RYAN W. PFEIFLE

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Department of Physics and Astronomy, George Mason University, Planetary Hall, Rm 234
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Key Research Interests: Galaxy Mergers, Active Galactic Nuclei, X-ray Astronomy

EDUCATION

George Mason University **June 2017 – Present**
Astrophysics Graduate Research Assistant & Physics Ph.D Candidate
Department of Physics and Astronomy
Cumulative GPA: 3.82
Expected Graduation: May 2022

George Mason University **June 2013 – May 2017**
Department of Physics and Astronomy
B.S. in Physics
Cumulative GPA: 3.83

Virginia Polytechnic Institute and State University **June 2012 – May 2013**

RESEARCH EXPERIENCE

Graduate Research Assistant – *George Mason University* **June 2017 – Present**
Advisor: Prof. Shobita Satyapal
Research focus: Identifying obscured dual AGN in late-stage galaxy mergers and characterization of the environments of these systems through multiwavelength observations.
Primary training: Reduction and analysis of X-ray data from *Chandra*, *XMM–Newton*, and *NuSTAR* space telescopes.

GMU Observatory Researcher – *George Mason University* **June 2014 – May 2017**
Research focus: Microlensing Detections, Equipment testing, Astrophotography

GSFC Research Collaborator – *Goddard Space Flight Center* **Aug. 2014 – Jan. 2015**

NASA USRA Intern – *Goddard Space Flight Center* **June 2014 – Aug. 2014**
Research focus: Analysis of HST photometric data of a microlensing event.

HONORS AND AWARDS

GMU Dept. of Physics & Astronomy Summer Research Fellowship Award **March 2021**
Award amount: $7,500.00

American Astronomical Society (AAS) International Travel Grant **April 2019**
Award amount: $1,562.63

International Travel Grant – *GMU Graduate Student Travel Fund* **Fall 2018**
Award amount: $1,000
Competitive travel award offered through the GMU Associate Provost for Graduate Education.

International Travel Grant – *GMU Graduate Student Travel Fund* **Spring 2018**
Award Amount: $1,000

Sigma Xi Grant in Aid of Research (GRIAR) Award **Spring 2018**
Award amount: $1,700

Dean's Outstanding Undergraduate Research Award – *George Mason University* **May 2017**

Dean's List – *George Mason University* **Summer 2013 – Fall 2014, Fall 2015 – Spring 2017**

'Best Learning Assistant Poster Presentation' – *George Mason University* **May 2015**
GMU College of Science

OSCAR Fellow – *George Mason University* **May 2015**

OSCAR Research Grant Recipient – *George Mason University* **Fall 2014**
Award Amount: $1,000

PUBLICATIONS

Submitted (Under Review):

1. Koss, M. J., Trakhtenbrot, B., Ricci, C., Bauer, F. E., Treister, E., Mushotzky, R., Urry, C. M., Ananna, T. T., den Brok, J. S., Cenko, B., Harrison, F., Ichikawa, K., Lamperti, I., Lein, A., Mejia-Restrepo, J. E., Oh, K., Pacucci, F., **Pfeifle, R. W.**, Powell, M., Privon, G. C., Ricci, F., Salvato, M., Schawinski, K., Shimizu, T., Smith, K. L., Stern, D., (ApJS, *submitted*). BASS XXI: The BASS DR2 Overview. Part of ApJS special release for the BAT AGN Spectroscopic Survey Data Release 2.

