

**Curriculum Vitae and Table of Contents**

**David R. Ballantyne, Ph.D.**

Professor, School of Physics

Associate Chair for Academic Programs, School of Physics

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**David R. Ballantyne, Ph.D.**  
 Professor and Associate Chair for Academic Programs  
 School of Physics  
 Georgia Institute of Technology

**I. Earned Degrees**

B.Sc.	Physics & Astronomy	1993-1998	University of Victoria, British Columbia, Canada
M.Sc.	Astronomy & Physics	1998-1999	University of Toronto, Ontario, Canada (advisor: n/a)
Ph.D.	Astronomy	1999-2002	University of Cambridge (advisor: A.C. Fabian, FRS)

**II. Employment History**

2002-2005	Postdoctoral Fellow, Canadian Institute for Theoretical Astrophysics (advisor: n/a)
2005-2008	Prize Postdoctoral Fellow in Theoretical Astrophysics, University of Arizona (advisor: n/a)
2008-2014	Assistant Professor, School of Physics, Georgia Institute of Technology
2014-2020	Associate Professor, School of Physics, Georgia Institute of Technology
2021-2022	Interim Director, Center for Relativistic Astrophysics, School of Physics, Georgia Tech
2017-2022	Associate Chair for Graduate Studies, School of Physics, Georgia Institute of Technology
2020-present	Professor, School of Physics, Georgia Institute of Technology
2023-present	Associate Chair for Academic Programs, School of Physics, Georgia Tech

**III. Honors and Awards**

2021	One “Thank A Teacher” Certificate from a student in PHYS 3123 (Electrodynamics)
2019	Two “Thank A Teacher” Certificates from students in PHYS 3123 (Electrodynamics)
2016	NASA Group Achievement Award to <i>NuSTAR</i> Extragalactic Survey Team
2015	NASA Group Achievement Award to <i>NuSTAR</i> Science Team
2014	One “Thank A Teacher” Certificate from a student in PHYS 2212 (Physics II)
2013	One “Thank A Teacher” Certificate from a student in PHYS 2212 (Physics II)
2012	Three “Thank A Teacher” Certificates from students in PHYS 2212 (Physics II)
2011	School of Physics Nominee for Sigma Xi Young Faculty Award (Georgia Tech)
2009	One “Thank A Teacher” Certificate from a student in PHYS 3123 (Electrodynamics)
2009	Nominated for David and Lucile Packard Fellowship (Georgia Tech)
2005	Theoretical Astrophysics Program Prize Fellowship, University of Arizona
2007	Awarded observing time on the <i>Suzaku</i> Telescope (The available observing time was initially oversubscribed by a factor of 4.4)
2006	Awarded observing time on the <i>XMM-Newton</i> Telescope (The available observing time was initially oversubscribed by a factor of 7.4)
2004	Awarded observing time on the <i>XMM-Newton</i> Telescope (The available observing time was initially oversubscribed by a factor of 7.6)
2003	Awarded observing time on the <i>XMM-Newton</i> Telescope (The available observing time was initially oversubscribed by a factor of 9.5)
2003	Awarded observing time on the <i>Rossi X-ray Timing Explorer</i> (The available observing time was initially oversubscribed by a factor of 6.9)
2002	Natural Sciences and Engineering Research Council (NSERC) of Canada Postdoctoral Fellowship
1999	Commonwealth Fellowship, University of Cambridge
1999	Isaac Newton Studentship (declined), University of Cambridge

**IV. Research, Scholarship, and Creative Activities**

\* next to item number indicates work done at Georgia Tech

<sup>PD</sup> indicates Ballantyne group postdoc author

<sup>G</sup> indicates Ballantyne group graduate student author

<sup>UG</sup> indicates Ballantyne group undergraduate author

<sup>HS</sup> indicates Ballantyne group high school author

All student co-authors are bolded.

Google Scholar profile at <https://scholar.google.com/citations?user=RoyVswgAAAAJ&hl=en>

H index = 54; 9820 citations since 2000

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## A. Published Books, Book Chapters, and Edited Volumes

### A1. Books

No data

### A2. Refereed Book Chapters

No data

### A3. Edited Volumes

- 1\*. Brandt, W.N., Anderson, S.F., Ballantyne, D.R., Barth, A.J., Brunner, R.J., Chartas, G., de Vries, W.H., Eracleous, M., Fan, X., Gibson, R.R., Green, R.F., Lacy, M., Lira, P., Newman, J.A., Richards, G.T., Schneider, D.P., Shemmer, O., Smith, H.A., Strauss, M.A. & Vanden Berk, D., 2009, Active Galactic Nuclei, In **LSST Science Book**, Version 2.0 (arXiv: 0912.0201)

## B. Refereed Publications and Submitted Articles

### B1. Published and Accepted Journal Articles

- 164\*. Ballantyne, D.R., 2023, *Radiation Driven Warping of Accretion Discs Due to X-ray Bursts*, Monthly Notices of the Royal Astronomical Society, Vol. 518, p. 3317.
- 163\*. Güver, T., Funda Bostanci, Z., Boztepe, T., Göğüş, E., Bult, P., Kashyap, U., Chakraborty, M., Ballantyne, D.R., Ludlam, R.M., Malacaria, C., Jaisawal, G.K., Strohmayer, T.E., Guillot, S. & Ng, M., 2022, *Burst-Disk Interaction in 4U 1636-536 as Observed by NICER*, The Astrophysical Journal, Vol. 935, p. 154.
- 162\*. **Xiang, X.**<sup>UG</sup>, Ballantyne, D.R., Bianchi, S., De Rosa, A., Matt, G., Middei, R., Petrucci, P.-O., Różańska, A. & Ursini, F., 2022, *reXcor: A Model of the X-ray Spectrum of Active Galactic Nuclei that Combines Ionized Reflection and a Warm Corona*, Monthly Notices of the Royal Astronomical Society, Vol. 515, p. 353.
- 161\*. **Li, K.**<sup>G</sup>, Bogdanović, T., Ballantyne, D.R. & Bonetti, M., 2022, *Massive Black Hole Binaries from the TNG50-3 Simulation: I. Coalescence and LISA Detection Rates*, The Astrophysical Journal, Vol. 933, p. 104.
- 160\*. Güver, T., Boztepe, T., Ballantyne, D.R., Funda Bostanci, Z., Bult, P., Jaisawal, G.K., Göğüş, E., Strohmayer, T.E., Altamirano, D., Guillot, S. & Chakraborty, D., 2022, *A NICER look at thermonuclear X-ray bursts from Aql X-1*, Monthly Notices of the Royal Astronomical Society, Vol. 510, p. 1577.
- 159\*. **Speicher, J.**<sup>G</sup>, Ballantyne, D.R. & Fragile, P.C., 2022, *Evolution of accretion disc reflection spectra due to a Type I X-ray burst*, Monthly Notices of the Royal Astronomical Society, Vol. 509, p. 1736.
- 158\*. Bult, P., Altamirano, D., Arzoumanian, Z., Ballantyne, D.R., Chenevez, J., Fabian, A.C., Gendreau, K.C., Homan, J., Jaisawal, G.K., Malacaria, C., Miller, J.M., Parker, M.L. & Strohmayer, T.E., 2021, *On the Impact of an Intermediate Duration X-ray Burst on the Accretion Environment in IGR J17062-6143*, The Astrophysical Journal, Vol. 920, p. 59.
- 157\*. **Li, K.**<sup>G</sup>, Ballantyne, D.R. & Bogdanović, T., 2021, *The Detectability of Kiloparsec Scale Dual AGNs: The Impact of Galactic Structure and Black Hole Orbital Properties*, The Astrophysical Journal, Vol. 916, p. 110.
- 156\*. Lacy, M., Surace, J.A., Farrah, D., Nyland, K., Afonso, J., Brandt, W.N., Clements, D.L., Lagos,

