

John H. Wise, Ph.D.
 Dunn Family Associate Professor
 Center for Relativistic Astrophysics
 School of Physics
 Georgia Institute of Technology

I. Earned Degrees

B.S.	Physics with Highest Honor	1998-2001	Georgia Institute of Technology
*	Astronomy & Astrophysics	2001-2004	Pennsylvania State University (advisors: M. Eracelous, T. Abel)
Ph.D.	Physics	2004-2007	Stanford University (advisor: T. Abel)

[transferred after advisor moved to Stanford University]*

II. Employment History

2007-2009	NASA Postdoctoral Fellow, NASA Goddard Space Flight Center (advisors: J. Centrella, J. Mather)
2009-2011	Hubble Postdoctoral Fellow, Princeton University (advisor: R. Cen)
2011-2016	Assistant Professor, School of Physics and Center for Relativistic Astrophysics, Georgia Institute of Technology <i>[Dunn Family Professorship 2015-2016]</i>
2016-present	Associate Professor, School of Physics and Center for Relativistic Astrophysics, Georgia Institute of Technology <i>[Dunn Family Professorship 2016-2018]</i>

III. Honors and Awards

2017	Supercomputing 2017 Best Scientific Visualization
2017	Hesburgh Award Teaching Fellow
2015	Eric R. Immel Award for Excellence in Teaching
2015-2018	Dunn Family Professorship
2011-2015	(6) Thank a Teacher Awards (PHYS 2122, PHYS 4347)
2013	XSEDE13 Best Visualization Award
2009-2011	Hubble Fellowship
2009-2011	Lyman Spitzer Fellowship, Princeton University
2007-2009	NASA Postdoctoral Program Fellowship, Goddard Space Flight Center
2003-2004	Pennsylvania Space Grant Fellowship
2002	Stephen Brumach Graduate Fellowship, Pennsylvania State University
2001	Braddock Fellowship, Pennsylvania State University

IV. Research, Scholarship, and Creative Activities

(bold number indicates work done at Georgia Tech)

(# indicates Wise group grad student/postdoc; @ indicates undergraduate student; first author is always the corresponding author)

Google Scholar profile at <https://scholar.google.com/citations?user=72RK2WIAAAAJ>

A. Published Books, Parts of Books, and Edited Volumes**A1. Books**

No data

A2. Refereed Book Chapters

1. Wise, J. H. "Growth and Feedback from the First Black Holes", *Formation of the First Black Holes*, Ed. D. Schleicher and M. Latif. Singapore: World Scientific, 2018

A3. Other Parts of Books

No data

A4. Edited Volumes

No data

B. Refereed Publications and Submitted Articles

B1. Published and Accepted Journal Articles

1. Peeples, M. S., Corlies, L., Tumlinson, J., O'Shea, B. W., Lehner, N., O'Meara, J. M., Howk, J. C., Smith, B. D., Wise, J. H. and Hummels, C. B. 2019, "Figuring Out Gas and Galaxies in Enzo (FOGGIE). I. Resolving Simulated Circumgalactic Absorption at $2 < z < 2.5$," *Astrophysical Journal*, accepted on February 12, 2019
2. Wise, J. H., Regan, J. A., O'Shea, B. W., Norman, M. L., Downes, T. P., Hao, X. 2019, "Formation of massive black holes in rapidly growing pre-galactic gas clouds," *Nature*, 566, 85 [*Wise led the effort in all aspects*]
3. Chiaki, G., Wise, J. H. 2019, "Seeding the second star: enrichment from population III, dust evolution, and cloud collapse," *Monthly Notices of the Royal Astronomical Society*, 482, 3933
4. Norman, M. L., Chen, P., Wise, J. H., Xu, H. 2018, "Fully Coupled Simulations of Cosmic Reionization . III. Stochastic Early Reionization by the Smallest Galaxies", *Astrophysical Journal*, 867, 27
5. #Barrow, K. S. S., #Aykutalp, A., Wise, J. H. 2018, "Observational signatures of massive black hole formation in the early universe", *Nature Astronomy*, published online September 10, 2018
6. Smith, B. D., Regan, J. A., Downes, T. P., Norman, M. L., O'Shea, B. W., Wise, J. H. 2018, "The growth of black holes from Population III remnants in the Renaissance Simulations", *Monthly Notices of the Royal Astronomical Society*, 480, 3762
7. Ardaneh, K., Luo, Y., Shlosman, I., Nagamine, K. Wise, J. H., Begelman, M. C. 2018, "Direct collapse to supermassive black hole seeds with radiative transfer: Isolated haloes", *Monthly Notices of the Royal Astronomical Society*, 479, 2277
8. Cote, B., Silvia, D., O'Shea, B. W., Smith, B., Wise, J. H. 2018, "Validating Semi-Analytic Models of High-Redshift Galaxy Formation using Radiation Hydrodynamical Simulations", *Astrophysical Journal*, 859, 67
9. Latif, M. A., Volonteri, M., Wise, J. H. 2018, "Early growth of typical high-redshift black holes seeded by direct collapse", *Monthly Notices of the Royal Astronomical Society*, 476, 5016
10. Luo, Y., Ardaneh, K., Shlosman, I., Nagamine, K., Wise, J. H., Begelman, M. C. 2018, "Direct collapse to supermassive black hole seeds with radiative transfer: Isolated haloes", *Monthly Notices of the Royal Astronomical Society*, 476, 3523
11. Corlies, L., Johnston, K., Wise, J. H. 2018, "Exploring early simulated star formation in the context of ultrafaint dwarf galaxies", *Monthly Notices of the Royal Astronomical Society*, 475, 4868
12. #Koh, D., Wise, J. H. 2018, "Extending semi-numeric reionization models to the first stars and galaxies", *Monthly Notices of the Royal Astronomical Society*, 474, 3817
13. #Barrow, K. S. S., Wise J. H., #Aykutalp, A., O'Shea, B. W., Norman, M. L., Xu, H. 2018, "First light – II. Emission line extinction, population III stars, and X-ray binaries", *Monthly Notices of the Royal Astronomical Society*, 474, 2617
14. #Ge, Q., Wise, J. H. 2017, "On the effect of Lyman-alpha trapping during the initial collapse of massive black hole seeds", *Monthly Notices of the Royal Astronomical Society*, 472, 2773
15. #Park, K. Wise, J. H., Bogdanovic, T. 2017, "Radiation-driven Turbulent Accretion onto Massive Black Holes", *Astrophysical Journal*, 847, 70
16. #Barrow, K. S. S., Wise J. H., Norman, M. L., O'Shea, B. W., Xu, H. 2017, "First light: exploring