Refereed:

8. **Pfeifle, R. W.**, Ricci, C., Boorman, P. G., Stalevski, M., Asmus, D., Trakhtenbrot, B., Koss, M. J., Stern, D., Ricci, F., Satyapal, S., Ichikawa, K., Rosario, D. J., Caglar, T., Treister, E., Powell, M., Oh, K., Urry, C. M., Harrison, F., (2021, *in press*). BAT AGN Spectroscopic Survey-XXIII. A New Mid-Infrared Diagnostic for Absorption in Active Galactic Nuclei. The Astrophysical Journal Supplement, *in press*. Part of ApJS special release for the BAT AGN Spectroscopic Survey Data Release 2. https://arxiv.org/abs/2102.04412
   Unique Citations: 1

7. Ricci, C., Privon, G. C., **Pfeifle, R. W.**, Armus, L., Iwasawa, K., Torres-Albà, N., Satyapal, S., Bauer, F. E., Treister, E., Ho, L. C., Aalto, S., Arévalo, P., Barcos-Muñoz, L., Charmandaris, V., Diaz-Santos, T., Evans, A. S., Gao, T., Inami, H., Koss, M. J., Lansbury, G., Linden, S. T., Medling, A., Sanders, D. B., Song, Y., Stern, D., U, V., Ueda, Y., Yamada, S., (2021). A hard X-ray view of luminous and ultra-luminous infrared galaxies in GOALS - I. AGN obscuration along the merger sequence. Monthly Notices of the Royal Astronomical Society, 506, 5935, https://doi.org/10.1093/mnras/stab2052
   Unique Citations: N/A

6. Bohn, T., Canalizo, G., Satyapal, S., **Pfeifle**, **R. W.**, (2020). The Discovery of a Hidden Broad-line AGN in a Bulgeless Galaxy: Keck NIR Spectroscopic Observations of SDSS J085153.64+392611.76. The Astrophysical Journal, 899, 82, https://doi.org/10.3847/1538-4357/aba52c
Unique Citations: 2

5. Cann, J. M., Satyapal, S., Bohn, T., Sexton, R., **Pfeifle**, **R. W.**, Manzano-King, C., Canalizo, G., Rothberg, B., Gliozzi, M., Secrest, N. J., Blecha, L., (2020). Multi-wavelength Observations of J105621+313823, A Broad-Line, Low-Metallicity AGN. The Astrophysical Journal, 895, 147,
https://doi.org/10.3847/1538-4357/ab8b64
Unique Citations: 8

4. Gabanyi, K. É., Frey, S., Satyapal, S., Constantin, A., **Pfeifle, R. W.**, (2019). Very Long Baseline Interferometry Observation of the Triple AGN Candidate J0849+1114. Astronomy & Astrophysics, 630, L5, https://doi.org/10.1051/0004-6361/201936519
Unique Citations: 1

3. **Pfeifle, R. W.**, Satyapal, S., Manzano-King, C., Cann, J., Sexton, R. O., Rothberg, B., Canalizo, G., Ricci, C., Blecha, L., Ellison, S. L., Gliozzi, M., Secrest, N. J., Constantin, A., Harvey, J. B., (2019b). A Triple AGN in a Mid-Infrared Selected Late Stage Galaxy Merger. The Astrophysical Journal, 883, 167, https://doi.org/10.3847/1538-4357/ab3a9b
Unique Citations: 19

2. **Pfeifle, R. W.**, Satyapal, S., Secrest, N. J., Gliozzi, M., Ricci, C., Ellison, S. L., Rothberg, B., Cann, J., Blecha, L., Williams, J. K., Constantin, A., (2019a). Buried Black Hole Growth in IR-Selected Mergers: New Results from Chandra. The Astrophysical Journal, 875, 117, https://doi.org/10.3847/1538-4357/ab07bc
Unique Citations: 22

1. Bennett, D. P., Bhattacharya, A., Anderson, J., Bond, I. A., Anderson, N., Barry, R., Batista, V., Beaulieu, J. -P.,DePoy, D. L., Dong, Subo, Gaudi, B. S., Gilbert, E., Gould, A., **Pfeifle, R.**, Pogge, R. W., Suzuki, D., Terry, S.,Udalski, A. , (2015). Confirmation of the Planetary Microlensing Signal and Star and Planet Mass Determinations for Event OGLE-2005-BLG-169. The Astrophysical Journal, 808, 169, http://dx.doi.org/10.1088/0004-637X/808/2/169
Unique Citations: 97

Non-Refereed:

1. **Pfeifle, R. W.** (2020). Washington Multi-AGN Catalog DR0.1: Technical Report. [***United States Naval Observatory Internal Release Only***].