- C.D.P., Maraston, C., Pforr, J., Sajina, A., Sako, M., Vaccari, M., Wilson, G., Ballantyne, D.R., Barkhouse, W.A., Brunner, R., Cane, R., Clarke, T.E., Cooper, M., Cooray, A., Covone, G., D'Andrea, C., Evrard, A.E., Ferguson, H.C., Frieman, J., Gonzalez-Perez, V., Gupta, R., Hatziminaoglou, E., Huang, J., Jagannathan, P., Jarvis, M.J., Jones, K.M., Kimball, A., Mei, S., Messias, H., Murphy, E.J., Newman, J.A., Michol, R., Norris, R.P., Oliver, S., Perez-Fournon, I., Peters, W.M., Pierre, M., Polisensky, E., Richards, G.T., Ridgway, S.E., Röttgering, H.J.A., Seymour, N., Shirley, R., Somerville, R., Smail, I., Strauss, M.A., Suntzeff, N., Thorman, P.A., van Kampen, E., Verma, A., Weschler, R., Wood-Vasey, W.M., 2021, *A Spitzer survey of Deep Drilling Fields to be targeted by the Vera C. Rubin Observatory Legacy Survey of Space and Time*, Monthly Notices of the Royal Astronomical Society, Vol. 501, p. 892.
- 155\*. **Li, K.<sup>G</sup>**, Bogdanović, T. & Ballantyne, D.R., 2020, *The Pairing Probability of Massive Black Holes in Merger Galaxies in the Presence of Radiative Feedback*, The Astrophysical Journal, Vol. 905, p. 123.
- 154\*. Baloković, M., Harrison, F.A., Madejski, G., Comastri, A., Ricci, C., Annuar, A., Ballantyne, D.R., Boorman, P., Brandt, W.N., Brightman, M., Gandhi, P., Kamraj, N., Koss, M.J., Marchesi, S., Marinucci, A., Masini, A., Matt, G., Stern, D. & Urry, C.M., *NuSTAR Survey of Obscured Swift/BAT Selected Active Galactic Nuclei: II. Median High-energy Cutoff in Seyfert II Hard X-ray Spectra*, The Astrophysical Journal, Vol. 905, p. 41.
- 153\*. **Speicher, J.<sup>G</sup>**, Ballantyne, D.R., & Malzac, J., 2020, *Cooling of Accretion Disc Coronae by Type I X-ray Bursts*, Monthly Notices of the Royal Astronomical Society, Vol. 499, p. 4479.
- 152\*. Annuar, A., Alexander, D.M., Gandhi, P., Lansbury, G.B., Asmus, D., Baloković, M., Ballantyne, D.R., Bauer, F.E., Boorman, P.G., Brandt, W.N., Brightman, M., Chen, C.-T.J., Del Moro, A., Farrah, D., Harrison, F.A., Koss, M.J., Lanz, L., Marchesi, S., Masini, A., Nardini, E., Ricci, C., Stern, D. & Zappacosta, L., 2020, *NuSTAR Observations of Four Nearby X-ray Faint AGN: Low Luminosity or Heavy Obscuration?*, Monthly Notices of the Royal Astronomical Society, Vol. 497, p. 229.
- 151\*. Ballantyne, D.R. & **Xiang, X.<sup>UG</sup>**, 2020, *Sustaining a Warm Corona in Active Galactic Nuclei Accretion Discs*, Monthly Notices of the Royal Astronomical Society, Vol. 496, p. 4255.
- 150\*. **Li, K.<sup>G</sup>**, Bogdanović, T. & Ballantyne, D.R., 2020, *Pairing of Massive Black Holes in Merger Galaxies Driven by Dynamical Friction*, The Astrophysical Journal, Vol. 896, p. 113.
- 149\*. Fragile, P.C., Ballantyne, D.R. & Blankenship, A., 2020, *Interactions of Type I Bursts with Thin Accretion Disks*, Nature Astronomy, Vol. 4, p. 541.
- 148\*. Ballantyne, D.R., 2020, *Examining the physical conditions of a warm corona in active galactic nuclei accretion discs*, Monthly Notices of the Royal Astronomical Society, Vol. 491, p. 3553.
- 147\*. Bult, P., Jaisawal, G., Güver, T., Strohmayer, T.E., Altamirano, D., Arzoumanian, Z., Ballantyne, D.R., Chakrabarty, D., Chenevez, J., Gendreau, K.C., Guillot, S. & Ludlam, R.M., 2019, *A NICER Thermonuclear Burst from the Millisecond X-Ray Pulsar SAX J1808.4-3658*, The Astrophysical Journal, Vol. 885, p. L1.
- 146\*. Jaisawal, G., Wilson-Hodge, C.A., Fabian, A.C., Naik, S., Chakrabarty, D., Kretschmar, P., Ballantyne, D.R., Ludlum, R.M., Chenevez, J., Altamirano, D., Arzoumanian, Z., Fürst, F., Gendreau, K.C., Guillot, S., Malacaria, C., Miller, J.M., Stevens, A.L. & Wolff, M.T., 2019, *An Evolving Broad Iron Line from the First Galactic Ultraluminous X-ray Pulsar Swift J0243.6+6124*, The Astrophysical Journal, Vol. 885, p. 18.
- 145\*. **Avirett-Mackenzie, M.S.<sup>UG</sup>** & Ballantyne, D.R., 2019, *The evolving X-ray spectrum of active galactic nuclei: evidence for an increasing reflection fraction with redshift*, Monthly Notices of the Royal Astronomical Society, Vol. 486, p. 3488.
- 144\*. **Gohil, R.<sup>G</sup>**, Ballantyne, D.R. & Li, G., 2019, *The stellar remnants of high redshift nuclear starburst discs: a potential origin for nuclear star clusters?*, Monthly Notices of the Royal Astronomical Society, Vol. 485, p. 2935.
- 143\*. Porquet, D., Done, C., Reeves, J.N., Grosso, N., Marinucci, A., Matt, G., Lobban, A., Nardini, E.,

- Braito, V., Marin, F., Kubota, A., Ricci, C., Koss, M., Stern, D., Ballantyne, D. & Farrah, D., 2019, *A deep X-ray view of the bare AGN Ark 120. V. Spin determination from disc-Comptonisation efficiency method*, *Astronomy & Astrophysics*, Vol. 623, p. A11.
- 142\*. Garcia, J.A., Kara, E., Walton, D., Beuchert, T., Dauser, T., Gatuzz, E., Baloković, M., Steiner, J.F., Tombesi, F., Connors, R.M.T., Kallman, T.R., Harrison, F.A., Fabian, A., Wilms, J., Stern, D., Lanz, L., Ricci, C. & Ballantyne, D.R., 2019, *Physical Implications of Warm Comptonization and Relativistic Reflection for the Soft Excess in AGN: The case of Mrk 509 Observed with NuSTAR and Suzaku*, *The Astrophysical Journal*, Vol. 871, p. 88.
- 141\*. Yan, W., Hickox, R.C., Hainline, K.N., Stern, D., Lansbury, G., Alexander, D.M., Hviding, R.E., Assef, R., J., Ballantyne, D.R., Dipompeo, M.A., Lanz, L., Carroll, C.M., Koss, M., Lamberti, I., Civano, F., Del Moro, A., Gandhi, P. & Myers, A.D., 2019, *NuSTAR and Keck Observations of Heavily Obscured Quasars Selected by WISE*, *The Astrophysical Journal*, Vol. 870, p. 33.
- 140\*. Lanz, L., Hickox, R.C., Baloković, M., Shimizu, T., Ricci, C., Goulding, A.D., Ballantyne, D.R., Bauer, F.E., Chen, C.-T. J., Del Moro, D., Farrah, D., Koss, M.J., LaMassa, S., Masini, A. & Zappacosta, L., 2019, *Investigating the Covering Fraction Distribution of Swift/BAT AGN with X-ray and IR Observations*, *The Astrophysical Journal*, Vol. 870, p. 26.
- 139\*. Fragile, P.C., Ballantyne, D.R., Maccarone, T.J. & Witry, J.W.L., 2018, *Simulating the Collapse of a Thick Accretion Disk due to a Type I X-ray Burst from a Neutron Star*, *The Astrophysical Journal*, Vol. 867, p. L28.
- 138\*. Buisson, D.J.K., Parker, M.L., Kara, E., Vasudevan, R.V., Lohfink, A.M., Pinto, C., Fabian, A.C., Ballantyne, D.R., Boggs, S.E., Christensen, F.E., Craig, W.W., Farrah, D., Hailey, C.J., Harrison, F.A., Ricci, C., Stern, D., Walton, D.J., Zhang, W.W., 2018, *NuSTAR observations of Mrk 766: distinguishing reflection from absorption*, *Monthly Notices of the Royal Astronomical Society*, Vol. 480, p. 3689.
- 137\*. Ursini, F., Petrucci, P.-O., Matt, G., Bianchi, S., Cappi, M., Dadina, M., Grandi, P., Torresi, E., Ballantyne, D.R., De Marco, B., De Rosa, A., Giroletti, M., Malzac, J., Marinucci, A., Ponti, G. & Tortosa, A., 2018, *Radio/X-ray monitoring of the broad-line radio galaxy 3C 382. High-energy view with XMM-Newton and NuSTAR*, *Monthly Notices of the Royal Astronomical Society*, Vol. 478, p. 2663.
- 136\*. Masini, A., Ciavno, F., Comastri, A., Fornasini, F., Ballantyne, D.R., Lansbury, G., Treister, E., Alexander, D.M., Boorman, P.G., Brandt, W.N., Farrah, D., Gandhi, P., Harrison, F.A., Hickox, R.C., Kocevski, D.D., Lanz, L., Marchesi, S., Puccetti, S., Ricci, C., Saez, C., Stern, D. & Zappacosta, L., 2018, *The NuSTAR Extragalactic Surveys: Source Catalog and the Compton-Thick Fraction in the UDS Field*, *The Astrophysical Journal Supplement Series*, Vol. 235, p. 17.
- 135\*. **Gohil, R.<sup>G</sup>** & Ballantyne, D.R., 2018, *The Shape of the Cosmic X-ray Background: Nuclear Starburst Discs and the Redshift Evolution of AGN Obscuration*, *Monthly Notices of the Royal Astronomical Society*, Vol. 475, p. 3543.
- 134\*. Zappacosta, L., Comastri, A., Civano, F., Puccetti, S., Fiore, F., Aird, J., Del Moro, A., Lansbury, G.B., Lanzuisi, G., Goulding, A., Mullaney, J.R., Stern, D., Ajello, M., Alexander, D.M., Ballantyne, D.R., Bauer, F.E., Brandt, W.N., Chen, C.-T.J., Farrah, D., Harrison, F.A., Gandhi, P., Lanz, L., Masini, A., Marchesi, S., Ricci, C. & Treister, E., 2018, *The NuSTAR Extragalactic Surveys: X-ray Spectroscopic Analysis of the Bright Hard-Band Sample*, *The Astrophysical Journal*, Vol. 854, p. 33.
- 133\*. Porquet, D., Reeves, J.N., Matt, G., Marinucci, A., Nardini, E., Braito, V., Lobban, A., Ballantyne, D.R., Boggs, S.E., Christensen, F.E., Dauser, T., Farrah, D., Garcia, J., Hailey, C.J., Harrison, F., Stern, D., Tortosa, A., Ursini, F. & Zhang, W.W., 2018, *A deep X-ray view of the bare AGN Ark 120. IV. XMM-Newton and NuSTAR spectra dominated by two temperature (warm, hot) Comptonization processes*, *Astronomy & Astrophysics*, Vol. 609, p. A42.
- 132\*. Sartori, L.F., Schawinski, K., Koss, M.J., Ricci, C., Treister, E., Stern, D., Lansbury, G., Maksym,