- the spectra of high-redshift galaxies in the Renaissance Simulations”, *Monthly Notices of the Royal Astronomical Society*, 469, 4863
17. Das, A., Mesinger, A., Pallottini, A., Ferrara, A., Wise, J. H. 2017, “High Mass X-ray Binaries and the Cosmic 21-cm Signal: Impact of Host Galaxy Absorption”, *Monthly Notices of the Royal Astronomical Society*, 469, 1166
 18. Regan, J. A., Visbal, E., Wise, J. H., Haiman, Z., Johnsson, P. H., Bryan, G. L. 2017, “Rapid Formation of Massive Black Holes in close proximity to Embryonic Proto-Galaxies”, *Nature Astronomy*, 1, 75
 19. Smith, B. D., Bryan, G. L., Glover, S. C. O., Goldbaum, N. J., Turk, M. J., Regan, J., Wise, J. H., Schive, H.-Y., Abel, T., Emerick, A., O’Shea, B. W., Anninos, P., Hummels, C. B., Khochfar, S. 2017, “Grackle: a Chemistry and Cooling Library for Astrophysics”, *Monthly Notices of the Royal Astronomical Society*, 466, 2217-2234
 20. Kim, J.-H. for the AGORA Collaboration (42 authors). 2016, “The AGORA High-Resolution Galaxy Simulations Comparison Project. II: Isolated Disk Test”, *Astrophysical Journal*, 833, 202
 21. Xu, H., Wise, J. H., Norman, M. L., Ahn, K., O’Shea, B. W. 2016, “Galaxy Properties and UV Escape Fractions during the Epoch of Reionization: Results from the Renaissance Simulations”, *Astrophysical Journal*, 833, 84
 22. Xu H., Ahn, K., Norman, M. L., Wise, J. H., O’Shea, B. W. 2016, “X-ray Background at High Redshifts from Pop III Remnants: Results from the Renaissance Simulations”, *Astrophysical Journal Letters*, 832, L5
 23. #Koh, D., Wise, J. H. 2016, “Amplification of Magnetic Fields in a Primordial HII Region and Supernova”, *Monthly Notices of the Royal Astronomical Society*, 462, 81-91
 24. Regan, J. A., Johansson, P. H., Wise, J. H. 2016, “Positive or Negative? The Impact of X-ray Feedback on the Formation of Direct Collapse Black Hole Seeds”, *Monthly Notices of the Royal Astronomical Society*, 461, 111-125
 25. Xu, H., Norman, M. L., O’Shea, B. W., Wise, J. H. 2016, “Late Pop III Star Formation during the Epoch of Reionization: Results from the Renaissance Simulations”, *Astrophysical Journal*, 823, 140
 26. Regan, J. A., Johansson, P. H., Wise, J. H. 2016, “Forming Super-Massive Black Hole Seeds under the Influence of a Nearby Anisotropic Multi-Frequency Source”, *Monthly Notices of the Royal Astronomical Society*, 459, 3377-3394
 27. #Park, K., Ricotti, M., Natarajan, P., Bogdanovic, T., Wise, J. H. 2016, “Bulge-Driven Fueling of Seed Black Holes”, *Astrophysical Journal*, 818, 184
 28. O’Shea, B. W., Wise, J. H., Xu, H., Norman, M. L. 2015, “Probing the Ultraviolet Luminosity Function of the Earliest Galaxies with the Renaissance Simulations”, *Astrophysical Journal Letters*, 807, L12
 29. Smith, B. D., Wise, J. H., O’Shea, B. W., Norman, M. L., Khochfar, S. 2015, “The First Population II Stars Formed in Externally Enriched Mini-haloes”, *Monthly Notices of the Royal Astronomical Society*, 452, 2822-2836
 30. Regan, J. A., Johansson, P. H., Wise, J. H. 2015, “The effect of dark matter resolution on the collapse of baryons in high redshift numerical simulations”, *Monthly Notices of the Royal Astronomical Society*, 449, 3766-3779
 31. #Altay, G., Wise, J. H. 2015, “Rabacus: A Python Package for Analytic Cosmological Radiative Transfer Calculations”, *Astronomy & Computing*, 10, 73
 32. Ahn, K., Xu, H., Norman, M. L., Alvarez, M. A., Wise, J. H. 2015, “Spatially Extended 21 cm Signal from Strongly Clustered UV and X-ray Sources in the Early Universe,” *Astrophysical Journal*, 802, 8
 33. Norman, M. L., Reynolds, D. R., So, G. C., Wise, J. H., 2015, “Direct Numerical Simulation of Reionization in Large Cosmological Volumes I: Numerical Methods and Tests,” *Astrophysical Journal Supplement*, 216, 16