PRESS RELEASES

NASA *Chandra* Press Release **Sept. 2019**
◇ ***Found: Three Black Holes on a Collision Course***
◇ Link: https://chandra.harvard.edu/press/19_releases/press_092519.html

European Week of Astronomy and Space Sciences (EWASS) Press Release **June 2019**
◇ ***Astronomers discover eight buried dual AGN candidates***

◇ Link: http://ewass.kuoni-congress.info/press/2019/06/26/astronomers-discover-eight-buried-dual-agn-candidates/

DOMESTIC AND INTERNATIONAL COLLABORATIONS

Supermassive Black Hole Group, Universidad Diego Portales **Sept. 2020 – Present**

BAT Spectroscopic Survey (BASS) Collaboration **Dec. 2018 – Present**

Black Hole – Galaxy Connection Group, George Mason University **Jun. 2017 – Present**

University of California, Riverside research visit **Jan. 2019**
◇ GMU funded travel for three days for our research group to work closely with our collaborators at UCR.

Universidad Diego Portales (UDP) invited research visit **Dec. 2018**
◇ GMU and UDP funded travel to work with Prof. Claudio Ricci at UDP in Santiago, Chile for nine days.

STUDENT SUPERVISION

Kate Downey – Undergraduate Student **Spring 2019**

PROGRAMMING AND COMPUTER SKILLS

Programming Languages: Python, Unix, Linux, Bash, CSS, HTML

Python Package Proficiency: Pandas, Astropy, Numpy, APLpy, Matplotlib, Montage, PyXspec

Astronomical Programs: DS9, CIAO, SAS, XSpec, nupipeline, Topcat

WORKSHOPS

ALMA Community Day Event at the University of Maryland **March 2019**

Penn State Summer School in Astroinformatics **June 2018**

Penn State Summer School in Statistics for Astronomers XIV **May 2018**

48th Saas-Fee Advanced Course: Black Hole Formation and Growth **Jan. 2018**

AAS Workshop: Using Python to Search NASA's Astrophysics Archives **Jan. 2018**

PROPOSALS

Submitted:

Dual AGNs in Mergers: Pushing the Frontier with Keck AO
◇ Co-Investigator; Keck NIRC2 & OSIRIS, Proposed: Fall 2021

Awarded:

NASA ADAP: Piercing through the Torus: A 15 Year X-ray Variability Survey of BAT AGN
◇ Collaborator; Proposed: Spring 2021
◇ Funding awarded to Principal Investigator: $857,000

A Search for Triple AGNs in IR-Selected Mergers: A Keck/MOSFIRE Pilot Program
◇ Co-Investigator; Keck MOSFIRE, Proposed: Spring 2019
◇ Time awarded: 1 night

The Hunt for AGNs in Low Metallicity Dwarf Galaxies with Keck NIRSPEC: A Chandra Follow-up Study
◇ Co-Investigator; Keck NIRSPEC, Proposed: Spring 2019

Beyond the Bulge: The Discovery of Hidden Broad Lines in Bulgeless Galaxies
◇ Co-Investigator; Chandra X-ray Observatory, Proposed: Spring 2019
◇ Time awarded: 20 ks

Beyond the Bulge: The Discovery of Hidden Broad Lines in Bulgeless Galaxies
◇ Co-Investigator; Nuclear Spectroscopic Telescope Array, Proposed: Spring 2019
◇ Time awarded: 57.1 ks

The Most Luminous AGN in a Truly Bulgeless Disk Galaxy? The *NuSTAR* View of NGC 4178
◇ Co-Investigator; Nuclear Spectroscopic Telescope Array, Proposed: Spring 2019
◇ Time awarded: 54.5 ks

