 Markarian 34”, **Revalski, M.**, Dashtamirova D., Crenshaw, D.M., Kraemer, S.B., Fischer, T.C., Schmitt, H.R., Gnilka, C.L., Schmidt, J., Elvis, M., Fabbiano, G. Storchi-Bergmann, T., Maksym, W.P., Gandhi, P. 2018, *ApJ*, 867, 88
 7. “Challenges and Techniques for Simulating Line Emission”, Olsen, K.P., Pallottini, A., Wofford, A., Chatzikos, M., **Revalski, M.**, Guzmán, F., Popping, G., Vázquez-Semadeni, E., Magdis, G.E., Richardson, M.L.A., Hirschmann, M., Gray, W.J. 2018, *Galaxies*, 6, 100
 6. “Hubble Space Telescope Observations of Extended [O III] λ 5007 Emission In Nearby QSO2S: New Constraints on AGN / Host Galaxy Interaction”, Fischer, T.C., Kraemer, S.B., Schmitt, H.R., Longo Micchi, L.F., Crenshaw, D.M., **Revalski, M.**, Elvis, M., Gaskell, C.M., Hamann, F., Ho, L.C., Hutchings, J., Mushotzky, R., Netzer, H., Storchi-Bergmann, T., Straughn, A., Turner, T.J., Vestergaard, M., Ward, M.J 2018, *ApJ*, 856, 102
 5. † “Quantifying Feedback from Narrow Line Region Outflows in Nearby Active Galaxies. I. Spatially Resolved Mass Outflow Rates for the Seyfert 2 galaxy Markarian 573”, **Revalski, M.**, Crenshaw, D.M., Kraemer, S.B., Fischer, T.C., Schmitt, H.R., Machuca, C. 2018, *ApJ*, 856, 46
 4. “Gemini Near Infrared Field Spectrograph Observations of the Seyfert 2 Galaxy Mrk 573: In Situ Acceleration of Ionized and Molecular Gas Off Fueling Flows”, Fischer, T.C., Machuca, C., Diniz, M.R., Crenshaw, D.M., Kraemer, S.B., Riffel, R.A., Schmitt, H.R., Baron, F., Storchi-Bergmann, T., Straughn, A.N., **Revalski, M.**, Pope, C.L. 2017, *ApJ*, 834, 30
 3. “A Low-Mass Black Hole in the Nearby Seyfert Galaxy UGC 06728”, Bentz, M.C., Batiste, M., Seals, J., Garcia, K., Kuzio de Naray, R., Peters, W., Anderson, M.D., Jones, J., Lester, K., Machuca, C., Parks, R.J., Pope, C.L., **Revalski, M.**, Roberts, C.A., Saylor, D., Sevrinsky, A.R., Turner, C. 2016, *ApJ*, 831, 2
 2. † “Investigating the Variability of Active Galactic Nuclei Using Combined Multi-Quarter Kepler Data”, **Revalski, M.**, Nowak, D., Wiita, P.J., Wehrle, A.E., Unwin, S.C. 2014, *ApJ*, 785, 60
 1. “Kepler Photometry of Four Radio-Loud Active Galactic Nuclei in 2010-2012”, Wehrle, A.E., Wiita, P.J., Unwin, S.C., Di Lorenzo, P., **Revalski, M.**, Silano, D., Sprague, D. 2013, *ApJ*, 773, 89

INVITED TALKS, COLLOQUIA, SEMINARS

13. “Connecting Gas and Galaxies over Cosmic Time in the MUSE Ultra Deep Field”, Università degli Studi di Milano-Bicocca, Physics Colloquium Series, Hosted by Matteo Fossati, September 21, 2023
12. “How Galaxies are Shaped by Supermassive Black Hole Winds”, Troy University, Department of Chemistry and Physics Colloquium Series, Hosted by Justin Robinson, October 21, 2022 ([click for recording](#))
11. “Modeling the Dynamics of AGN-Driven Outflows in Nearby Galaxies”, NASA Goddard X-ray Astrophysics Laboratory AGN Seminar Series, February 3, 2022
10. “The Dynamics of Radiatively Driven Outflows in Nearby Active Galaxies”, International AGN Seminar Series, January 18, 2022 ([click for recording](#))