34. #Aykotalp, A., Wise, J. H., Spaans, M., Meijerink, R. 2014, “Songlines from Direct Collapse Black Holes: Effects of X-rays on Black Hole Growth and Stellar Populations”, *Astrophysical Journal*, 797, 139
35. Chen, P., Wise, J. H., Norman, M. L., & Xu, H., O’Shea, B. W. 2014, “Scaling Relations for Galaxies prior to Reionization,” *Astrophysical Journal*, 795, 144
36. Regan, J. A., Johansson, P. H., Wise, J. H. 2014, “The Direct Collapse of a Massive Black Hole Seed Under the Influence of an Anisotropic Lyman-Werner Source,” *Astrophysical Journal*, 795, 137
37. Xu, H., Ahn, K., Wise, J. H., & Norman, M. L. 2014, “Heating the IGM by X-rays from Population III Binaries in High Redshift Galaxies”, *Astrophysical Journal*, 791, 110
38. Wise, J. H., @Demchenko, V., @Halicek, M., Abel, T., Turk, M. J., Norman, M. L., & Smith, B. D. 2014, “The Birth of a Galaxy – III. Luminosity functions and ultraviolet radiation escape fractions,” *Monthly Notices of the Royal Astronomical Society*, 442, 2560-2579
39. So, G. C., Norman, M. L., Reynolds, D. R., Wise, J. H. 2014, “Direct Numerical Simulations of Reionization II: Recombinations, Clumping Factors, and the Photon Budget for Reionization”, *Astrophysical Journal*, 789, 149
40. The Enzo Collaboration: Bryan, G. L., Norman, M. L., O’Shea, B. W., Abel, T., Wise, J. H., Turk, M. J., Reynolds, D. R., Collins, D. C., Wang, P., Skillman, S. W., Smith, B. D., Harkness, R. P., Bordner, J., Kim, J., Kuhlen, M., Xu, H., Goldbaum, N., Hummels, C., Kritsuk, A. G., Tasker, E., Skory, S., Simpson, C. S., Hahn, O., Oishi, J. S., So, G., Zhao, F., Cen, R., Li, Y. 2014, “Enzo: An Adaptive Mesh Refinement Code for Astrophysics”, *Astrophysical Journal Supplement*, 211, 19
41. Kim, J., Abel, T., Agertz, O., Bryan, G. L., Ceverino, D., Christensen, C., Conroy, C., Dekel, A., Gnedin, N. Y., Goldbaum, N. J., Guedes, J., Hahn, O., Hobbs, A., Hopkins, P. F., Hummels, C. B., Iannuzzi, F., Keres, D., Klypin, A., Kravtsov, A. V., Krumholz, M. R., Kuhlen, M., Leitner, S. N., Madau, P., Mayer, L., Moody, C. E., Nagamine, K., Norman, M. L., Oñorbe, J., O’Shea, B. W., Pillepich, A., Primack, J. R., Quinn, T., Read, J. I., Robertson, B. E., Rocha, M., Rudd, D. H., Shen, S., Smith, B. D., Szalay, A. S., Teyssier, R., Thompson, R., Todoroki, K., Turk, M. J., Wadsley, J. W., Wise, J. H., Zolotov, A., 2014, “The AGORA High-Resolution Galaxy Simulations Comparison Project”, *Astrophysical Journal Supplement*, 210, 14
42. Grissom, R., Ballantyne, D. R., & Wise, J. H. 2014, “On the contribution of active galactic nuclei to reionization,” 2014, *Astronomy & Astrophysics*, 561, 90
43. Kim, J.-H., Krumholz, M. R., Wise, J. H., Turk, M. J., Goldbaum, N. J., & Abel, T. 2013, “Dwarf Galaxies with Ionizing Radiation Feedback. II: Spatially-resolved Star Formation Relation”, *Astrophysical Journal*, 779, 8
44. Kim, J.-H., Krumholz, M. R., Wise, J. H., Turk, M. J., Goldbaum, N. J., & Abel, T. 2013, “Dwarf Galaxies with Ionizing Radiation Feedback. I: Escape of Ionizing Photons”, *Astrophysical Journal*, 775, 109
45. Xu, H., Wise, J. H., Norman, M. L. 2013, “Population III Stars and Remnants in High Redshift Galaxies”, *Astrophysical Journal*, 773, 83
46. Aykotalp, A., Wise, J. H., Meijerink, R., Spaans, M. 2013, “The Response to Metal Rich Gas to X-ray Irradiation from a Massive Black Hole at High Redshift: Proof of Concept”, *Astrophysical Journal*, 771, 50
47. Holley-Bockelmann, K., Wise, J. H., Sinha, M. 2012, “Kickstarting Reionization with the First Black Holes: The Effects of Second-order Perturbation Theory in Pre-reionization Volumes”, *Astrophysical Journal Letters*, 761, L8-L13
48. Wise, J. H., Abel, T., Turk, M. J., Norman, M. L., & Smith, B. D. 2012, “The Birth of a Galaxy. II. The Role of Radiation Pressure”, *Monthly Notices of the Royal Astronomical Society*, 427, 311-326
49. Mirocha, J., Skory, S., Burns, J. O., & Wise, J. H. 2012, “Optimized Multi-Frequency Spectra for Applications in Radiative Feedback and Cosmological Reionization”, *Astrophysical Journal*, 756,

94-108

50. Kuhlen, M., Krumholz, M. R., Madau, P., Smith, B. D., & Wise, J. H. 2012, "Dwarf Galaxy Formation with H₂-regulated Star Formation", *Astrophysical Journal*, 749, 36-57
51. Wise, J. H., Turk, M. J., Norman, M. L., & Abel, T. 2012, "The Birth of a Galaxy: Primordial Metal Enrichment and Population II Stellar Populations", *Astrophysical Journal*, 745, 50-59
52. Kim, J.-H., Wise, J. H., Alvarez, M. A., & Abel, T. 2011, "Galaxy Formation with Self-consistently Modeled Stars and Massive Black Holes. I: Feedback-regulated Star Formation and Black Hole Growth", *Astrophysical Journal*, 738, 54-70
53. Wise, J. H. & Abel, T.. 2011, "Enzo+Moray: Radiation Hydrodynamics Adaptive Mesh Refinement Simulations with Adaptive Ray Tracing", *Monthly Notices of the Royal Astronomical Society*, 414, 3458-3491
54. van Meter, J. R., Wise, J. H., Miller, M. C., Reynolds, C. S., Centrella, J., Baker, J. G., Boggs, W. D., Kelly, B. J., & McWilliams, S. T. 2010, "Modeling Flows Around Merging Black Hole Binaries", *Astrophysical Journal Letters*, 711, 89-93
55. Alvarez, M. A., Wise, J. H., Abel, T. 2009, "Accretion onto the First Stellar Mass Black Holes," *Astrophysical Journal Letters*, 133-137
56. Kim, J.-H., Wise, J. H., & Abel, T. 2009, "Galaxy Mergers with Adaptive Mesh Refinement: Star Formation and Hot Gas Outflow," *Astrophysics Journal Letters*, 694, 123-127
57. Wise, J. H., & Cen, R. 2009, "Ionizing Photon Escape Fractions from High Redshift Dwarf Galaxies," *Astrophysical Journal*, 693, 984-999
58. Wise, J. H., & Abel, T. 2008, "Resolving the Formation of Protogalaxies. III. Feedback from the First Stars," *Astrophysical Journal*, 685, 40-56
59. Wise, J. H., & Abel, T. 2008, "How Very Massive Metal-Free Stars Start Cosmological Reionization," *Astrophysical Journal*, 684, 1-17
60. Wise, J. H., & Abel, T. 2008, "Resolving the Formation of Protogalaxies. II. Central Gravitational Collapse," *Astrophysical Journal*, 682, 745-757
61. Wise, J. H., & Abel, T. 2007, "Suppression of H₂ Cooling in the Ultraviolet Background," *Astrophysical Journal*, 671, 1559-1567
62. Wise, J. H., & Abel, T. 2007, "Resolving the Formation of Protogalaxies. I. Virialization," *Astrophysical Journal*, 665, 899-910
63. Abel, T., Wise, J. H., & Bryan, G. B. 2007, "The HII Region of a Primordial Star," *Astrophysical Journal Letters*, 659, 87-90
64. Kähler, R., Wise, J. H., Abel, T., & Hege, H.-C. 2006, "GPU-Assisted Raycasting of Cosmological Adaptive Mesh Refinement Simulations," *Proceedings of Volume Graphics*, pg. 103-110, Boston, USA
65. Wise, J. H. & Abel, T. 2005, "The Number of Supernovae from Primordial Stars in the Universe," *Astrophysical Journal*, 629, 615-624
66. Wise, J. H., Eracleous, M., Charlton, J. C., & Ganguly, R. 2004, "Variability of Narrow, Associated Absorption in Moderate- and Low-Redshift Quasars," *Astrophysical Journal*, 613, 129-150
67. Penny, L. R., Gies, D. R., Wise, J. H., Stickland, D. J., & Lloyd, C. 2002, "Tomographic Separation of Composite Spectra IX: The Massive Close Binary HD 115071," *Astrophysical Journal*, 575, 1050-1056

B2. Conference Presentations with Proceedings (Refereed)

No data

B3. Other Refereed Material

No data

B4. Submitted Journal Articles (with date of submission)