CONFERENCES, COLLOQUIA, AND POSTER SESSIONS

239th Meeting of the American Astronomical Society (Invited) **Jan. 2022**
Salt Lake City, Utah
Talk title: *BASS XXIII: A New Mid-Infrared Diagnostic for Absorption in Active Galactic Nuclei*
Special Session: *Highlights from the BASS DR2: New insights on local SMBH activity from large multi-wavelength studies of hard X-ray selected AGN*

Seminar at the Astronomical Institute of the Czech Academy of Sciences (Invited) **Oct. 2021**
Prague, Czech Republic (Virtual)
Talk Title: *Obscured AGN Growth in Mid-IR Dual AGNs and Beyond*

Colloquium at the United States Naval Research Laboratory (Invited) **Oct. 2021**
Washington, D.C. (Virtual)
Talk Title: *A New Mid-Infrared Diagnostic for Absorption in Active Galactic Nuclei*

European Astronomical Society (EAS) 2021 **June 2021**
Leiden, The Netherlands (Virtual)
Poster Title: *A New Mid-Infrared Diagnostic for Absorption in Active Galactic Nuclei*

Clash of the Titans: The Enigmatic Role of Mergers in Galaxy Evolution (Invited) **Mar. 2021**
Lorentz Center Workshop
Leiden, The Netherlands (Virtual)
Talk Title: *The Role of Mergers in Fueling Mid-Infrared Selected AGNs*

20 Years of Chandra Science Symposium **Dec. 2019**
Boston, Massachusetts
Talk Title: *Uncovering Buried Dual and Triple AGNs in Galaxy Mergers*

Joint Space-Science Institute (JSI) Workshop: The New Faces of Black Holes **Nov. 2019**
Annapolis, Maryland
Talk Title: *Uncovering Buried Dual and Triple AGNs in Galaxy Mergers*

Colloquium at the United States Naval Observatory (Invited) **Sept. 2019**
USNO, Washington, D.C.
Talk Title: *Uncovering Buried Dual and Triple AGNs in Galaxy Mergers*

European Week of Astronomy and Space Sciences (EWASS) **June 2019**
Lyon, France
Talk Title: *The Incidence of Dual AGN in WISE Preselected Galaxy Mergers*

Supermassive Black Holes: Environment and Evolution **June 2019**
Corfu, Greece
Talk Title: *The Incidence of Dual AGN in WISE Preselected Galaxy Mergers*

Galaxies Journal Club Colloquium – Space Telescope Science Institute (Invited) **April 2019**
STSCI, Baltimore, Maryland
Talk Title: *Discovery of a Kiloparsec-scale Triple AGN in a Late Stage Merger*

TORUS 2018 – The many faces of the AGN obscuration **Dec. 2018**
Puerto Varas, Chile
Talk Title: *Obscuration Beyond the Torus: Merger-Driven Obscuration of AGN*

BASS 2018 Conference (Invited) **March 2018**
ESO, Santiago, Chile
Talk Title: *Incidence of Buried Dual AGN in Advanced Mergers: New Results from Chandra*

Poster at AAS January 2018 Meeting **Jan. 2018**
Washington, D.C., USA
Poster: *The Incidence of Buried Dual AGN in Advanced Mergers: New results from Chandra*

Keynote Speech – GMU 2017 Celebration of COS research **May 2017**
Talk Title: *In Search of Tiny Giants: Finding Supermassive Black Holes in Low Mass Galaxies*

GMU Physics Colloquium, Student Undergraduate Research Talk **Sept. 2015**
Talk Title: *Detecting Gravitational Microlensing Events at the George Mason University Observatory*

45th Symposium on the Interface, Computing Science and Statistics **June 2015**
Talk Title: *On Detecting Exoplanets and Planetary Distributions Moving Forward*