9. “Measuring the Mass-Metallicity Relation for Low Mass Galaxies in the MUSE Ultra Deep Field” at the Space Telescope Science Institute, HotSci Colloquium Series, July 27, 2022 ([click for recording](#))
8. “The Densities and Dynamics of AGN-Driven Outflows in Nearby Galaxies”, Multiphase AGN Feeding and Feedback II Conference, Sesto, Italy, June 20, 2022 ([click for slides](#))
7. “Modeling the Dynamics of AGN-Driven Outflows in Nearby Galaxies”, STSci Postdoctoral Discovery Seminar Series, April 19, 2022 ([click for recording](#))
6. “Modeling the Physical Conditions of Photoionized Outflows in Nearby Active Galaxies”, University of Nevada, Las Vegas, Astronomy Colloquium, Hosted by Daniel Proga, November 15, 2019
5. “Measuring the Impact of Mass Outflows in Nearby Active Galaxies”, Harvard-Smithsonian Center for Astrophysics “Quasar Tea Talk”, Hosted by Peter Maksym, October 23, 2018
4. “Supermassive Black Hole Winds: Can They Influence Galaxy Evolution?”, The College of New Jersey, Department of Physics Colloquium, Hosted by Angela Capece, October 19, 2018
3. “The Energetics of Narrow Line Region Mass Outflows in Nearby AGN”, NASA’s Goddard Space Flight Center (GSFC), Hosted by Travis Fischer, October 17, 2018
2. “Characterizing Mass Outflows in Nearby Active Galaxies with Hubble”, U.S. Naval Research Laboratory (NRL), Hosted by Henrique Schmitt, October 16, 2018
1. “Probing Feedback from Outflows in the Narrow Line Region”, Multiphase AGN Feeding and Feedback Conference, Sesto, Italy, July 13, 2018

INFORMAL TALKS

6. “Quantifying Feedback from Narrow Line Region Outflows in Nearby Active Galaxies”, Johns Hopkins University, Science Coffee, May 16, 2022
5. “Measuring the Spatially-Resolved Energetics of AGN-Driven Outflows in Nearby Active Galaxies”, Space Telescope Science Institute, Friday Science Coffee, January 26, 2021
4. “How Do Supermassive Black Hole Winds Affect Galaxy Evolution?”, Space Telescope Science Institute, Virtual STSci/JHU Intern Lecture Series, July 21, 2020
3. “Quantifying Feedback from Narrow Line Region Outflows in Nearby Active Galaxies”, Johns Hopkins University, Astrocoffee, July 30, 2020
2. “How massive are AGN-driven outflows in local galaxies?”, Durham University, Friday Lunch Astronomy Talk (FLAT), November 22, 2019
1. “How Powerful Are Outflows in Nearby Active Galaxies?”, Space Telescope Science Institute, Friday Science Coffee, November 1, 2019

CONFERENCE PROCEEDINGS

5. “Observations of AGN feeding and feedback on Nuclear, Galactic, and Extragalactic Scales”, Crenshaw, D.M., Gnilka, C.L., Fischer, T.C., **Revalska, M.**, Meena, B., Martinez, F., Polack, G.E., Machuca, C., Dashtamirova, D., Kraemer, S.B., Schmitt, H.R., Riffel, R.A., Storchi-Bergmann, T. 2021, IAU Symposium, 359, 318. doi:10.1017/S1743921320001623