1. Wise, J. H. 2017, “Introductory Review of Cosmic Reionization”, *Contemporary Physics*, submitted on January 2, 2017
2. #Qiu, Y., Bogdanovic, T., Li, Y., #Park, K., Wise, J. H. 2018, “The Interplay of Kinetic and Radiative Feedback in Galaxy Clusters”, *Astrophysical Journal*, submitted October 2, 2018
3. Hummels, C. B., Smith, B. D., Hopkins, P. F., O’Shea, B. W., Silvia, D. W., Werk, J. K., Lehner, N., Wise, J. H., Collins, D. C., Butsky, I. S. 2019, “The Impact of Enhanced Halo Resolution on the Simulated Circumgalactic Medium,” *Astrophysical Journal*, submitted November 29, 2018

C. Other Publications

C1. Conference Proceedings and Posters (Non-refereed)

1. #Skinner, D., Wise, J. H. “Where do Population III Stars Form? The Effects of Radiative Feedback and Self-Shielding on the Host Halo Mass Distribution”, *233rd American Astronomical Society Meeting*, Seattle, WA, January, 2019
2. Wise, J. H. “Dwarf galaxy formation and enrichment during reionization”, *233rd American Astronomical Society Meeting*, Seattle, WA, January, 2019
3. #Koh, D., Wise, J. H. “Amplification of magnetic fields in a primordial H II region and supernova”, *First Stars V*, Heidelberg, Germany, August 2016
4. #Park, K., Ricotti, M., Natarajan, P., Bogdanovic, T., Wise, J. H. “Bulge-Driven Fueling of Seed Black Holes”, *First Stars V*, Heidelberg, Germany, August 2016
5. Regan, J. A., Johansson, P H., Wise, J. H. 2016, “Probing the Direct Collapse Black Hole Seed Paradigm”, *First Stars V*, Heidelberg, Germany, August 2016
6. #Barrow, K. S. S., Wise, J. H. “First Light: Exploring the Spectra of High-Redshift Galaxies in the Renaissance Simulations”, *Cosmic Dawn of Galaxy Formation*, Paris, France, June 2016
7. Wise, J. H. “Propelling Reionization with the Faintest Galaxies”, *225th American Astronomical Society Meeting*, Seattle, WA, January 2015
8. #Ge, Q., Wise, J. H. “The impact of Lyman-alpha trapping on massive black hole seed formation”, *225th American Astronomical Society Meeting*, Seattle, WA, January 2015
9. #Shi, C., Wise, J. H. “The Dynamics of Seed Black Holes in the First Galaxies”, *225th American Astronomical Society Meeting*, Seattle, WA, January 2015
10. #Koh, D., Wise, J. H. “Magnetic Field Seeding through Supernova Feedback”, *225th American Astronomical Society Meeting*, Seattle, WA, January 2015
11. #Barrow, K. S. S., Wise, J. H. “First Light: Exploring the Spectra of Galaxies in the Early Universe”, *225th American Astronomical Society Meeting*, Seattle, WA, January 2015
12. Wise, J. H., Turk, M. J., Norman, M. L., & Abel, T. “Primordial Enrichment of the First Galaxies,” *European Week of Astronomy and Space Sciences 2013*, Turku, Finland, July 2013
13. Wise, J. H., Abel, T., Turk, M. J., Norman, M. L., & Smith, B. D. “The Imprint of Pop III Stars on the First Galaxies,” *First Stars IV*, Kyoto, Japan, May 2012
14. Smith, B. D., Wise, J. H., O’Shea, B. W. “The formation of the first second generation star”, *First Stars IV*, Kyoto, Japan, May 2012
15. Spaans, M., Aykutalp, A., Wise, J. H., Meijerink, R. “The effects of X-rays on star formation and black hole growth in young galaxies”, *First Stars IV*, Kyoto, Japan, May 2012
16. Wise, J. H., “Regulating Star Formation in High-Redshift Dwarf Galaxies through Radiation Pressure,” *219th American Astronomical Society Meeting*, Austin, TX, January 2012
17. Wise, J. H., “First Light”, *Bash Symposium 2011*, Austin, TX, October 2011
18. Wise, J. H., Turk, M. J., Norman, M. L., & Abel, T. “Formation of the First Galaxies: Metal Enrichment and Stellar Populations,” *Cosmic Radiation Fields*, Hamburg, Germany, November 2010
19. Wise, J. H. & Cen, R., “Photon Escape Fractions from High Redshift Dwarf Galaxies,” *Joint European and National Astronomy Meeting*, Vienna, Austria, September 2008

20. Wise, J. H. & Abel, T., "How the First Stars Shaped the First Galaxies," *First Stars III*, Santa Fe, NM, July 2007
21. Alvarez, M. A., Wise, J. H., & Abel, T., "Black Hole Remnants of the First Stars," *First Stars III*, Santa Fe, NM, July 2007
22. Kim, J.-H., Wise, J. H., & Abel, T., "Galaxy Evolution with Adaptive Mesh Refinement," *First Stars III*, Santa Fe, NM, July 2007
23. Wise, J. H. "Resolving the Formation of Protogalaxies", Ph.D. dissertation, *Stanford University*, June 2007
24. Wise, J. H., Abel, T., Bryan G. B., & Turk, M. J. "Resolving the Formation of Protogalaxies," *Radiation Backgrounds from the First Stars, Galaxies and Black Holes*, College Park, MD, October 2006
25. Wise, J. H. & Abel, T., "Numerically Resolved Protogalaxy Formation," *207th American Astronomical Society Meeting*, Washington, DC, January 2006
26. Wise, J. H. & Abel, T., "Numerically Resolved Protogalaxy Formation," *Open Questions in Cosmology: The First Billion Years*, Garching, Germany, August 2005
27. Wise, J. H. & Abel, T., "The Number of Supernovae from Primordial Stars in the Universe," *First Stars II*, State College, PA, June 2003
28. Wise, J. H. & Abel, T. 2003, "The Number of Supernovae from Primordial Stars in the Universe," *AIP Conf. Proc. 666: The Emergence of Cosmic Structure*, 666, 97
29. Penny, L. R., Gies, D. R., Bagnuolo, W. G., Wise, J. H., Herrero, A., Stickland, D. J., & Lloyd, C. 2003, "A critical comparison of spectroscopic and evolutionary masses for O-type binary systems," *IAU Symposium*, 212, 216
30. Wise, J. H. & Abel, T., "The Number of Supernovae from Primordial Stars in the Universe," *201st American Astronomical Society Meeting*, Seattle, WA, January 2003
31. Wise, J. H. & Abel, T., "The Number of Supernovae from Primordial Stars in the Universe," *The Emergence of Cosmic Structure*, College Park, MD, October 2002
32. Wise, J. H., Eracleous, M., Charlton, J. C., & Ganguly, R. "A Search for Variability in Quasar Narrow, Associated Absorption Lines," *199th American Astronomical Society Meeting*, Washington, DC, January 2002