- W.P., Baloković, M., Gandhi, P., Keel, W.C. & Ballantyne, D.R., 2018, *Joint NuSTAR and Chandra analysis of the obscured quasar in IC 2494 – Hanny's Voorwerp system*, Monthly Notices of the Royal Astronomical Society, Vol. 474, p. 2444.
- 131\*. Del Moro, A., Alexander, D.M., Aird, J.A., Bauer, F.E., Civano, F., Mullaney, J.R., Ballantyne, D.R., Brandt, W.N., Comastri, A., Gandhi, P., Harrison, F.A., Lansbury, G.B., Lanz, L., Luo, B., Marchesi, S., Puccetti, S., Ricci, C., Saez, C., Stern, D., Treister, E. & Zappacosta, L., 2017, *The NuSTAR Extragalactic Survey: Average Broad-band X-ray Spectral Properties of the NuSTAR Detected AGN*, The Astrophysical Journal, Vol. 849, p. 57.
- 130\*. Ballantyne, D.R., 2017, *Ionised Accretion Discs in Active Galactic Nuclei: The Effects of a Lamppost with a Variable Height*, Monthly Notices of the Royal Astronomical Society Letters, Vol. 472, p. L60.
- 129\*. Lansbury, G.B., Alexander, D.M., Aird, J., Gandhi, P., Stern, D., Koss, M., Ajello, M., Assef, R.J., Ballantyne, D.R., Baloković, M., Bauer, F.E., Brandt, W.N., Brightman, M., Chen, C.-T.J., Civano, F., Comastri, A., Del Moro, A., Fuentes, C., Harrison, F.A., Marchesi, S., Masini, A., Mullaney, J.R., Ricci, C., Saez, C., Tomsick, J.A., Treister, E., Walton, D.J. & Zappacosta, L., 2017, *The NuSTAR Serendipitous Survey: Hunting for the Most Extreme Obscured AGN at  $> 10$  keV*, The Astrophysical Journal, Vol. 846, p. 20.
- 128\*. Brightman, M., Baloković, M., Ballantyne, D.R., Bauer, F.E., Boorman, P., Buchner, J., Brandt, W.N., Comastri, A., Del Moro, A., Farrah, D., Harrison, F.A., Koss, M., Lanz, L., Masini, A., Ricci, C., Stern, D., Vasudevan, R. & Walton, D.J., 2017, *X-ray Bolometric Corrections for Compton-Thick Active Galactic Nuclei*, The Astrophysical Journal, Vol. 844, p. 10.
- 127\*. Lohfink, A.M., Fabian, A.C., Ballantyne, D.R., Boggs, S.E., Boorman, P., Christensen, F.E., Craig, W.W., Farrah, D., García, J., Hailey, C.J., Harrison, F.A., Ricci, C., Stern, D. & Zhang, W.W., 2017, *The X-Ray Reflection Spectrum of the Radio-Loud Quasar 4C 74.26*, The Astrophysical Journal, Vol. 841, p. 80.
- 126\*. **Gohil, R.<sup>G</sup>** & Ballantyne, D.R., 2017, *Modeling the Vertical Structure of Nuclear Starburst Discs: A Possible Source of AGN Obscuration at  $z \sim 1$* , Monthly Notices of the Royal Astronomical Society, Vol. 468, p. 4944.
- 125\*. Keek, L., Iwakiri, W., Serino, M., Ballantyne, D.R., in 't Zand, J.J.M. & Strohmayer, T.E., 2017, *X-ray Reflection and an Exceptionally Long Thermonuclear Helium Burst from IGR J17062-6143*, The Astrophysical Journal, Vol. 836, p.111.
- 124\*. Zoghbi, A., Matt, G., Miller, J.M., Lohfink, A.M., Walton, D.J., Ballantyne, D.R., García, J.A., Stern, D., Koss, M.J., Farrah, D., Harrison, F.A., Boggs, S.E., Christensen, F.E., Craig, W., Hailey, C.J. & Zhang, W.W., 2017, *A Long Look at MCG-5-23-16 with NuSTAR: I. - Relativistic Reflection and Coronal Properties*, The Astrophysical Journal, Vol 836, p. 2.
- 123\*. Lansbury, G., Stern, D., Aird, J., Alexander, D.M., Fuentes, C., Harrison, F.A., Treister, E., Bauer, F.E., Tomsick, J.A., Baloković, M., Del Moro, A., Gandhi, P., Ajello, M., Annuar, A., Ballantyne, D.R., Boggs, S.E., Brandt, W.N., Brightman, M., Chen, C.-T.J., Christensen, F.E., Civano, F., Comastri, A., Craig, W.W., Forster, K., Grefenstette, B.W., Hailey, C.J., Hickox, R.C., Jiang, B., Jun, H.D., Koss, M., Marchesi, S., Melo, A.D., Mullaney, J.R., Noirot, G., Schulze, S., Walton, D.J., Zappacosta, L. & Zhang, W.W., 2017, *The NuSTAR Serendipitous Survey: The 40 Month Catalog and the Properties of the Distant High Energy X-ray Source Population*, The Astrophysical Journal, Vol. 836, p. 99.
- 122\*. Annuar, A., Alexander, D.M., Gandhi, P., Lansbury, G.B., Asmus, D., Ballantyne, D.R., Bauer, F.E., Boggs, S.E., Boorman, P.G., Brandt, W.N., Brightman, M., Christensen, F.E., Craig, W.W., Farrah, D., Goulding, A.D., Hailey, C.J., Harrison, F.A., Koss, M.J., LaMassa, S.M., Murray, S.S., Ricci, C., Rosario, D.J., Stanley, F., Stern, D. & Zhang, W., 2017, *A New Compton-Thick AGN in Our Cosmic Backyard: Unveiling the Buried Nucleus in NGC 1448 with NuSTAR*, The Astrophysical Journal, Vol. 836, p. 165.
- 121\*. Tortosa, A., Marinucci, A., Matt, G., Bianchi, S., La Franca, F., Ballantyne, D.R., Boorman, P.G.,

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No data

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#### **C. Other Publications and Creative Products (all non-refereed)**

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#### **D. Presentations**

##### **Invited presentations at conferences:**

- Ballantyne D.R. (2022) **Black Hole Accretion Workshop** (invited speaker at invitation-only workshop), Charleston, USA
- Ballantyne D.R. (2022) **Weather and Climate on Neutron Stars** (invited speaker), Princeton, USA (hybrid conference)
- Ballantyne D.R. (2020) **Accretion Disk Workshop** (invited speaker), Shanghai, China (event virtual due to coronavirus)
- Ballantyne D.R. (2019) **Accretion History of AGNs II** (invited speaker), Miami, U.S.A.
- Ballantyne D.R. (2019) **Bursting the Bubble: Connecting Thermonuclear Burst Research to a Wider Community** (invited Lorentz Center workshop participant), Leiden, The Netherlands.
- Ballantyne D.R. (2017) **The Radio Synchrotron Background Workshop** (invited speaker), Richmond, U.S.A
- Ballantyne D.R. (2017) **SKA-Athena Synergy Workshop** (selected presentation), Jodrell Bank, U.K.
- Ballantyne D.R. (2015) **40 years of X-ray bursts: Extreme explosions in dense environments** (invited speaker) ESAC, Madrid, Spain
- Ballantyne D.R. (2014) **NuSTAR Extragalactic Surveys Workshop** (invited speaker) Durham, U.K.
- Ballantyne D.R. (2013) **Astro-GR@Atlanta 2013** (invited speaker) Atlanta, U.S.A.
- Ballantyne D.R. (2012) **39th COSPAR Scientific Assembly Event E1. "Radio Meets Hard X-ray: Two Skies in Comparison"** (invited speaker) Mysore, India (unable to attend)

- Ballantyne D.R. (2012) **Black Holes by the Black Sea** (invited speaker) Istanbul, Turkey
- Ballantyne D.R. (2012) **NRAO-NAASC 2012 Workshop “Outflows, Winds and Jets: From Young Stars to Supermassive Black Holes”** (invited panelist) Charlottesville, U.S.A.
- Ballantyne D.R. (2011) **The Emerging, Multiwavelength Picture of the Galactic Centre Environment** (invited speaker) Heidelberg, Germany
- Ballantyne D.R. (2011) **Unveiling the Far-IR and Sub-mm Extragalactic Universe: Herschel, ALMA, CCAT, SPICA, and Beyond** (invited speaker) Irvine, USA
- Ballantyne D.R. (2010) **CITA@25/Bond@60: The Theory of the Universe and Everything in It** (invited speaker) Toronto, Canada
- Ballantyne D.R. (2008) **Putting Gravity to Work: From Black Holes to Galaxy Clusters** (invited speaker) Cambridge, U.K.

**Invited presentations at universities & institutes:**

- Ballantyne D.R. (2022) Department of Physics & Astronomy, **West Virginia University**, *Departmental Colloquium*
- Ballantyne D.R. (2018) Department of Astronomy, **University of Massachusetts at Amherst**, *Departmental Colloquium*
- Ballantyne D.R. (2018) Department of Physics, **Clark Atlanta University** *Departmental Seminar*
- Ballantyne D.R. (2015) College of Sciences, **Georgia Institute of Technology**, *Dean’s Office Visit to School of Physics*
- Ballantyne D.R. (2015) Department of Physics and Astronomy, **Clemson University**, U.S.A. *Departmental Colloquium*
- Ballantyne D.R. (2015) **Center for Astrophysics, Harvard University**, U.S.A. *High-Energy Astrophysics Seminar*
- Ballantyne D.R. (2014) Department of Physics and Astronomy, **College of Charleston**, U.S.A. *Departmental Colloquium*
- Ballantyne D.R. (2014) Department of Physics and Astronomy, **Georgia State University**, U.S.A. *Departmental Colloquium*
- Ballantyne D.R. (2013) Department of Physics and Astronomy, **Dartmouth College**, U.S.A. *Departmental Colloquium*
- Ballantyne D.R. (2011) Department of Physics and Astronomy, **University of Kentucky**, U.S.A. *Astrophysics Seminar*
- Ballantyne D.R. (2011) Department of Physics and Astronomy, **University of Georgia**, U.S.A. *Departmental Colloquium*
- Ballantyne D.R. (2010) Department of Astronomy, **University of California at Berkeley**, U.S.A. *Departmental Colloquium*
- Ballantyne D.R. (2010) Department of Astronomy, **University of Texas at Austin**, U.S.A. *Extragalactic Seminar*
- Ballantyne D.R. (2010) Department of Astronomy & Astrophysics, **The Pennsylvania State University**, U.S.A. *Departmental Colloquium*
- Ballantyne D.R. (2008) Department of Physics and Astronomy, **Georgia State University**, U.S.A. *Departmental Colloquium*
- Ballantyne D.R. (2008) School of Physics, **Georgia Institute of Technology**, U.S.A. *Departmental Colloquium (Job Talk)*
- Ballantyne D.R. (2007) **Kavli Institute for Particle Astrophysics and Cosmology, Stanford**, California, U.S.A. *GLAST Lunch Talk*
- Ballantyne D.R. (2007) Astrophysics Group, Department of Physics, **Imperial College**, United Kingdom *Astrophysics Seminar (Job Talk)*
- Ballantyne D.R. (2006) **Carnegie Observatories**, Pasadena, California, U.S.A. *Institutional Colloquium*
- Ballantyne D.R. (2006) Department of Physics & Astronomy, **University of Calgary**, Canada *Departmental Colloquium*