GMU COS Poster Session **May 2015**
Poster: *Detecting Microlensing Events at the George Mason University Observatory*

GMU OSCAR Celebration of Student Scholarship Poster Session **May 2015**
Poster: *Detecting Microlensing Events at the George Mason University Observatory*

National Conference on Undergraduate Research (NCUR) **April 2015**
Eastern Washington University, Cheney WA, USA
Talk Title: *Microlensing Event Detection at the George Mason University Observatory*

19th International Conference on Microlensing **Jan. 2015**
Annapolis, Maryland
Talk Title: *Microlensing Event Detection at the George Mason University Observatory*

GMU Observatory, Public Observing Session Research Talk **Fall 2014**
Talk Title: *Detecting Exoplanets Through Microlensing using the Wide-Field Infrared Survey Telescope (WFIRST)*

NASA Goddard Space Flight Center Intern Poster Session **Aug. 2014**
Poster: *Detection of Exoplanets using Microlensing for the Wide-Field Infrared Survey Telescope (WFIRST)*

SERVICE

Journal Referee: **ApJ** **Fall 2020**

GMU Physics & Astronomy Graduate Student Happy Hour Organizer **Fall 2018 – Present**

Co-organizer for Prospective Graduate Student Visitation Day **Spring 2019**
Department of Physics and Astronomy, GMU

Local Organizing Committee Member **Spring 2017**
Elusive AGN in the Next Era (GMU Conference)

Local Organizing Committee Member **Fall 2014**
19th International Conference on Microlensing

TEACHING EXPERIENCE

College of Science Learning Assistant – *George Mason University*
◇ Observatory Tour Guide **Jan. 2016 – Present**
◇ Astronomy (Astr 113) Learning Assistant **Jan. 2015 – May 2015, Jan. 2016 – May 2016**
◇ Physics I (Phys 243) Learning Assistant **Jan. 2016 – May 2016**
◇ Physics II (Phys 260) Learning Assistant **Aug. 2016 – Dec. 2016**

Mason Life Learning Assistant – *George Mason University* **Sept. 2015 – Dec. 2015**
Chaperoned a high-functioning autistic student at the GMU Observatory once a week during public tours.

SCIENCE OUTREACH

'*Evening Under the Stars*' Public Talk at the GMU Observatory (Invited) **Nov. 2021**

GMU *Spectrum* Graduate Student Mentor **Spring 2020 – Present**
Mentoring on student per academic year
Spectrum Website: https://gmuspectrum.squarespace.com

GMU Science Podcast Interview **Nov. 2019**
"*When (three) worlds collide*"
Link: https://open.spotify.com/episode/1NzBtcvAxquKHHVlTq7Uoo

Astronomy on Tap D.C. Speaker (Invited Talk) **Nov. 2019**
Talk Title: *Finding the First Confirmed Triple AGN in a Late–Stage Galaxy Merger*
Link: https://www.youtube.com/watch?v=0DtINPKeKsM

Guest Blogger – *NASA Chandra Blog* **Fall 2019**
Link: https://chandra.harvard.edu/blog/node/739

GMU Observatory Tour Guide **Jan. 2016 – Present**

F.O.C.U.S. (Females of Color and those Underrepresented in STEM) Camp **Jul. 2016**
◇Teaching Assistant

Nokesville School Career Day Speaker **Nov. 2015, Jun. 2015**

GMU Science Slam Participant **March 2015, May 2015**

REFERENCES

Prof. Shobita Satyapal – *George Mason University*
Relationship: Ph.D Advisor and Committee Chair

Dr. Barry Rothberg – *Large Binocular Telescope, Tucson, AZ*
Relationship: Research Collaborator

Prof. Claudio Ricci – *Universidad Diego Portales, Santiago, Chile*
Relationship: Ph.D Committee Member

Dr. Nathan Secrest – *United States Naval Observatory, Washington D.C.*
Relationship: Ph.D Committee Member