D. Presentations

Invited presentations at conferences:

1. (07/2019) *Small Galaxies, Cosmic Questions*, Durham, UK
2. (02/2019) *Formation of Stars and Massive clusters in Dwarf Galaxies over Cosmic Time*, Leiden, Netherlands [Review talk]
3. (01/2019) *Extremely Big Eyes on the Universe*, Los Angeles, CA [Review talk]
4. (01/2019) *The growth of galaxies in the early universe*, Sesto, Italy
5. (07/2017) *Spectral Diagnostics with the James Webb Space Telescopes*, Baltimore, MD
6. (05/2017) *Blue Waters Symposium*, Sunriver, OR
7. (02/2017) *JINA-CEE Frontiers in Nuclear Astrophysics*, East Lansing, MI
8. (01/2017) *Dawn of Galaxies*, Obergurgl, Austria
9. (10/2015) *The Physics of SMBH Formation and Feedback*, Annapolis, MD
10. (06/2015) *Guillermo Haro Workshop*, Puebla, Mexico
11. (03/2015) *Laboratory Astrophysics for Beyond Hubble*, Callaway Gardens, GA
12. (11/2014) *Enzo User Workshop*, Hokudai University, Sapporo, Japan [2 Presentations]
13. (08/2014) *Lyman Continuum Leakage and Cosmic Reionization*, Stockholm, Sweden
14. (06/2014) *The First Stars and Galaxies in their Cosmological Context*, Edinburgh, Scotland [Review talk]
15. (05/2014) *Overcoming Great Barriers in Galactic Archaeology 2*, Palm Cove, Australia [Keynote Talk]

16. (11/2013) *Astro@GR Atlanta*, Atlanta, GA
17. (10/2013) *Enzo User Workshop*, Hokudai University, Sapporo, Japan [2 Presentations]
18. (08/2013) *Massive Black Holes*, Santa Barbara, CA [Review Talk & Blackboard Talk]
19. (07/2013) *European Week of Astronomy and Space Science*, Turku, Finland [Review talk]
20. (06/2013) *Cosmic Dawn*, Ringberg Castle, Germany
21. (10/2012) *East Asia Numerical Astrophysical Meeting*, Kyoto, Japan [Review talk]
22. (05/2012) *First Stars IV*, Kyoto, Japan
23. (05/2012) *Enzo User Workshop*, Hokudai University, Sapporo, Japan
24. (04/2012) *Einstein Workshop*, Atlanta, GA
25. (02/2012) *First Light and Faintest Dwarfs*, Santa Barbara, CA
26. (01/2012) *yt User Workshop*, Chicago, IL
27. (10/2011) *Bash Symposium*, Austin, TX [Review talk]
28. (10/2011) *Enzo Developer Workshop*, Columbia University, New York, NY
29. (06/2011) *The First Galaxies*, Ringberg Castle, Germany
30. (03/2011) *Enzo Developer Workshop*, Michigan State University, East Lansing, MI
31. (03/2011) *Hubble Fellow Symposium*, Austin, TX
32. (12/2010) *Future of AstroComputing*, San Diego, CA
33. (06/2010) *Enzo Workshop 2010*, UC-San Diego, La Jolla, CA
34. (06/2010) *The First Galaxies, Quasars, and Gamma-Ray Bursts*, State College, PA
35. (03/2010) *The First Stars and Galaxies*, Austin, TX [canceled]
36. (12/2009) *Missing Baryons 2009*, Sydney, Australia [Review talk]
37. (10/2008) *The Impact of Simulations in Cosmology and Galaxy Formation*, Trieste, Italy
38. (09/2008) *Cosmic Dust & Radiative Transfer*, Heidelberg, Germany

Invited presentations at universities & institutes:

39. (05/2019) Center for Computational Astrophysics, Flatiron Institute, Colloquium
40. (10/2017) University of Kentucky, Seminar
41. (04/2017) University of California – Berkeley, Seminar
42. (11/2016) Auburn University, Colloquium
43. (05/2016) Heidelberg Joint (6 institutions) Astronomy Colloquium
44. (02/2016) University of Tokyo – Kavli IPMU, Colloquium
45. (01/2016) University of South Carolina, Colloquium
46. (11/2015) Southern Methodist University, Seminar
47. (10/2014) California Institute of Technology, Colloquium
48. (01/2014) University of Victoria, Colloquium
49. (01/2014) Herzberg Institute for Astrophysics, Colloquium
50. (10/2013) University of Tokyo – Kavli IPMU, Seminar
51. (05/2013) Scuola Normale Superiore, Seminar
52. (05/2013) Massachusetts Institute of Technology, Colloquium
53. (03/2013) Georgia State University, Colloquium
54. (11/2012) University of Colorado – Boulder, Colloquium
55. (10/2012) University of Kentucky, Colloquium
56. (09/2012) University of Maryland, Colloquium
57. (05/2012) Hokudai University, Colloquium
58. (05/2011) Columbia University, Seminar
59. (03/2011) Michigan State University, Colloquium
60. (02/2011) Georgia Institute of Technology, Colloquium
61. (12/2010) University of Arizona, Colloquium
62. (11/2010) University of California – Santa Cruz, Seminar
63. (10/2010) Los Alamos National Laboratory, Colloquium

64. (09/2010) Kapteyn Astronomical Institute, Colloquium
65. (07/2010) Stanford University, Seminar
66. (05/2010) Canadian Institute for Theoretical Astrophysics, Seminar
67. (12/2009) Swinburne University, Seminar
68. (01/2009) Canadian Institute for Theoretical Astrophysics, Seminar
69. (01/2009) Carnegie Mellon University, Seminar
70. (08/2008) University of Heidelberg, Seminar
71. (10/2007) UCSB / Kavli Institute for Theoretical Physics, Seminar
72. (09/2007) NASA / Goddard Space Flight Center, SEAL Seminar
73. (02/2007) Canadian Institute for Theoretical Astrophysics, Seminar
74. (01/2007) American Museum of Natural History, Seminar
75. (10/2006) University of Maryland, Seminar
76. (10/2006) NASA / Goddard Space Flight Center, Colloquium
77. (10/2006) Harvard-Smithsonian Center for Astrophysics, Seminar
78. (10/2006) Princeton University, Seminar
79. (09/2006) University of California – Berkeley, Seminar

Contributed presentations at conferences:

80. (12/2018) *Stellar Archaeology*, Tokyo, Japan
81. (06/2018) *Rise and Shine*, Strasbourg, France
82. (01/2017) *American Astronomical Society Meeting*, Grapevine, TX
83. (08/2016) *First Stars V*, Heidelberg, Germany
84. (06/2016) *The Cold Universe*, Santa Barbara, CA
85. (06/2016) *Cosmic Dawn of Galaxy Formation*, Paris, France
86. (12/2015) *Cosmology and First Light*, Paris, France
87. (07/2015) *Mocking the Universe*, Baltimore, MD
88. (06/2015) *First stars, galaxies, and black holes: Then and Now*, Groningen, Netherlands
89. (04/2015) *South by High Redshift*, Austin, TX
90. (12/2012) *Cosmological Radiative Transfer Comparison Project*, Austin, TX
91. (08/2012) *Santa Cruz Workshop on Galaxy Formation*, Santa Cruz, CA
92. (04/2012) *Epoch of Reionization*, Strasbourg, France
93. (11/2011) *Near Field Cosmology*, Annapolis, MD
94. (07/2011) *Galaxy Formation*, Durham, UK
95. (10/2010) *Cosmic Radiation Fields*, Hamburg, Germany
96. (09/2010) *Formation and evolution of black holes, galaxies, and their environment*, Potsdam, Germany
97. (01/2010) *American Astronomical Society Meeting*, Washington, DC
98. (01/2009) *American Astronomical Society Meeting*, Long Beach, CA
99. (02/2008) *The First Two Billion Years of Galaxy Formation*, Aspen, CO
100. (12/2007) *Grand Challenge Problems in Computational Astrophysics Reunion II*, Lake Arrowhead, CA
101. (09/2007) *Radiative Transfer Workshop*, Durham, UK
102. (07/2007) *First Stars III*, Santa Fe, NM
103. (08/2006) *Santa Cruz Workshop on Galaxy Formation*, Santa Cruz, CA
104. (07/2006) *Physics and Astrophysics of Black Holes*, Santa Fe, NM
105. (08/2005) *Santa Cruz Workshop on Galaxy Formation*, Santa Cruz, CA

E. Grants and Contracts

E1. As Principal Investigator

Currently funded:

- 07/01/2012-06/30/2017 NSF XSEDE AST-120046 (14.5 million core-hours total; no co-PIs) “The First Galaxies throughout Cosmic Time”
- 09/01/2016-08/31/2019 NSF AST-1614333 (\$473,330; no Co-PIs) “Uncovering the Origin and Evolution of Dwarf Galaxies”
- 02/14/2017-02/13/2020 NASA ATP16-0025 (\$537,824, 24 million core-hours, no Co-PIs) “Simulating the First Stars and Galaxies: Predictions for JWST”
- 09/01/2018-08/31/2021 NSF OAC-1835213 (\$481,436, no Co-PIs) “Enzo for the Exascale Era (Enzo-E)”

Previous funding:

- 05/01/2009-04/30/2013 NASA High-end Computing; allocations SMD-12-3130, SMD-11-2258, SMD-10-1876, SMD-09-1439 (19.8 million CPU-hours) “Radiation Hydrodynamics Simulations of Dwarf Galaxies”
- 09/01/2009-08/05/2011 NASA Hubble Postdoctoral Fellowship, NAS 5-26555, 120-6370 (\$199,876) “Ab Initio Dwarf Galaxy Formation – Predictions for JWST and ALMA”
- 09/01/2012-08/31/2015 NSF AST-1211626 (\$258,547; no co-PIs), “The Formation of the First Galaxies and their Connection to the Present Day”
- 01/01/2015-12/31/2015 NSF XSEDE AST-140081 (868k core-hours; Co-PIs Brian O’Shea, David Collins) “Examining the Processes of Formation and Feedback for Stars and AGN in the AMR Code Enzo”
- 12/01/2014-11/30/2017 STScI (Space Telescope Science Institute) HST-AR-13895.001 (\$108,000; Hubble Space Telescope Theory Grant; no Co-PIs) “Revealing the Properties of the Frontier Field Galaxies”
- 11/01/2015-10/31/2018 STScI HST-AR-14326.001 (\$90,695; Hubble Space Telescope Theory Grant; no Co-PIs) “Observational Diagnostics for High-Redshift Galaxies with Massive Black Hole Seeds”

E2. As Co-Principal Investigator

Currently funded:

- 08/01/2018-07/31/2019 NSF PRAC (65.6 million core-hours on Blue Waters; \$13,950; PI Brian O’Shea) “Probing the fossils of the Local Group using petascale adaptive mesh galaxy simulations”

Previously funded:

- 09/01/2013-08/31/2017 NSF AST-1333360 (\$571,378, PI Pablo Laguna), “The Multi-scale Physics of Massive Black Hole Formation, Fueling, and Feedback”
- 04/01/2015-09/30/2016 Great Lakes Consortium for Petascale Computation (16.8 million core-hours on the NCSA Blue Waters supercomputer; PI Brian O’Shea) “Petascale adaptive mesh simulations of Milky Way-type galaxies and their progenitors”
- 10/01/2015-09/30/2017 NSF PRAC (85.8 million core-hours on Blue Waters; \$31,452; PI Brian O’Shea) “Petascale Adaptive Mesh Simulations of Milky Way-type Galaxies and their Progenitors”

E3. As Senior Personnel or Contributor

Currently funded:

- 09/01/2016-08/31/2019 NSF AST-1615848 (\$542,040; PI Michael Norman & PI Matthew Turk) “Collaborative Research: CDS&E: Renaissance Simulations Laboratory to Model and Explore the First Galaxies in the Universe”
- 08/01/2018-07/31/2021 NASA ATP17-0153 (\$500,000; PI Renyue Cen) “Lyman Continuum Escape Fraction of galaxies at Epoch of Reionization”

10/01/2018-09/30/2021 NSF MRI-1828187 (\$3,699,317; PI Srinivas Aluru) “Acquisition of an HPC System for Data-Driven Discovery in Computational Astrophysics, Biology, Chemistry, and Materials Science”

Previously funded:

04/01/2010-03/31/2016 NSF PRAC OCI-0832662 (124 million core-hours on the NCSA Blue Waters supercomputer; PI Brian O'Shea) “Formation of the first galaxies: predictions for the next generation of observatories”

09/01/2014-08/31/2017 NSF SI2-SSE ACI-1440709 (\$500,000; PI Michael Norman) “Petascale Enzo: Software Infrastructure Development and Community Engagement”

F. Other Scholarly Accomplishments

No data

G. Societal and Policy Impacts

Magazine Covers & Visuals

2014 Research featured in the 2015 CASC (Coalition for Academic Scientific Computing) Brochure
2013 Magazine cover image of *The Tower*
[*Undergraduate Research Journal at Georgia Tech, featuring the work of M. Halicek*]
2012 Magazine cover image of *XSEDE Science Highlights*
2011 Magazine cover image of *Science News*

Interviews

2019 *Nature* Weekly (23 Jan 2019) Podcast
2018 *GT Science Matters* Podcast
2015 *GT Tech+Knowledge+Y* Research Video Series
2013 Kavli Foundation Live Q&A session *Black Holes & Our Cosmic Evolution*
2013 Kavli Foundation spotlight *Black Holes Revisited*
2012 *Cosmic Front*, NHK Productions, a 60-min television episode on the first stars