4. “Identifying the extent of AGN outflows using spatially resolved gas kinematics”, Meena, B., Crenshaw, D.M., Fischer, T.C., Schmitt, H.R., **Revalski, M.**, Polack, G.E. 2021, IAU Symposium, 359, 285. doi:10.1017/S1743921320002185
3. “HST observations of [O III] emission in nearby QSO2s: Physical properties of the outflows”, Falcao, A.T., Kraemer, S.B., Fischer, T.C., Crenshaw, D.M., **Revalski, M.**, Schmitt, H.R. 2021, IAU Symposium, 359, 269. doi:10.1017/S1743921320004196
2. “The Emission of Electromagnetic Radiation from Charges Accelerated by Gravitational Waves and its Astrophysical Implications”, **Revalski, M.**, Rhodes, W., Wickramasinghe, T. 2014, C.F. Soper (ed.), *Gravitational Wave Astrophysics*, Springer Astrophysics and Space Science Proceedings, ISBN: 978-3-319-10487-4, doi: 10.1007/978-3-319-10488-1_27
1. “Interaction of Gravitational Waves with Charged Particles”, Wickramasinghe, T., Rhodes, W., **Revalski, M.** 2014, C.F. Soper (ed.), *Gravitational Wave Astrophysics*, Springer Astrophysics and Space Science Proceedings, ISBN: 978-3-319-10487-4, doi: 10.1007/978-3-319-10488-1_26

CONFERENCE TALKS

16. “Measuring the Mass-Metallicity Relation of Low Mass Galaxies at Redshifts 1-2”, **Revalski, M.**, Rafelski, M., Fumagalli, M., Pirzkal, N., Fossati, M., Henry, A., Sunnquist, B., Prichard, L.J., Charting the metallicity evolution history of the Universe, September 19, 2022
15. “Connecting Gas and Galaxies with HST Grism Spectroscopy of the MUSE Ultra Deep Field”, **Revalski, M.**, Rafelski, M., Fumagalli, M., Pirzkal, N., Fossati, M., Sunnquist, B., Prichard, L.J., What matter(s) around galaxies 2022, September 15, 2022
14. “Comparing the Ionized Gas Masses of AGN-Driven Outflows Using Different Radial Density Profiles”, **Revalski, M.**, Crenshaw, D.M., Rafelski, M., Kraemer, S.B., Polack, G.E., Trindade Falcão, A., Fischer, T.C., Meena, B., Martinez, F., Schmitt, H.R., Collins, N.R., Falcone, J., Abstract ID 696, 239th AAS Meeting (*cancelled*)
13. “Measuring the Spatially Resolved Mass Outflow Rates of Ionized Gas in Nearby AGN”, Young Astronomers on Galactic Nuclei (YAGN), August 26, 2021 ([click for recording](#))
12. “Early Science Results from the MUSE Ultra Deep Field Program”, **Revalski, M.**, Rafelski, M., Fumagalli, M., Pirzkal, N., Fossati, M., Prichard, L.J., Sunnquist, B., and the MUDF Collaboration, Talk Number 308.05, 237th AAS Meeting
11. “90 Orbits of *HST* WFC3 Grism Spectroscopy of the MUSE Ultra Deep Field”, **Revalski, M.**, Rafelski, M., Fumagalli, M., Pirzkal, N., Fossati, M., Sunnquist, B., and the MUDF Collaboration, Talk Number 307.07, 236th AAS Meeting
10. “Spatially Resolved Mass Outflow Rates for Six Nearby AGN Using Photoionization Modeling”, **Revalski, M.**, Meena, B., Martinez, F., Crenshaw, D.M., Kraemer, S.B., Collins, N.R., Fischer, T.C., Schmitt, H.R., Polack, G.E., Rafelski, M., Talk Number 436.06, 235th AAS Meeting
9. “Feedback in Nearby Active Galaxies: Quantifying the Impact of Narrow Line Region Outflows”, **Revalski, M.**, Talk Number 306.03D, 233rd AAS Meeting
8. “A Comparison of Techniques for Determining Mass Outflow Rates in the Type 2 Quasar Markarian 34”, **Revalski, M.**, Crenshaw, D.M., Fischer, T.C., Kraemer, S.B., Schmitt, H.R., Dashtamirova, D., Gnilka, C.L., Talk Number 401.05, 232nd AAS Meeting