- Ballantyne D.R. (2006) Department of Astronomy & Physics, **St. Mary's University**, Canada  
*Departmental Colloquium (Job Talk)*
- Ballantyne D.R. (2005) **NASA/Goddard Space Flight Center**, Greenbelt, Maryland, U.S.A. *Seminar*
- Ballantyne D.R. (2005) Steward Observatory, **The University of Arizona**, U.S.A. *Theoretical Astrophysics Colloquium*
- Ballantyne D.R. (2005) Department of Physics, **McGill University**, Canada *Astrophysics Seminar*
- Ballantyne D.R. (2005) Steward Observatory, **The University of Arizona**, U.S.A. *Astrophysics Seminar*
- Ballantyne D.R. (2005) Yale Center for Astronomy & Astrophysics, **Yale University**, U.S.A. *Yale Center for Astronomy & Astrophysics Seminar*
- Ballantyne D.R. (2005) Department of Physics & Astronomy, **Clemson University**, U.S.A. *Departmental Colloquium (Job Talk)*
- Ballantyne D.R. (2005) Department of Physics, **University of Alabama at Huntsville**, U.S.A.  
*Departmental Colloquium (Job Talk)*
- Ballantyne D.R. (2005) Department of Physics & Astronomy, **Washington State University**, U.S.A.  
*Departmental Colloquium (Job Talk)*
- Ballantyne D.R. (2004) Department of Astronomy & Physics, **St. Mary's University**, Canada  
*Departmental Colloquium*
- Ballantyne D.R. (2004) Department of Physics & Center for Space Research, **MIT**, U.S.A. *Astrophysics Colloquium*
- Ballantyne D.R. (2003) Kavli Institute for Theoretical Physics, **University of California, Santa Barbara**, U.S.A. *Astrophysics Seminar*
- Ballantyne D.R. (2003) **Herzberg Institute for Astrophysics**, Victoria, British Columbia, Canada  
*Astrophysics Seminar (Job Talk)*
- Ballantyne D.R. (2002) Department of Physics and Astronomy, **University of Calgary**, Canada  
*Departmental Colloquium (Job Talk)*
- Ballantyne D.R. (2001) Department of Physics and Astronomy, **University of Western Ontario**, Canada  
*Astrophysics Seminar*
- Ballantyne D.R. (2001) Department of Physics and Astronomy, **University of Leicester**, United Kingdom *Astrophysics Seminar*

**Contributed presentations at conferences:**

(NB: presentations that resulted in published proceedings are listed in C and not below.)

- Ballantyne, D. & Xiang, X. (2022) *A Model for the X-ray Soft Excess in Active Galactic Nuclei: Combining the Effects of Reflection and a Warm Corona*. Poster presentation by D. Ballantyne. **19<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Pittsburgh, Pennsylvania
- Speicher, J., Ballantyne, D. & Fragile, P. (2022) *Evolution of accretion disc reflection spectra due to a Type I X-ray burst*. Poster presentation by J. Speicher. **19<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Pittsburgh, Pennsylvania
- Speicher, J., Ballantyne, D. & Fragile, P.C. (2021) *Impact of Type I X-ray Bursts on Reflection Spectra from an Accretion Disk*. Electronic oral presentation by J. Speicher. **238<sup>th</sup> Meeting of the American Astronomical Society**, Virtual Conference.
- Li, K., Ballantyne, D. & Bogdanović, T. (2021) *The Detectability of Kiloparsec Scale Dual AGNs: The Impact Of Galactic Structure And Black Hole Orbital Properties*, Electronic oral presentation by K. Li. **238<sup>th</sup> Meeting of the American Astronomical Society**, Virtual Conference.
- Li, K., Bogdanović, T. & Ballantyne, D. (2021) *Pairing of Massive Black Holes in Merger Galaxies*. Electronic oral presentation by K. Li. **237<sup>th</sup> Meeting of the American Astronomical Society**, Virtual Conference.
- Speicher, J., Ballantyne, D. & Malzac, J. (2021) *Cooling of Accretion Disc Coronae by Type I X-ray Bursts*. Electronic oral presentation by J. Speicher. **237<sup>th</sup> Meeting of the American Astronomical Society**, Virtual Conference.

- Blankenship, A., Fragile, P. & Ballantyne, D. (2020) *Simulating the Interactions of Type I X-ray Bursts with Accretion Disks*. Electronic presentation by A. Blankenship. **236<sup>th</sup> Meeting of American Astronomical Society**, Virtual Conference.
- Lanz, L., Hickox, R., Balokovic, M., Shimizu, T., Ricci, C., Goulding, A., Ballantyne, D., Bauer, F., Chen, C.-T., del Moro, A., Farrah, D., Koss, M., LaMassa, S., Masini, A. & Zappacosta, L. (2019) *Exploring AGN Structure with Reflection and Reprocessing in Swift/BAT AGN*. Poster presentation by L. Lanz. **17<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Monterey, California.
- Ballantyne, D.R. (2019) *A Careful Examination of the Physical Conditions of a Warm Corona in AGN Accretion Disks*. Oral Presentation by D. Ballantyne. **17<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Monterey, California.
- Averitt-Mackenzie, M. & Ballantyne, D.R. (2019) *The evolving X-ray spectrum of active galactic nuclei: evidence for an increasing reflection fraction with redshift*. Poster presentation by M. Averitt-Mackenzie. **233rd Meeting of the American Astronomical Society**, Seattle, Washington
- Wilson-Hodge, C., Ray, P., Maccarone, T. Chakrabarty, D., Gendreau, K., Arzoumanian, Z., Jenke, P., Ballantyne, D.R., Bozzo, E., Brandt, S., Brenneman, L., Christophersen, M., DeRosa, A., Feroci, M., Goldstein, A., Hartmann, D., Hernanz, M., McDonald, M., Philips, B., Remillard, R., Stevens, A., Tomsick, J., Watts, A., Wood, K.S. & Zane, S. (2019) *STROBE-X: X-ray Timing & Spectroscopy on Dynamical Timescales from Microseconds to Years*. Poster presentation by C. Wilson-Hodge. **233rd Meeting of the American Astronomical Society**, Seattle, Washington
- Gohil, R. & Ballantyne, D.R., (2018) *The Evolution of AGN Obscuration: A result of Dusty Nuclear Starburst Disks*. Oral presentation by R. Gohil. **231<sup>st</sup> Meeting of the American Astronomical Society**, Washington, D.C.
- Ballantyne, D.R., Balokovic, M., Garcia, J., Koss, M. & STROBE-X Team (2018) *AGN Science with STROBE-X*. Poster presentation by D. Ballantyne. **231<sup>st</sup> Meeting of the American Astronomical Society**, Washington, D.C.
- Wilson-Hodge, C., Ray, P., Maccarone, T. Chakrabarty, D., Gendreau, K., Arzoumanian, Z., Jenke, P., Ballantyne, D.R., Bozzo, E., Brandt, S., Brenneman, L., Christophersen, M., DeRosa, A., Feroci, M., Goldstein, A., Hartmann, D., Hernanz, M., McDonald, M., Philips, B., Remillard, R., Stevens, A., Tomsick, J., Watts, A., Wood, K.S. & Zane, S. (2018) *STROBE-X: X-ray Timing & Spectroscopy on Dynamical Timescales from Microseconds to Years*. Poster presentation by C. Wilson-Hodge. **231<sup>st</sup> Meeting of the American Astronomical Society**, Washington, D.C.
- Stern, D., Boorman, P., Annuar, A., Gandhi, P., Alexander, D., Lansbury, G., Asmus, D., Ballantyne, D.R., Bauer, F., Boggs, S.E., Brandt, W.N., Brightman, M., Christensen, F., Craig, W., Farrah, D., Goulding, A., Hailey, C.J., Harrison, F., Hoenig, S., Koss, M., LaMassa, S., Masini, A., Murray, S., Ricci, C., Risaliti, G., Rosario, D., Stanley, F. & Zhang, W (2017) *NGC1448 and IC 3639: Two Concealed Black Holes Lurking in Our Cosmic Backyard Unveiled by NuSTAR*. Poster presentation by D. Stern. . **229<sup>th</sup> Meeting of the American Astronomical Society**, Grapevine, Texas
- Gohil, R. & Ballantyne, D.R. (2017) *Exploring the Vertical Structure of Nuclear Starburst Disks: A Possible Source of AGN Obscuration at Redshift~1*. Poster presentation by R. Gohil. **229<sup>th</sup> Meeting of the American Astronomical Society**, Grapevine, Texas
- Ballantyne, D.R. (2017) *Clustering, Cosmology and a New Era in Black Hole Demographics: The Conditional Luminosity Function of AGNs*. Poster presentation by D. Ballantyne. **229<sup>th</sup> Meeting of the American Astronomical Society**, Grapevine, Texas
- Brightman, M., Masini, A., Ballantyne, D., Brandt, W.N., Chen, C.-T., Comastri, A., Farrah, D., Gandhi, P., Ricci, C., Stern, D. & Walton, D. (2016) *A growth-rate indicator for Compton-thick active galactic nuclei*. Oral presentation by M. Brightman. **Active Galactic Nuclei: what's in a name?** Garching, Germany
- Ballantyne, D.R. (2016) *Clustering, Cosmology and a New Era in Black Hole Demographics: The*