H. Other Professional Activities

2019 *Behind the Paper* [blog post](#) “Formation of massive black holes in rapidly growing pre-galactic gas clouds”, *Nature Astronomy Community*
[*Most popular community post to-date; 5th most popular post in all Nature blogs*]

V. Teaching

A. Courses Taught (last 6 years)

<i>Semester</i>	<i>Course number</i>	<i>Course title</i>	<i># of students</i>
Fall 2018	PHYS 2232	Honors Physics II	27
Fall 2017	PHYS 2232	Honors Physics II	20
Fall 2017	PHYS 8803	Cosmology & Galaxies	5
Spring 2017	PHYS 3266	Computational Physics	30
Fall 2016	PHYS 2232	Honors Physics II	32
Spring 2016	PHYS 4347	Fundamentals of Astrophysics	18
Fall 2015	PHYS 8803	Cosmology & Galaxies	8
Spring 2015	PHYS 4347	Fundamentals of Astrophysics	16
Fall 2014	PHYS 2212	Intro Physics II	88
Spring 2014	PHYS 4347	Fundamentals of Astrophysics	24
Fall 2013	PHYS 8803	Cosmology & Galaxies	16

B. Individual Student Guidance**B1. Ph.D. Students**

1. Corey Brummel-Smith Georgia Tech Physics, Fall 2017-present
 - Awarded M.S. (May 2018)
 - Participant in the Computational Astrophysics summer school, Center for Computational Astrophysics, Flatiron Institute, New York, NY (June-July 2018)
 - School of Physics Travel Award (November 2018)
2. Danielle Skinner Georgia Tech Physics, Fall 2017-present
 - Awarded M.S. (May 2018)
 - School of Physics Travel Award (November 2018)
3. Kirk Barrow Georgia Tech Physics, Fall 2013-Spring 2018
 - Southern Regional Education Board Doctoral Scholarship (2013-2016)
 - Advanced to candidacy, Summer 2016
 - Internship at Jet Propulsion Laboratory (Summer 2017)
 - Amelio Award for Research Excellence (March 2018)
 - Defended PhD thesis (March 2018)
 - Initial position: Porat Postdoctoral Fellow, Stanford University
4. Qi Ge Georgia Tech Physics, Fall 2013-Spring 2018
 - Advanced to candidacy, Summer 2015
 - Defended PhD thesis (March 2018)
 - Initial position: Software engineer at JingChi
5. Daegene Koh Georgia Tech Physics, Fall 2012-Spring 2017
 - Advanced to candidacy, Spring 2014
 - Georgia Tech Student Government Association: Vice President of the Graduate Conference Fund and Vice President of Student Affairs
 - Successful Georgia Tech Grant (\$600) for an interactive “Galaxy Collider” exhibit at the 2014 Atlanta Science Festival
 - Received the NSF East Asian and Pacific Summer Institutes Fellowship, Summer 2014
 - Finalist in Georgia Tech Three-Minute Thesis Competition
 - Won Best Poster Prize (out of 75) in *First Stars V* (August 2016)
 - Awarded the AAS International Travel Grant (2016)
 - Defended PhD thesis (March 2017)
 - Initial position: Postdoctoral fellow at KIPAC (Stanford University)
6. Chao Shi Georgia Tech Physics, Spring 2012-Spring 2017
 - Advanced to candidacy, Spring 2013
 - Defended PhD thesis (May 2017)
 - Initial position: Data scientist at Pindrop

B2. M.S. Students

7. Joseph O'Harrow Georgia Tech Physics, non-thesis option, graduated 2013
 - Received a M.S. in Computer Science at the University of Chicago, 2015
 - Current a software developer at Glory Global Solutions, Chicago, IL

B3. Undergraduate Students

8. Douglas Stewart Georgia Tech Physics major, Summer 2018-present
9. Talha Irfan Georgia Tech Physics major, Summer 2017-present
10. Carlos J. Llorente Georgia Tech Physics major, Spring 2017-present

11. Amy Ralston Georgia Tech REU student, Summer 2017
12. Jai Chauhan Georgia Tech Computer Science student, Summer 2017, Spring 2018
13. Jamsheed Cooper Georgia Tech Biomedical Engineering major, Fall 2016
 - Currently an intern in the U.S. Senate
14. Kevin Choi Georgia Tech Applied Physics major, Summer 2016-Spring 2017
15. Davis Nelson Georgia Tech Physics major, Summer 2015-Spring 2017
16. Austin Gilbert Georgia Tech Physics major, Spring 2015-Spring 2017
 - Participated in an REU program at University of Illinois – Urbana-Champaign, Summer 2016
 - Participant in REU program at Michigan State University, Summer 2017
 - Currently a Ph.D. student in Michigan State University
17. Collin Cunningham Georgia Tech Applied Math major, Fall 2015-Spring 2016
 - M.S. student in Mathematical Modeling at the Technical University of Denmark
18. John Bollenbacher Georgia Tech Physics major, Fall 2014
 - Currently a Ph.D. student in the University of Indiana
19. Kirk Barrow Georgia Tech Physics major, Fall 2012-Summer 2013
 - Currently a Ph.D. student in the Wise Group
20. Vasilii Demchenko Georgia Tech Physics major, Spring 2012-Spring 2013
 - Research option – thesis title: *Dependence of escape fraction of ultraviolet radiation on galaxy mass*
 - Received a M.S. in Physics from the University of Edinburgh, 2015
 - Currently a Ph.D. student in Physics in the University of Edinburgh
21. Martin Halicek Georgia Tech Physics major, Spring 2012-Fall 2012
 - Research featured in an article and the cover *The Tower*
 - Currently a Ph.D./M.D. student in Medical Physics at Emory University
22. Akshaya Suresh Yale Astronomy major, Summer 2012
 - Currently a Ph.D. student in the University of Chicago
23. Erin Caldwell Georgia Tech Physics major, Spring 2012
 - Currently a Patent Attorney at Baker & Hostetler LLP

B4. Service on Thesis Committees

Yu Qiu	Ph.D. student (Georgia Tech Physics, graduating 2019)
Xiaomeng Zhai	Ph.D. student (Georgia Tech Aerospace Engineering, graduating 2019)
Raj Gohil	Ph.D. student (Georgia Tech Physics, graduated 2018)
Athanasios Stavropoulos	Ph.D. student (Georgia Tech Physics, graduated 2017)
Karan Jani	Ph.D. student (Georgia Tech Physics, graduated 2017)
Nicholas Gillet	Ph.D. student (Université de Strasbourg Astronomy, graduated 2016)
Katharine Tallaksen	M.S. student (Georgia Tech Computational Science & Engineering, graduated 2016)
Matthew Kinsey	Ph.D. student (Georgia Tech Physics, graduated 2016)
Michael Clark	Ph.D. student (Georgia Tech Physics, graduated 2016)
Joseph Schulz	Ph.D. student (Georgia Tech Aerospace Engineering, graduated 2015)
Jacob Daughhete	Ph.D. student (Georgia Tech Physics, graduated 2015)
Thai Hoang	Ph.D. student (Georgia Tech Physics, graduated 2013)
Christine Simpson	Ph.D. student (Columbia University Astronomy, graduated 2013)
Aycin Aykutaalp	Ph.D. student (University of Groningen Astronomy, graduated 2012)