7. “Using Photoionization Modeling and Line Diagnostics to Quantify Feedback from AGN Driven Outflows”, **Revalski, M.**, Crenshaw, D.M., Kraemer, S.B., Fischer, T.C., Schmitt, H.R., Dashtamirova, D., Gnilka, C.L., Walking the Line 2018, March 14-16, 2018 ([click for recording](#))
6. “How Do Supermassive Black Holes Grow? Measuring the Powerful Winds in Active Galactic Nuclei”, **Revalski, M.**, 5th Perimeter Astronomy Conference (PAC), October 25, 2017 ([click for recording](#))
5. “A Spatially Resolved Mass Outflow Rate for Markarian 573: In-Situ Radiative Driving of the Narrow Line Region Gas on Scales of Hundreds of Parsecs”, **Revalski M.**, Crenshaw, D.M., Kraemer, S.B., Fischer, T.C., Schmitt, H.R., Machuca, C., AGN Winds on the Georgia Coast, June 28, 2017
4. “The Spatially Resolved Mass Outflow Rate in Markarian 573”, **Revalski, M.**, Crenshaw, D.M., Fischer, T.C., Kraemer, S.B., Schmitt, H.R., Talk Number 302.04, 229th AAS Meeting
3. “Determining the Spatially Resolved Mass Outflow Rate in Markarian 573”, **Revalski, M.**, Crenshaw, D.M., Fischer, T.C., Kraemer, S.B., Schmitt, H.R., Georgia Regional Astronomers Meeting (GRAM), October 29, 2016
2. “Using Cloudy Models to Determine Spatially-Resolved Mass Outflow Rates in Nearby Active Galaxies”, **Revalski, M.**, Crenshaw, D.M., Kraemer, S.B., Fischer, T.C., Schmitt, H.R., Two Minute Graduate Talk at Cloudy: Emission Lines in Astrophysics, August 8-12, 2016
1. “The Emission of Electromagnetic Radiation from Charges Accelerated by Gravitational Waves and its Astrophysical Implications”, **Revalski, M.**, Rhodes, W., Wickramasinghe, T., Contributed Talk at The 3rd Sant Cugat Forum on Astrophysics, April 22-25, 2014

***Contributed as a co-author to 6 additional oral presentations at major conferences.**

CONFERENCE POSTERS

9. “Hubble Space Telescope Grism Spectroscopy of the MUSE Ultra Deep Field”, **Revalski, M.**, Rafelski, M., Fumagalli, M., Pirzkal, N., Fossati, M., Henry, A., Sunquist, B., Prichard, L.J., Multi-object Spectroscopy for Statistical Measures of Galaxy Evolution at STScI, May 17, 2021
8. “Spatially Resolved Mass Outflows in the Narrow Line Region of Markarian 34”, **Revalski, M.**, Fischer, T.C., Crenshaw, D.M., Kraemer, S.B., Schmitt, H.R., Gnilka, C.L., Dashtamirova, D., Poster Number 250.48, 231st AAS Meeting
7. “Maximizing the Impact of JWST: Developing Diagnostics to Quantify Mass Outflow Rates in Nearby Active Galaxies”, **Revalski, M.**, Spectral Diagnostics to Explore the Cosmic Dawn With JWST, August 1, 2017
6. “Cloudy Model Visualization to Determine Spatially-Resolved Mass Outflow Rates in Nearby Active Galaxies”, **Revalski, M.**, Crenshaw, D.M., Kraemer, S.B., Fischer, T.C., Schmitt, H.R., GSU Scientific Computing Day
5. “Using Cloudy Models to Determine Spatially-Resolved Mass Outflow Rates in Nearby Active Galaxies”, **Revalski, M.**, Crenshaw, D.M., Kraemer, S.B., Fischer, T.C., Schmitt, H.R., 2016, Cloudy: Emission Lines in Astrophysics, A Conference to Honor Gary Ferland
4. “Characterizing the Narrow Line Region Outflows in Markarian 573”, **Revalski, M.**, Crenshaw, D.M., Fischer, T.C., Kraemer, S.B., Schmitt, H.R. 2016, The Great Lakes Quasar Symposium