- Conditional Luminosity Function of AGNs*. Poster presentation by D. Ballantyne. **15<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Naples, Florida
- Ballantyne, D.R. & Keek, L. (2016) *Revealing the Evolving Accretion Disk Corona in AGNs with the Multi-Epoch X-ray Spectroscopy: the Case of Mrk 335*. Poster presentation by D. Ballantyne. **15<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Naples, Florida
- Ballantyne, D.R. & Gohil R. (2016) *The Vertical Structure of Nuclear Starburst Disks: Testing a Model of AGN Obscuration*. Poster presentation by D. Ballantyne. **15<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Naples, Florida
- Keek, M., Brenneman, L., Elvis, M., Fuerst, F., Madejski, G., Matt, G., Harrison, F., Stern, D., McDowell, J., Risaliti, G., Marinucci, A., Walton, D. & Ballantyne, D.R. (2014) *The AGN of NGC 4151 as revealed by NuSTAR and Suzaku*. Poster presentation by M. Keek. **14<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Chicago, Illinois
- Ballantyne, D.R., Bollenbacher, J., Brenneman, L., Madsen, K., Balokovic, M., Boggs, S., Christensen, F., Craig, W., Gandhi, P., Hailey, C., Harrison, F., Lohfink, A., Marinucci, A., Markwardt, C., Stern, D., Walton, D. & Zhang, W. (2014) *NuSTAR Reveals the Comptonizing Corona of the Broad-Line Radio galaxy 3C 382*. Poster presentation by D. Ballantyne. **14<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Chicago, Illinois
- Keek, L., Ballantyne, D.R., Kuulkers, E. & Strohmayer, T. (2014) *A superburst's impact on the accretion disk around the neutron star 4U 1636-536*. Poster presentation by L. Keek. **14<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Chicago, Illinois
- Keek, L., Ballantyne, D., Kuulkers, E. & Strohmayer, T. (2014) *The impact of an X-ray superburst from the neutron star 4U 1636-536 on the accretion disk*. Oral presentation by L. Keek. **The X-ray Universe 2014**, Dublin, Ireland.
- Brenneman, L., Fuerst, F., Walton, D., Madjeski, G., Matt, G., Marinucci, A., Risaliti, G., Elvis, M., Fabian, A., Ballantyne, D.R., Harrison, F., Stern, D. & the NuSTAR Team (2014) *Revealing Fundamental Physical Properties of AGN with NuSTAR, XMM and Suzaku*. Poster presentation by L. Brenneman. **223<sup>rd</sup> Meeting of the American Astronomical Society**, Washington, D.C.
- Ballantyne, D.R. (2013) *The contribution of merger and secular processes to the evolution of active galactic nuclei*. Oral presentation by D. Ballantyne. **Massive Black Holes: Birth, Growth and Impact**, Santa Barbara, California
- Ballantyne, D.R., Ajello, M., Alexander, D., Assef, R., Balokovic, M., Bauer, F., Boggs, S.E., Boydston, K., Bridge, C., Christensen, F., Craig, W., Del Moro, A., Eisenhardt, P., Gonzalez, A., Hailey, C.J., Harrison, F., Lu, T.-N., Stern, D. Zhang, W. & NuSTAR Team (2013) *The NuSTAR Extragalactic Survey: A First Look at the Distant High-Energy X-ray Background Population*. Oral presentation by D. Ballantyne. **13<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Monterey, California
- Ballantyne, D.R. (2013) *The Average 0.5-200 keV Spectrum of AGNs at  $z \sim 0$* . Poster presentation by D. Ballantyne. **13<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Monterey, California
- Shemmer, O., Anderson, S., Ballantyne, D., Barth, A., Brandt, W.N., Brunner, R., Chartas, G., Coppi, P., de Vries, W., Eracleaous, M., Fan, X., Gibson, R., Gray, A.G., Green, R., Kimball, A., Lacy, M., Lira, P., Madejski, G., Newman, J.A., Richards, G., Schneider, D., Seth, A., Smith, H., Strauss, M.A., Treister, E., Trouille, L., Urry, C.M. & Vanden Berk, D., (2013) *AGN Science with the LSST*. Poster presentation by O. Shemmer. **221st Meeting of the American Astronomical Society**, Long Beach, California.
- Balokovic, M., Ballantyne, D.R., Blandford, R., Boggs, S.E., Boydston K., Brenneman, L. Cappi, M., Christensen, F., Craig, W., Elvis, M., Fabian, A., Fuerst, F., Guainazzi, M., Hailey, C.J., Harrison, F., Madejski, G., Marinucci, A., Matt, G., Nandra, K., Reynolds, C.S., Stern, D., Walton, D., Zhang, W. & NuSTAR Team, (2013) *Cross-calibration of NuSTAR: A Multi-observatory snapshot*



- of blazar 3C 273*. Poster presentation by M. Balokovic. **221st Meeting of the American Astronomical Society**, Long Beach, California.
- Elvis, M., Ballantyne, D.R., Blandford, R., Boggs, S.E., Boydston K., Brenneman, L. Cappi, M., Christensen, F., Craig, W., Fabian, A., Fuerst, F., Guainazzi, M., Hailey, C.J., Harrison, F., Madejski, G., Marinucci, A., Matt, G., Nandra, K., Reynolds, C.S., Stern, D., Walton, D., Zhang, W. & NuSTAR Team, (2013) *NuSTAR Observations of Bright AGNs*. Poster presentation by M. Elvis. **221st Meeting of the American Astronomical Society**, Long Beach, California.
- Lu, T.-N., Ajello, M., Alexander, D., Ballantyne, D.R., Balokovic, M., Bauer, F., Boggs, S.E., Boydston K., Christensen, F., Craig, W., Del Moro, A., Hailey, C.J., Harrison, F., Stern, D., Zhang, W. & NuSTAR Team, (2013) *An Overview of the NuSTAR Swift-BAT Extragalactic Survey and Preliminary Results*. Poster presentation by T.-N. Lu. **221st Meeting of the American Astronomical Society**, Long Beach, California.
- Boydston, K., Ajello, M., Alexander, D., Assef, R., Ballantyne, D.R., Balokovic, M., Bauer, F., Boggs, S.E., Brandt, W.N., Christensen, F., Civano, F., Comastri, A., Craig, W., Del Moro, A., Elvis, M., Fiore, F., Hailey, C.J., Harrison, F., Helfand, D.J., Hickox, R., LaMassa, S., Lansbury, G., Luo, B., Madsen, K., Markwardt, C., Mullaney, J., Puccetti, S., Saez, C., Stern, D., Tagliaferri, G., Treister, E., Urry, C.M., Walton, D., Zhang, W. & NuSTAR Team, (2013) *Extragalactic Surveys with NuSTAR*. Poster presentation by K. Boydston. **221st Meeting of the American Astronomical Society**, Long Beach, California.
- Ballantyne, D.R. (2012) *Connecting star formation, galaxy evolution and the growth of BHs*, Oral presentation by D. Ballantyne. **Black Hole Feedback 2012**, Dartmouth College, Hanover, New Hampshire
- Ballantyne, D.R. (2012) *The Evolution of the X-ray Background: The New Era of High Energies*, Oral presentation by D. Ballantyne. **Energetic Astronomy**, Annapolis, Maryland
- Draper, A.R. & Ballantyne, D.R. (2012) *Which Processes are Responsible for Triggering Active Galactic Nuclei?* Poster presentation by A. Draper. **219<sup>th</sup> Meeting of the American Astronomical Society**, Austin, Texas.
- Ballantyne, D.R., Draper, A., Madsen, K., Rigby, J & Treister, E. (2011) *X-ray Number Counts for NuSTAR and Other Hard X-ray Imaging Missions*. Poster Presentation by D. Ballantyne. **12<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Newport, Rhode Island
- Ballantyne, D.R., McDuffie, J. & Rusin, J. (2011) *A Correlation between the Ionization State of the Inner Accretion Disk and the Eddington Ratio of Active Galactic Nuclei*. Oral Presentation by D. Ballantyne. **12<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Newport, Rhode Island
- Draper, A.R. & Ballantyne, D.R. (2011) *Active Galactic Nuclei, Host Star Formation, and the Far Infrared*. Poster presentation by A. Draper. **218<sup>th</sup> Meeting of the American Astronomical Society**, Boston, Massachusetts
- Gibson, R., Anderson, S., Ballantyne, D., Barth, A., Brandt, W.N., Brunner, R., Chartas, G., Coppi, P., de Vries, W., Eracleous, M., Fan, X., Gray, A.G., Green, R., Ivezić, Z., Lacy, M., Lira, P., Madejski, G., Newman, J.A., Richards, G., Schneider, D., Seth, A., Shemmer, O., Smith, H., Strauss, M.A., Treister, E. & Vanden Berk, D., (2011) *AGN Science with the LSST*. Poster presentation by R. Gibson. **217<sup>th</sup> Meeting of the American Astronomical Society**, Seattle, Washington.
- Pierce, C.M. & Ballantyne, D.R. (2010) *Average Spectral Energy Distributions of AGN Host Galaxies at  $z < 1$  and the Geometries of Their Obscuring Clouds*. Poster presentation by C. Pierce. **11<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Kona, Hawaii.
- Ballantyne, D.R. (2010) *The cosmic density and distribution of relativistic iron lines*. Oral presentation by D. Ballantyne. **Probing Strong Gravity Near Black Holes**, Prague, Czech Republic
- Richards, G.T., Anderson, S., Ballantyne, D., Barth, A., Brandt, W.N., Brunner, R., Chartas, G., Coppi, P.,