B5. Mentorship of Postdoctoral Fellows and Visiting Scholarship

1. Yuya Sakurai (2018-present)
 - Host and Mentor for the Foreign JSPS Fellowship (Japan Society for the Promotion of

- Science)
2. Gen Chiaki (2017-present)
 - Host and Mentor for the Foreign JSPS Fellowship (Japan Society for the Promotion of Science)
 3. KwangHo Park (2014-present)
 - Co-advising with Associate Professor Tamara Bogdanovic
 4. Aycin Aykotalp (2014-2017)
 - Invited to lead a discussion group at *First Stars, Black Holes, and Galaxies* in Groningen, Netherlands, 2015
 - Invited talk at the *Guillermo Haro Workshop on Black Hole Formation* in Puebla, Mexico, 2015
 - Invited talk at the American Physical Society April Meeting in Salt Lake City, UT, 2016
 - Currently a postdoctoral researcher at Los Alamos National Laboratory
 5. Gabriel Altay (2012-2014)
 - Currently a senior software developer at Aledade, Inc., Washington, DC
 - Developed an open-source radiation transport code, Rabacus
 - Invited seminars in University of Nevada and Leiden University
 - Active participant in the open-source analysis and visualization toolkit, yt
 6. Daisuke Yamasawa (2013)
 - Visiting postdoctoral researcher (1-month) from Tohoku University, Sendai, Japan
 - Funded by the Japan Society for the Promotion of Science (JSPS)

C. Other Teaching Activities

Outreach:

2012-present	CRA Visualization Laboratory, Demonstrator
2017	Provided visualization for planetarium show, “Seeing the Beginning of Time”
2014-2015	Provided visualization for planetarium show, “Solar Superstorms”
2011-2014	Georgia Tech Direct to Discovery Program
2014	Atlanta Science Festival, Demonstrator
2011-2013	Georgia Tech Observatory Open House, Volunteer
2012	Provided visualization, “The First Stars”, Alder Planetarium
2010	Provided visualization for planetarium show, California Academy of Sciences
2008	Provided visualization for planetarium show, American Museum of Natural History
2007-2009	Supercomputing Conference, Demonstrator
2005-2007	KIPAC Visualization Laboratory, Demonstrator
2004	Penn State Space Day, Volunteer
2001-2003	Penn State Astrofest, Volunteer
2001-2002	Penn State Astronomy Open House, Volunteer
2000	195 th American Astronomical Society Meeting, Atlanta, GA, Volunteer

VI. Service

A. Professional Contributions

Conference Organizing:

03/2020	Scientific Organizing Committee of <i>First Stars VI</i> , Concepcion, Chile
06/2018	Scientific Organizing Committee of <i>Rise and Shine: galaxies in the epoch of reionization</i> , Strasbourg, France
05/2018	Lead Organizer of <i>Enzo User and Developer Workshop</i> , Atlanta, GA
03/2015	Local Organizer Committee (Chair) of the <i>Annual TCAN Meeting</i> , Atlanta, GA
09/2013	Scientific Organizing Committee of the <i>KIPAC@10</i> Conference, Stanford, CA

10/2012 Lead Organizer of *Enzo Developer Workshop*, Atlanta, GA

Advisory Committees:

2016 Scientific Advisor for Senate Committee Hearing on the Space Weather Research and Forecasting Act by Sen. Gardner (R-CO), Sen. Peters (D-MI), Sen. Booker (D-NJ)
2014 Scientific Advisor for NOVA Special, *Mystery of Monster Black Holes*

Professional Societies:

No data

Membership in Professional and Honor Societies:

American Astronomical Society
American Association of Physics Teachers
American Physical Society (APS)
APS Division of Astrophysics
APS Division of Computational Physics
APS Gravity Topical Group

Editorial Board Memberships:

No data

Community-driven Code Development:

Lead developer for the open-source code, Enzo (www.enzo-project.org)
Core member of the open-source code, yt (www.yt-project.org)

Peer Reviewing:

Manuscripts reviewed (~10 per year total) for:

Astronomy & Astrophysics
Astronomy & Computing
Astrophysical Journal
Monthly Notices of the Royal Astronomical Society
Science

Proposals reviewed for:

Space Telescope Science Institute, Hubble Theory Program
National Aeronautics and Space Administration, Astrophysics Theory Program and Postdoctoral Fellowship Program
National Science Foundation, Advanced Cyber-infrastructure Grants, Astronomy and Astrophysics Grants, Postdoctoral Fellowship Program, Small Business Innovation Research Grants, XSEDE Resource Allocations Committee
Netherlands Organisation for Scientific Research, Vidi Grants
Swiss National Science Foundation
Swiss National Supercomputing Center

B. Public and Community Service

Public Talks:

1. (03/2019) *Dahlonaga Science Festival*, Dahlonaga, GA
2. (02/2019) *Augusta Astronomy Club*, Augusta, GA
3. (04/2015) *TEDxDouglasville, In with the Old, In with the New*, Douglasville, GA

4. (11/2013) *Inquiring Minds @ Tech*, Georgia Institute of Technology, Atlanta, GA
5. (10/2013) *OLAS Sci-Tech Talk*, Hokudai University, Sapporo, Japan

C. Institute Contributions

2018-2019

Member of Computer Committee, School of Physics
Chair of the Student Computer Ownership Committee, Institute-wide

2017-2018

Member of Reappointment, Promotion, and Tenure (RPT) Committee, School of Physics
Member of Periodic Peer Review Committee, School of Physics
Member of Computer Committee, School of Physics
Member of the Student Computer Ownership Committee, Institute-wide

2016-2017

Member of Colloquium Committee, School of Physics
Member of the Computer Committee, School of Physics
Member of the Student Computer Ownership Committee, Institute-wide

2015-2016

Chair of the Communications Committee, School of Physics
Member of the High Performance Computing Committee, College of Sciences

2014-2015

Chair of the Web Committee, School of Physics: Leading the redesign of the School's website
Leader of a Tech Fee Proposal "A Next-Generation Physics Computer Lab" (funded, \$61,117)
Faculty mentor for three undergraduate Physics majors

2013-2014

Chair of the Web Committee, School of Physics: Leading the redesign of the School's website
Member of the Outreach Committee, School of Physics
Faculty mentor for three undergraduate Physics majors

2012-2013

Member of the Outreach Committee, School of Physics
Member of the Undergraduate Studies Committee, School of Physics

2011-2012

Design and construction of the Center for Relativistic Astrophysics Visualization Lab