3. “Mass Outflow in the Narrow Line Region of Markarian 573”, **Revalski, M.**, Crenshaw, D.M., Fischer, T.C., Kraemer, S.B., Schmitt, H.R. 2016, Poster Number 243.06, 227th AAS Meeting
2. “Investigating AGN Variability Using Combined Multi-Quarter Kepler Data”, **Revalski, M.**, Nowak, D., Wiita, P.J., Wehrle, A.E., Unwin, S.C. 2014, Poster Number 250.02, 223rd AAS Meeting
1. “Exploiting Kepler to Study Quasar Variability”, **Revalski, M.**, Wiita, P.J., Di Lorenzo, P., Sprague, D., Wehrle, A.E., Unwin, S.C. 2013, Poster Number 339.02, 221st AAS Meeting

***Contributed as a co-author to 17 additional poster presentations at major conferences.**

COMMUNITY WHITE PAPERS

2. “Astronomy-driven Careers in the 2020’s”, Kamenetzky, J. et al. and 11 co-authors including **Revalski, M.**, 2019, An Astro2020 Decadal Survey State of the Profession Consideration
1. “The Physics and Astrophysics of X-ray Outflows from Active Galactic Nuclei”, Laha, S. et al. and 22 co-authors including **Revalski, M.**, 2019, National Academies of Science, Engineering, and Medicine’s Call to the Astronomy and Astrophysics Community for Science White Papers

ORGANIZING COMMITTEES

- | | |
|--|------|
| 7. IV Workshop Chemical Abundances in Gaseous Nebulae
<i>Serving on the SOC, in-progress</i> | 2024 |
| 6. AGN Winds on the Chesapeake
<i>Served on the SOC and LOC organizing conference logistics.</i> | 2023 |
| 5. “How to Give Great Presentations: A Scientists Guide to Effective Communication”
<i>Developed materials for workshop at the 240th AAS meeting.</i> | 2022 |
| 4. Large-Volume Spectroscopic Analyses of AGN and Star Forming Galaxies in the Era of JWST
<i>Abstract submission and sorting, panel moderator.</i> | 2022 |
| 3. AGN Winds on the Georgia Coast
<i>Announcements, abstract submission and sorting.</i> | 2017 |
| 2. White House Astronomy Night Satellite Event: GSU Astronomy Night
<i>Assisted with “Ask an Astronomer” panel discussion for public outreach.</i> | 2015 |
| 1. IAU Symposium 314: Young Stars and Planets Near the Sun
<i>Managed volunteers, created name badges, and organized poster competition.</i> | 2015 |

OUTREACH TALKS

7. “Heavy Metal: How the smallest galaxies rock the life cycle of elements in our Universe” at the New Jersey Astronomical Association, October 28, 2023 ([click for recording](#))
6. “Shaping Galaxies with Supermassive Black Hole Winds” at the Space Telescope Science Institute Public Lecture Series, December 1, 2020 ([click for recording](#))
5. “Mass Outflows in Active Galaxies: Part II - The Conclusion”, at the New Jersey Astronomical Association, November 30, 2019 ([click for recording](#))