- de Vries, W., Eracleous, M., Fan, X., Gibson, R., Gray, A.G., Green, R., Lacy, M., Lira, P., Madejski, G., Newman, J.A., Schneider, D., Shemmer, O., Smith, H., Strauss, M.A., Treister, E. & Vanden Berk, D., (2010) *AGN Science with the LSST*. Poster presentation by G. Richards. **215th Meeting of the American Astronomical Society**, Washington, D.C.
- Cackett, M.E., Miller, J.M., Ballantyne, D.R., Barret, D., Bhattacharyya, S., Boutelier, M., Miller, M.C., Strohmayer, T.E. & Wijnands, R. (2009) *Fe K Emission Lines in Neutron Star Low-Mass X-ray Binaries*. Oral Presentation by E. Cackett. **The Energetic Cosmos: from Suzaku to ASTRO-H**, Otaru, Japan.
- Ballantyne, D.R. (2009) *Galaxy and Black Hole Evolution in the SKA Era*, Poster presentation by D. Ballantyne. **Meeting of the Canadian Astronomical Society**, Toronto, Canada
- Ballantyne, D.R. (2009) *AGN Evolution and the X-ray Background* Oral presentation by D. Ballantyne **Multi-Messenger Relativistic Astrophysics**, Atlanta, Georgia
- Brandt, W.N., Anderson, S., Ballantyne, D., Barth, A., Brunner, R., Chartas, G., de Vries, W., Eracleous, M., Gibson, R., Green, R., Lacy, M., Madejski, G., Schneider, D., Shemmer, O., Smith, H., Smith, P., Vanden Berk, D. & LSST AGN Science Collaboration (2009) *Active Galaxy Science with the Large Synoptic Survey Telescope*. Poster presentation by N. Brandt. **213th Meeting of the American Astronomical Society**, Long Beach, California.
- Stern, D., Harrison, F., Ballantyne, D., Madejski, G. & NuSTAR Team, (2009) *Extragalactic Surveys with NuSTAR*. Poster presentation by D. Stern. **213th Meeting of the American Astronomical Society**, Long Beach, California.
- Ballantyne, D.R. (2008) *Obscured AGNs and Deep Radio Surveys*. Poster presentation by D. Ballantyne. **The EVLA Vision: Galaxies through Cosmic Time**, Socorro, New Mexico
- Ballantyne, D.R. (2008) *AGN Number Counts in the NuSTAR Energy Band*. Oral presentation by D. Ballantyne. **10th Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Los Angeles, California
- Ballantyne, D.R. & Thompson, T. (2008) *Obscuring AGN with Nuclear Starburst Disks*. Poster presentation by D. Ballantyne. **10th Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Los Angeles, California
- Ballantyne, D.R., Ozel, F. & Psaltis, D. (2008) *Constraining Radiatively Inefficient Accretion Flows with Sub-mm Polarization Observations*. Oral presentation by D. Ballantyne. **2011<sup>th</sup> Meeting of the American Astronomical Society**, Austin, Texas
- Ballantyne, D.R. (2007) *The Galactic Center at High and Low Energies*. Oral presentation by D. Ballantyne. **Meeting of Canadian Astronomical Society**, Kingston, Canada
- Ballantyne, D.R. & Melia, F. (2006) *TeV Protons from Sgr A\* as the Origin for the Galactic Center HESS Source*. Poster presentation by D. Ballantyne. **9<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, San Francisco, California
- Ballantyne, D.R. (2006) *Accreting Black Holes as Probes of Galaxy Evolution: Connecting the X-ray Background to the Mid-Infrared*. Oral presentation by D. Ballantyne. **Physics and Astrophysics of Supermassive Black Holes**, Santa Fe, New Mexico
- Ballantyne, D.R., Donley J., Papovich, C., Rieke, G., Rigby, J. & Shi, Y. (2006) *Does the AGN Unified Model Evolve with Redshift? Utilizing the X-ray Background to Predict the Mid-Infrared*. Oral presentation by D. Ballantyne. **208<sup>th</sup> Meeting of the American Astronomical Society**, Calgary, Canada
- Ballantyne, D.R. (2006) *Accreting Black Holes as Probes of Galaxy Evolution: Connecting the X-ray Background to the Mid-Infrared*, Oral presentation by D. Ballantyne. **Meeting of Canadian Astronomical Society**, Calgary, Canada
- Ballantyne, D.R., Everett, J.E. & Murray, N. (2005) *Connecting Galaxy Formation, Star Formation and the X-ray Background*. Oral presentation by D. Ballantyne. **Six Years of Science with Chandra Symposium**, Boston, Massachusetts
- Ballantyne, D.R. (2005) *Accretion Geometry in Radio-Loud Active Galaxies*. Oral presentation by D. Ballantyne. **Physics of Astrophysical Outflows and Accretion Disks**, Santa Barbara, California

- Ballantyne, D.R. (2005) *How Black Holes Make Jets: Clues from X-ray Spectroscopy*. Oral presentation by D. Ballantyne. **Meeting of Canadian Astronomical Society**, Montreal, Canada
- Ballantyne, D.R., Strohmayer, T.E. & Kuulkers, E. (2004) *Visualizing the Inner Regions of Accretion Disks around Neutron Stars using Superbursts*. Oral presentation by D. Ballantyne. **8<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, New Orleans, Louisiana
- Everett, J.E. & Ballantyne, D.R. (2004) *Continuum-Driven High-Velocity X-ray Winds*. Poster presentation by J. Everett. **8<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, New Orleans, Louisiana
- Ballantyne, D.R., Turner, N.J. & Young, A.J. (2004) *X-ray Reflection from Inhomogeneous Accretion Disks: Emission Line Variability*, Poster presentation by D. Ballantyne. **8<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, New Orleans, Louisiana
- Ballantyne, D.R. & Strohmayer, T.E. (2004) *Visualizing the Inner Regions of Accretion Disks around Neutron Stars using Superbursts*. Oral presentation by D. Ballantyne. **Meeting of Canadian Astronomical Society**, Winnipeg, Canada
- Ballantyne, D.R. & Fabian, A.C. (2003) *The Contribution of Particle Impact to the Production of Fe K $\alpha$  Emission*. Poster Presentation by D. Ballantyne. **7<sup>th</sup> Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Mt. Tremblant, Canada
- Ballantyne, D.R., Fabian, A.C. & Vaughan, S. (2003) *Reflections on MCG-6-30-15*. Poster presentation by D. Ballantyne. **201<sup>st</sup> Meeting of the American Astronomical Society**, Seattle, Washington
- Ballantyne, D.R. (2002) *The properties of soft X-ray emission lines from accretion discs*. Oral presentation by D. Ballantyne. **National Astronomy Meeting**, Bristol, U.K.
- Ballantyne, D.R. & Ramirez-Ruiz, E. (2001) *Fe K $\alpha$  Emission from X-ray Reflection: Predictions for Gamma-ray Burst Models*. Poster presentation by D. Ballantyne. **Two Years of Science with Chandra**, Washington, D.C.
- Ballantyne, D.R. & Fabian, A.C. (2001) *Relativistic Ionized Accretion Disc Models of MCG-6-30-15*. Poster presentation by D. Ballantyne. **X-Ray Emission from Accretion onto Black Holes**, Baltimore, Maryland
- Ballantyne, D.R., Ross, R.R. & Fabian, A.C. (2000) *Ionised Iron Lines in X-ray Reflection Spectra*. Poster presentation by D. Ballantyne. **The 2000 Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Honolulu, Hawaii
- Morales R., Fabian, A. & Ballantyne, D.R. (2000) *An upper limit on the AGN BH Mass given by the Warm Absorber*. Poster presentation by R. Morales. **The 2000 Meeting of the High Energy Astrophysics Division of the American Astronomical Society**, Honolulu, Hawaii

## E. Grants and Contracts

### E1. As Principal Investigator

#### Currently funded:

No data.

#### Previous funding:

Title:	“Connecting Star Formation, Galaxy Evolution and the Growth of Black Holes”
Agency:	NSF AST-1008067
Total Amount:	\$391,679
Role:	PI
Collaborators:	n/a
Contract Period:	2010-2015
Candidate’s Share:	100%

Title:	“Time-Resolved Reflection Modeling of the 4U 1636-53 Superburst”
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Agency: NASA NNX13AI47G  
 Total Amount: \$100,000  
 Role: PI  
 Collaborators: n/a  
 Contract Period: 2013-2014  
 Candidate's Share: 100%

**E2. As Co-Principal Investigator**

Currently funded:

No data.

Previous funding:

Title: "Collaborative Research: The multi-scale physics of massive black hole formation, fueling and feedback"  
 Agency: NSF AST-1333360  
 Total Amount: \$571,378  
 Role: Co-PI  
 Collaborators: Georgia Tech PI: Pablo Laguna, other GT co-PIs: John Wise, Tamara Bogdanović; Yale PI: Priya Natarajan; Univ. of Maryland PI: Chris Reynolds  
 Contract Period: 2013-2017  
 Candidate's Share: 25%

Title: "Don't Try This in a Lab: Using Exploding Neutron Stars to Study the Physics of Gas Disks"  
 Agency: South Carolina NASA EPSCoR  
 Total Amount: \$23,286  
 Role: Co-I  
 Collaborators: PI: P. Chris Fragile (College of Charleston)  
 Contract Period: 2017-2018  
 Candidate's Share: 0%

**E3. As Senior Personnel or Contributor**

No data

**E4. Pending Proposals**

Title: "NRT-WoU: Multimessenger Astrophysics and Space Technology -- Building the Tools of Discovery"  
 Agency: NSF  
 Total Amount: \$3,000,000  
 Role: PI  
 Collaborators: Bogdanović, Cadonati, Li, Taboada, Wise (GT PHYS), Christian, Lightsey, Walker (GT AE), Aldemar (GT CEISMIC)  
 Contract Period: 3/1/2022-2/28/2028  
 Candidate's Share: 100%

Title: "The Population and Evolution of Dual AGNs at Radio Wavelengths: Predictions for the ngVLA"  
 Agency: NSF Division of Astronomical Sciences  
 Total Amount: \$525,976

Role: PI  
 Collaborators: Co-PI: Tamara Bogdanović (Georgia Tech), Collaborator: Alessandra Corsi (Texas Tech)  
 Contract Period: 9/1/2023-8/31/2026  
 Candidate's Share: 90%  
 Title: "Collaborative Research: Massive Black Hole Binaries as Multimessenger Sources: The X-ray Counterparts to Gravitational Wave Emission"  
 Agency: NSF Division of Astronomical Sciences  
 Total Amount: \$510,590  
 Role: Collaborator  
 Collaborators: Tamara Bogdanović (PI), Laura Brenneman (SAO), Thomas Dauser (Germany)  
 Contract Period: 6/1/2023-5/31/2026  
 Candidate's Share: 5%

**E5. Proposals Submitted but not Funded (last 2 years)**

Title: "Models of the Soft Excess and Ionized Reflection Spectrum for the XRISM Observation of NGC 3783"  
 Agency: NASA X-Ray Imaging and Spectroscopy Mission Guest Scientist Program  
 Total Amount: \$125,068  
 Role: PI  
 Collaborators: n/a  
 Contract Period: 10/1/2022-9/30/2024  
 Candidate's Share: 100%

Title: "X-ray Signatures of Inspiring Massive Black Hole Binaries"  
 Agency: Chandra Science Center  
 Total Amount: \$75,000  
 Role: Co-I  
 Collaborators: Prof. Tamara Bogdanović (Georgia Tech) & Prof. Erin Kara (MIT)  
 Contract Period: 9/1/2022-8/31/2023  
 Candidate's Share: 10%

Title: "The X-ray Properties of Dual AGNs: Predictions for Chandra Observations"  
 Agency: Chandra Science Center  
 Total Amount: \$102,000  
 Role: PI  
 Collaborators: Prof. Tamara Bogdanović (Georgia Tech)  
 Contract Period: 9/1/2022-8/31/2023  
 Candidate's Share: 100%

Title: "The Population and Evolution of Dual AGNs at Radio Wavelengths: Predictions for the ngVLA"  
 Agency: NSF Division of Astronomical Sciences  
 Total Amount: \$481,451  
 Role: PI  
 Collaborators: Co-PI: Tamara Bogdanović (Georgia Tech)  
 Contract Period: 9/1/2022-8/31/2025

Candidate's Share: 90%  
 Title: "Massive Black Hole Binaries as Multimessenger Sources: Modeling the X-ray Counterparts to Gravitational Wave Emission"  
 Agency: NSF Division of Astronomical Sciences  
 Total Amount: \$500,990  
 Role: Co-PI  
 Collaborators: Tamara Bogdanović (PI), Erin Kara (MIT)  
 Contract Period: 9/1/2022-8/31/2025  
 Candidate's Share: 7.5%

Title: "Reinventing X-ray Background Synthesis: Unveiling the Evolution of the AGN Central Engine with a Focus on Physics"  
 Agency: NASA Astrophysics Theory Program  
 Total Amount: \$397,807  
 Role: PI  
 Collaborators: None  
 Contract Period: 5/1/2022-4/30/2025  
 Candidate's Share: 100%

Title: "Massive Black Hole Binaries as Multimessenger Sources: Modeling the X-ray Counterparts to Gravitational Wave Emission"  
 Agency: NASA Astrophysics Theory Program  
 Total Amount: \$490,663  
 Role: Co-I  
 Collaborators: Tamara Bogdanović (PI), Erin Kara (MIT)  
 Contract Period: 9/1/2021-8/31/2025  
 Candidate's Share: 7.5%

Title: "NRT-WoU: Transforming Graduate Education at the Convergence of Multi-Messenger Astrophysics and Data Science"  
 Agency: NSF Division of Graduate Education  
 Total Amount: \$3,000,000  
 Role: PI  
 Collaborators: Co-Is: Laura Cadonati, Ignacio Taboada, Ümit V. Çatalyürek, Richard Vuduc  
 Contract Period: 9/1/2021-8/31/2026  
 Candidate's Share: 1%

Title: "X-ray Signatures of Inspiring Massive Black Hole Binaries"  
 Agency: Chandra Science Center  
 Total Amount: \$106,866  
 Role: Co-I  
 Collaborators: Prof. Tamara Bogdanović (Georgia Tech)  
 Contract Period: 9/1/2021-3/30/2023  
 Candidate's Share: 10%

Title: "X-ray Background Synthesis: New Models for a New Decade"  
 Agency: NSF Division of Astronomical Sciences  
 Total Amount: \$398,432  
 Role: PI  
 Collaborators: None

Contract Period: 9/1/2021-8/31/2024  
 Candidate's Share: 100%

Title: "X-ray Burst/Accretion Disk Interactions: A Direct Window into Accretion Physics"

Agency: NSF Division of Astronomical Sciences  
 Total Amount: \$398,432  
 Role: PI  
 Collaborators: P. Chris Fragile (College of Charleston)  
 Contract Period: 9/1/2021-8/31/2024  
 Candidate's Share: 100%

Title: "Accretion Disks in the Spotlight: Exploring the Physics of Accretion with X-ray Bursts"

Agency: NASA Astrophysics Data Analysis Program  
 Total Amount: \$317,741  
 Role: PI  
 Collaborators: T. Strohmayer (NASA/GSFC), P. Bult (NASA/GSFC), D. Chakrabarty (MIT)  
 Contract Period: 1/1/2021-12/31/2023  
 Candidate's Share: 100%

Title: "NRT-WoU: Transforming Graduate Education at the Convergence of Multi-Messenger Astrophysics and Data Science"

Agency: NSF Division of Graduate Education  
 Total Amount: \$3,000,000  
 Role: PI  
 Collaborators: Co-Is: Pablo Laguna, Ignacio Taboada, Ümit V. Çatalyürek, Richard Vuduc  
 Contract Period: 9/1/2020-8/31/2025  
 Candidate's Share: 1%

Title: "X-ray Signatures of Inspiring Massive Black Hole Binaries"

Agency: Chandra Science Center  
 Total Amount: \$142,211  
 Role: Co-I  
 Collaborators: Prof. Tamara Bogdanović (Georgia Tech)  
 Contract Period: 9/1/2020-8/31/2022  
 Candidate's Share: 10%

Title: "The Cosmic Abundance and X-ray Properties of Dual AGNs: Predictions for Chandra Observations"

Agency: Chandra Science Center  
 Total Amount: \$95,000  
 Role: PI  
 Collaborators: Prof. Tamara Bogdanović & Kunyang Li (Georgia Tech)  
 Contract Period: 9/1/2020-8/31/2021  
 Candidate's Share: 10%

## F. Other Scholarly and Creative Accomplishments

3\*. Invited to join International Space Science Institute (ISSI) proposal for an International Team to study ‘Warm coronae in AGN: Observational evidence and physical understanding’. Successfully awarded in June 2020 to support 2 meetings in Bern, Switzerland (2021 & 2022).

2\*. Invited to join International Space Science Institute (ISSI) proposal for an International Team to study ‘Corona of X-ray Binaries’. Successfully awarded in May 2014 to support 2 meetings in Beijing (2015 & 2016).

1\*. In 2016 NASA announced a call for probe-class mission concepts from which they would select 5-8 for further study that would then be presented to the next decadal survey. I was invited to be on three of the submitted concepts:

- *STROBE-X*: X-ray Timing and Spectroscopy (**Selected**)
- *XPP*: X-ray Polarimetry Probe
- *HEX-P*: High-Energy X-ray Probe

## G. Societal and Policy Impacts

### Media Coverage

5. Georgia Tech Media Release (2020) “Simulations Show X-Rays from Neutron Stars Blasting Surrounding Plasma”
4. Georgia Tech Media Release (2012) “*NuSTAR* Provides New Look at Black Holes”. Coverage included: Atlanta Business Chronicle. Interviews given: WABE Radio (Atlanta NPR affiliate), 106.7FM Radio
3. Interview for article titled ‘Supermassive black holes not so big after all’, *COSMOS Magazine Online* (2011)
2. Interview for article titled ‘Black holes are the ultimate particle smashers’, *New Scientist, Magazine* Issue 2725 (2009)
1. Interview on WPCH morning show regarding the Large Hadron Collider (2008)

## H. Other Professional Activities

3. Accepted to participate in the Georgia Tech Office of the Provost Emerging Leaders Program for the 2020-21 academic year.

2. Invited to serve on an external review panel for graduate degree programs in the Department of Physics and Astronomy at Clemson University (2020).

1. Accepted to attend the 2019 Academic Leadership Training Workshop for emerging leaders in Physics, Astronomy and Chemistry. Workshop hosted by the American Chemical Society in Washington, D.C. with major support from Johns Hopkins University.

## V. Education

### A. Courses Taught (last 5 years)

Spring 2023	Physics 3201 Classical Mechanics I	30 students
Fall 2022	Physics 7129 High Energy Astrophysics	17 students
Spring 2022	Physics 4347 Fundamentals of Astrophysics	19 students
Fall 2021	Physics 3123 Electrodynamics	18 students
Summer 2021	Physics 3123 Electrodynamics	15 students
Spring 2021	Physics 3123 Electrodynamics	32 students
Fall 2020	Physics 3201 Classical Mechanics I	47 students
Spring 2020	Physics 7129 High Energy Astrophysics	12 students
Fall 2019	Physics 3201 Classical Mechanics I	31 students



December 13, 2022

Fall 2019	Physics 8802 Seminar and RCR	17 students
Spring 2019	Physics 3123 Electrodynamics	35 students
Fall 2018	Physics 8802 Seminar and RCR (developed)	18 students
Spring 2018	Physics 8803 High Energy Astrophysics	4 students

## B. Individual Student Guidance

### B1. PhD Students

8. Julia Speicher, Ph.D. Student, School of Physics  
NDSEG Fellow  
Spring 2020-present
7. Astraea Hegeman, MS Awarded, School of Physics  
Summer 2019
6. Kunyang (Lily) Li, Ph.D. Awarded, School of Physics  
(co-advised with Tamara Bogdanović)  
Winner of School of Physics Amelio Fellowship 2017-2021  
Ph.D. Thesis: *“Electromagnetic and Gravitational Wave Signatures  
Of Massive Black Hole Binaries in Merger Galaxies”*  
Current Position: Postdoc, Institut d'Astrophysique de Paris  
Spring 2018-Summer 2022
5. Pruthvirajsinh (Raj) Gohil, Ph.D. Awarded, School of Physics  
Ph.D. Thesis: *“Computational Modeling of Dusty Starburst Disks  
and its Consequences on Observables”*  
Current position: Software Systems Engineer, The Aerospace Corporation  
Spring 2014-Summer 2018
4. Rachel Grissom, MS Awarded, School of Physics  
Current position: Staff Scientist, Johns Hopkins Applied Physics Lab  
Summer 2013–Fall 2013
3. Aden Draper, Ph.D. Awarded, School of Physics  
Ph.D. Thesis: *“Understanding the Connection Between Active  
Galactic Nuclei and Host Star Formation  
Through Multi-Wavelength Population Synthesis  
Modeling”*  
Winner of School of Physics Amelio Award (2011)  
Current position: Patent Agent, Alston & Bird, LLP  
Spring 2009-Summer 2012
2. Jonathan Armour, MS Awarded, School of Physics  
Spring 2011-Summer 2012
1. Ravi Pallantla in PHYS 8901 Special Problems  
Summer 2012

### B2. M.S. students

No data

### B3. Undergraduate Students

24. Vishal Sudhakar in PHYS 4699 Undergraduate Research  
2022-present
23. Daniel Fairfax (Summer REU student from Morehouse)  
2022-present
22. Arnav Kabra in PHYS 4699 Undergraduate Research  
2021-2022  
*Winner of School of Physics Letson Summer Scholarship (2022)*
21. Xin Xiang in PHYS 4699 Undergraduate Research  
2020-2022  
*Winner of School of Physics Letson Summer Internship (2021)*  
*Winner of PURA Salary Award (Summer 2020)*  
*Now Ph.D. student in Astrophysics at the Univ. of Michigan*
20. Ariel Roos in PHYS 2699 Undergraduate Research  
2019-2020  
*Now Staff Scientist at Johns Hopkins Applied Physics Lab*
19. Chaoxian Lin in PHYS 4699 Undergraduate Research  
2019
18. M. Avirett-Mackenzie in PHYS 4699 Undergraduate Research  
2016-2019  
*Winner of PURA Salary Award (Spring 2018) and Travel Award (Winter 2018)*  
*Winner of College of Sciences' A. Joyce Nickelson and John C. Sutherland Prize (2019)*  
*Now Ph.D. student in Astrophysics at the University of Bath, U.K.*