4. “Supermassive Black Holes and Extragalactic Outflows”, at the Charlie Elliott Astronomy Club, January 28, 2017
3. “Mass Outflows in Active Galaxies: What are they and how do they affect galaxy evolution?”, at the New Jersey Astronomical Association, November 28, 2015 ([click for recording](#))
2. “An Introduction to Gravitational Wave Astronomy & Undergraduate Research Results”, at the New Jersey Astronomical Association, June 13, 2014 ([click for recording](#))
1. “Exploring Active Galactic Nuclei Utilizing the Kepler Satellite”, at the New Jersey Astronomical Association, September 22, 2012

OUTREACH PROGRAMS

- | | |
|--|-------------|
| 6. Presentations of Science Public Outreach Team (SPOT) Resources
<i>Presentations of Astronomy and STEM topics for K-12.</i> | 2018 - 2019 |
| 5. Hard Labor Creek Observatory Volunteer
<i>Operate telescopes & direct public during open houses.</i> | 2014 - 2019 |
| 4. Girl Scouts of America
<i>Assist with hands-on astronomy programs directed by Dr. Misty Bentz.</i> | 2014 - 2019 |
| 3. Urban Life Observatory Volunteer
<i>Operated telescopes from GSU campus for students in the city.</i> | 2014 - 2016 |
| 2. New Jersey Astronomical Association Qualified Observer
<i>Team member that hosted 25+ public nights at the observatory, including observing, youth education, and STEM career awareness.</i> | 2006 - 2014 |
| 1. Elementary School Planetarium Shows
<i>Portable planetarium shows and crafts for K-6 students at three schools.</i> | 2006 - 2010 |

OUTREACH EVENTS *(complete after 2014)*

- | | |
|--|----------|
| 34. Cove Road Elementary Zoom Q&A
<i>Zoomed with two 5th grade classes to discuss planets and stars.</i> | Apr 2023 |
| 33. Warner Elementary School “Space Day” Kick-Off Event
<i>Discussed careers, telescopes, and JWST virtually for >100 5th graders.</i> | Nov 2021 |
| 32. Alumni Panel at The College of New Jersey
<i>Career Panel Q&A for ~40 undergraduate physics majors.</i> | Oct 2021 |
| 31. Lucy V. Barnsley Elementary Zoom Q&A
<i>Zoomed with 5th grade class to answer their astronomy questions.</i> | Apr 2021 |
| 30. Latino Organization of Graduate Students (LOGRAS) Postdoc Panel
<i>Answered GT graduate student questions on postdoc application process.</i> | Oct 2020 |
| 29. Graduate Student Fellowship Application Panel
<i>Answered JHU graduate student questions about fellowship applications.</i> | Sep 2020 |

28. Annual Roland Park Middle School Science Fair Mar 2020
Judged projects based on implementation of the scientific method.
27. Graduate Student Panel for Neuro Summer Program at GSU Jun 2019
Panel member providing advice on graduate school applications.
26. Physics Graduate Student Association HLCO Night Mar 2019
Operated HLCO telescopes for PGSA Student Star Party.
25. Trip Elementary School STEM Night Jan 2019
Had students build model refracting telescopes and discussed optics.
24. Maynard Holbrook Jackson High School Jan 2019
Astronomy trivia game and discussed jobs in STEM fields.
23. Voorhees High School: "Astronomy Smorgasbord" Oct 2018
Gave talk on research, jobs in STEM, and graduate school information.
22. Cristo Rey High School Astronomy Jeopardy Sep 2018
Had student teams compete in astronomy trivia game.
21. Trip Elementary School STEM Night Jan 2018
Operated telescope and answered questions for several hundred students.
20. Raritan Valley Elementary School Q&A Jan 2018
Answered solar system and star questions for 4th grade class.
19. Student Summer Camp Solar Observing Jul 2017
Operated solar telescope for STEM campers ages 7-10.
18. Voorhees High School Talk and Q&A Dec 2016
Talk on research, applying to colleges, and astronomy Q&A.
17. Middle School Astronomy Skype Q&A Nov 2016
Skyped with 4th grade class to answer their astronomy questions.
16. GSU Astronomy Night in Grant Park Nov 2016
Gave constellation tour for over 100 elementary school families.
15. Student Shadowing Sep 2016
Organized high school student shadowing for their senior project.
14. GSU Astronomy Club Talk Sep 2016
Gave opening semester talk to club about black holes.
13. Planet X: Fact or Fiction? Public Debate Sep 2016
Held observing session following public debate.
12. Georgia Buddhist Summer Camp Star Party Jun 2016
Operated HLCO telescopes for 100 adults and children.
11. Voorhees High School Talk: "Astronomy Smorgasbord" Jun 2016
Gave talk on research, graduate school information, and trivia game.
10. Ethel Mcknight Elementary School "Astronomer Q&A" May 2015
Answered student questions about stellar evolution.

- | | |
|---|----------|
| 9. Riverstone Montessori School Visit Day
<i>Answered student questions on planet formation for school project.</i> | Oct 2014 |
| 8. Boy Scouts of America Star Party
<i>Gave NJAA observatory tours & answered questions for 50 scouts.</i> | Apr 2014 |
| 7. Woodglen Middle School Star Party
<i>Operated telescopes for middle school families to observe planets.</i> | May 2013 |
| 6. Voorhees High School Transit of Venus Star Party
<i>Operated solar telescopes for public viewing of Venus solar transit.</i> | Jun 2012 |
| 5. Voorhees High School Talk “Astronomer Q&A”
<i>Gave talk and answered student questions about SATs, college applications.</i> | Nov 2012 |
| 4. Hopewell Elementary School Science Fair
<i>Helped with hands-on astronomy demonstrations.</i> | Mar 2012 |
| 3. New Jersey Astronomical Association Young Astronomers Night
<i>Assisted with dry ice comet making demonstration for family science night.</i> | Nov 2011 |
| 2. Union Township Elementary School Planetarium Demonstration
<i>Operated inflatable planetarium and described constellations to students.</i> | Apr 2007 |
| 1. Woodglen Middle School Family Science Nights
<i>Operated 8” telescope for middle school families to observe a lunar eclipse.</i> | Oct 2004 |

SCIENCE POLICY

- | | |
|--|-------------|
| 2. Citizens for Space Exploration New Jersey Student Representative
<i>Conducted 10 days of office meetings in Washington D.C. to promote support from representatives and senate members for NASA funding. Served on student training panel.</i> | 2013 - 2017 |
| 1. Graduate Student NSF Information Session
<i>Held three Q&A sessions about applying for NSF GRFP with school of graduate studies.</i> | 2016 - 2018 |

MEDIA

- | | |
|--|-------------------------------------|
| “Shine On You Crazy Outflow!” | 2021 (click here) |
| “Recent Grad Dr. Mitchell Revalski Achieves Rare Feat” | 2020 (click here) |
| “NJAA Awards Lifetime Member Status to Mitchell Revalski” | 2019 (click here) |
| “GSU Graduate Student Profile” | 2018 (click here) |
| “Graduate Student Awarded NSF Fellowship” | 2016 (click here) |
| “TCNJ Physics Alumnus Wins National Science Foundation Fellowship” | 2016 (click here) |
| “Research Featured in TCNJ Journal of Student Scholarship” | 2015 (click here) |
| “A Force to Be Reckoned With” | 2014 (click here) |
| “TCNJ Researchers Are Headed Overseas to Present Their ... Research” | 2014 (click here) |
| “Woodglen School Teacher Hosts Star Party for Students and Their Families” | 2013 (click here) |
| “TCNJ My Way” Profile: Mitchell Revalski | 2013 (click here) |
| “MUSE Program Kick-Starts Student Research” | 2013 (click here) |
| “Kepler Satellite Lecture Held in High Bridge” | 2012 (click here) |

Mitchell Revalski – December 1, 2023