17. R. Glefke in PHYS 2699 Undergraduate Research <i>Now Ph.D. student in Physics at UC Santa Barbara</i>	2018
16. L. Isbill in PHYS 4699 Undergraduate Research	2017-2018
15. A. Hegeman (Summer REU student from Florida Inst. of Tech.) <i>Graduated with MS in Physics from Georgia Tech</i>	2017
14. E. Hollingworth in PHYS 2699 Undergraduate Research <i>Now Ph.D. student in Physics at UC Berkeley</i>	2016-2017
13. R. Wolf in PHYS 4699 Undergraduate Research <i>Now Ph.D. student in Organismic and Evolutionary Biology at Harvard Univ. Winner of School of Physics' H. Fukuyo Outstanding Physics Undergraduate Award (2016)</i>	2014-2016
12. G. Alvarez in PHYS 4699 Undergraduate Research <i>Obtained Ph.D. in Astrophysics at Vanderbilt University.</i>	2014
11. J. Bollenbacher in PHYS 4699 Undergraduate Research <i>Now Ph.D. student in Informatics at Indiana University</i>	2013
10. A. Karsai as a paid undergraduate research assistant <i>Obtained Ph.D. in Physics at Georgia Tech</i>	2013
9. E. Martin as a paid undergraduate research assistant <i>Ph.D. student in Physics at UCLA</i>	2013
8. S.A. Agrawal in PHYS 4699 Undergraduate Research	2013
7. J. Indergaard in PHYS 4699 Undergraduate Research <i>Obtained a MS in Physics from Georgia Tech</i>	2012
6. R. Strausbaugh in PHYS 4699 Undergraduate Research <i>Obtained Ph.D. in Physics from Arizona State University</i>	2011
5. S. Northcott in PHYS 4699 Undergraduate Research	2011
4. J.D. Purvis in PHYS 4699 Undergraduate Research	2011
3. J. McDuffie in PHYS 4699 Undergraduate Research	2010
2. M. Schumann in PHYS 2699 Undergraduate Research	2010
1. B. Ford in PHYS 4699 Undergraduate Research	2009

#### **B4. Service on Thesis Committees**

Dominik Gronkiewicz	Ph.D. student (Nicolaus Copernicus Astronomical Center, Warsaw, Poland)
Megan Arogeti	Ph.D. student (Georgia Tech Physics)
Vishal Tiwari	Ph.D. student (Georgia Tech Physics)
Hannah Griggs	Ph.D. student (Georgia Tech Physics)
Pranav Dave	Ph.D. student (Georgia Tech Physics)
Corey Brummel-Smith	Ph.D. student (Georgia Tech Physics)
Bhavesh Khamesra	Ph.D. student (Georgia Tech Physics, graduated 2021)
Chun Fai Tung	Ph.D. student (Georgia Tech Physics, graduated 2021)
Kimberly Short	Ph.D. student (Georgia Tech Physics, graduated 2019)
Emily Alicea-Munoz	Ph.D. student (Georgia Tech Physics, graduated 2019)
Jacob Payne	M.S. student (Georgia Tech Aerospace Engineering, graduated 2019)
Yu Qiu	Ph.D. student (Georgia Tech Physics, graduated 2019)
Khai Nguyen	Ph.D. student (Georgia Tech Physics, graduated 2019)
Kirk Barrow	Ph.D. student (Georgia Tech Physics, graduated 2018)
Qi Ge	Ph.D. student (Georgia Tech Physics, graduated 2018)
Chao Shi	Ph.D. student (Georgia Tech Physics, graduated 2017)
Daegene Koh	Ph.D. student (Georgia Tech Physics, graduated 2017)

#### **B5. Mentorship of Postdoctoral Fellows and Visiting Scholars**

3. Dr. Kavitha Arur	2020-2022
Current position: Support Scientist, IXPE Guest Observer Facility (NASA/GSFC)	

- |  |           |
|--|-----------|
| 2. Dr. Laurens Keek                                    | 2013-2015 |
| Current position: Scientist, Cosine High-Energy Optics |           |
| 1. Dr. Christina Pierce                                | 2009–2011 |
| Current position: unknown (left academia)              |           |

### C. Educational Innovations and Other Contributions

No data.

## VI. Service

### A. Professional Contributions

#### *Membership in Professional and Honor Societies*

- |  |              |
|--|--------------|
| 3. American Astronomical Society                         | 2001-present |
| 2. High Energy Division of American Astronomical Society | 2001-present |
| 1. Canadian Astronomical Society                         | 2001-2014    |

#### *Journal Referee*

- |   |  |
|---|--|
| 6. <i>The Astronomical Journal</i>                          | 2022   |
| Number of papers reviewed: 1                                |  |
| 5. <i>The Astrophysical Journal Supplement Series</i>       | 2020   |
| Number of papers reviewed: 1                                |  |
| 4. <i>The Astrophysical Journal</i>                         | 2003–07, 2009–10, 2013, 2015–16, 2018–19, 2021 |
| Number of papers reviewed: 15                               |  |
| 3. <i>The Astrophysical Journal Letters</i>                 | 2004–05, 2007–08, 2011, 2019–20                |
| Number of papers reviewed: 9                                |  |
| 2. <i>Astronomy &amp; Astrophysics</i>                      | 2004, 2006, 2012, 2014–15, 2016, 2018, 2021    |
| Number of papers reviewed: 9                                |  |
| 1. <i>Monthly Notices of the Royal Astronomical Society</i> | 2003–04, 2006, 2011, 2013–15, 2018, 2020, 2022 |
| Number of papers reviewed: 13                               |  |

#### *Book Reviews*

- |  |      |
|--|------|
| 1. <i>Physics Today</i>  | 2010 |
| Reviewed “Cracking the Einstein Code: Relativity and the Birth of Black Hole Physics”<br>by Fulvio Melia |      |

#### *Review Panels*

- |   |              |
|---|--------------|
| 17. NASA Postdoctoral Program (Astrophysics)  | 2016-present |
| 16. External reviewer for The Fund for Scientific Research-FNRS, Belgium                      | 2019         |
| 15. <i>Chandra</i> Cycle 20 Peer Review ( <b>Panel Chair</b> “AGN and Extragalactic Surveys”) | 2018         |
| 14. NSF Division of Astronomical Sciences (Grant reviewer for CAREER proposals)               | 2017         |
| 13. External Reviewer for the Canadian Time Allocation Committee ( <i>ASTROSAT</i> )          | 2016         |
| 12. <i>Chandra</i> Cycle 18 Peer Review   | 2016         |
| 11. Expert Reviewer for a NSF EPSCoR RII Track-2 Proposal                                     | 2015         |
| 10. <i>Chandra</i> Cycle 15 Peer Review   | 2013         |
| 9. External reviewer for the Polish National Science Center                                   | 2013         |
| 8. External reviewer for the Swiss Supercomputing Centre                                      | 2012         |
| 7. NSF Division of Astronomical Sciences (Grant reviewer for AAG proposals)                   | 2011         |
| 6. External reviewer for the Netherlands Organisation for Scientific Research                 | 2010, 2011   |
| 5. <i>Rossi X-ray Timing Explorer</i> Cycle 13 Peer Review                                    | 2008         |
| 4. <i>Suzaku</i> Cycle 1 Peer Review  | 2006         |
| 3. External Reviewer for the Canadian Time Allocation Committee (Gemini)                      | 2005         |

2. *Chandra* Cycle 5 Peer Review 2003  
 1. *Rossi X-ray Timing Explorer* Cycle 9 Peer Review 2003

### **Conference Chair/Co-Chair**

2. Member of SOC and LOC “Multi-Messenger Relativistic Astrophysics”, 2009, Georgia Institute of Technology  
 1. Member of SOC and LOC “Galaxy and Black Hole Evolution: Towards a Unified View”, 2007, The University of Arizona

### **Scientific Committees**

9. Invited member of *STROBE-X* Scientific Steering Committee 2017-present  
 8. Member of *enhanced X-ray Timing and Polarimetry (eXTP)* working group on observatory science 2017-present  
 7. Member of *Nuclear Spectroscopic Telescope Array (NuSTAR)* Education & Public Outreach Committee 2009–present  
 6. Member of *Nuclear Spectroscopic Telescope Array (NuSTAR)* Science Team 2007–present  
 5. Member of *Lynx/X-ray Surveyor* Working Group on Evolution of Structure and AGN populations 2016-2020  
 4. NASA-nominated member of the *Athena* Study Science Team Working Group on Supermassive Black Hole Evolution 2015–2022  
 3. Member of Large Synoptic Survey Telescope (LSST) Science Collaboration on Active Galactic Nuclei 2006–2019  
 2. Member of *Large Observatory for X-ray Timing (LOFT)* Collaboration and Working Group on Type I X-ray Bursts 2014-2015  
 1. Member of *International X-ray Observatory/Athena* Task Force on “Black Hole Surveys and Obscured Growth of SMBHs” 2008–2012

### **B. Public and Community Service**

No data

### **C. Institute Contributions**

- Associate Chair for Academic Programs, School of Physics 2023-present  
 Diversity, Equity & Inclusion Committee, School of Physics 2021-present  
 Physics Major Advisor, School of Physics 2016-present  
 Faculty Council, Center for Space Technology and Research (CSTAR) 2013-present  
 Astrophysics Major Committee, School of Physics 2013-present  
 Associate Chair for Graduate Studies, School of Physics 2017-2022  
 Graduate Committee, School of Physics 2009-2022  
 Elected Member of the Institute Graduate Curriculum Committee 2017-2020  
 Elected Member of the Academic Faculty Senate 2016-2018  
 Member of the Georgia Tech Library Faculty Advisory Board 2016-2017  
 Invited Faculty Panelist for FASET Presentation 2016, 2017  
 RPT Committee, School of Physics, 2015-2017  
 Colloquium Committee, School of Physics 2014-2015  
 Undergraduate Committee, School of Physics 2013-2014  
 Sigma Xi Best Ph.D. Thesis Award Committee 2013  
 Physics Frontier Lecture on “Astrophysics of Supermassive Black Holes” 2012 & 2014  
 Invited presenter & panelist for inaugural Blended Research@The Library 2011  
 Astrophysics Search Committee, School of Physics 2009-2011, 2013-2014  
 Comprehensive Exam Committee, School of Physics 2008-2009  
 Seminar Chair, Center for Relativistic Astrophysics, School of Physics 2008-2009