November, 2020

John H. Wise, Ph.D.
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, Georgia Institute of Technology
2016-present	Associate Professor, School of Physics and Center for Relativistic Astrophysics, Georgia Institute of Technology

III. Selected Honors and Awards (last 5 years)

2019	Faculty Development Grant
2017	Supercomputing 2017 Best Scientific Visualization
2017	Hesburgh Award Teaching Fellow
2015	Eric R. Immel Award for Excellence in Teaching
2015-2019	Dunn Family Professorship

IV. Selected Refereed Publications

- Google Scholar profile at https://scholar.google.com/citations?user=72RK2WIAAAAJ
- 79 refereed journal articles, 14 lead-author journal articles, 5,922 citations, *h*-index of 37

1. Skinner, D., **Wise, J. H.** 2020, "Cradles of the first stars: self-shielding, halo masses, and multiplicity" *Monthly Notices of the Royal Astronomical Society,* 492, 4386
2. **Wise, J. H.**, Regan, J. A., O'Shea, B. W., Norman, M. L., Downes, T. P., Xu, H. 2019, "Formation of massive black holes in rapidly growing pre-galactic gas clouds," *Nature*, 566, 85
3. Barrow, K. S. S., Aykutalp, A., **Wise, J. H.** 2018, "Observational signatures of massive black hole formation in the early universe," *Nature Astronomy*, 2, 987
4. 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
5. 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
6. 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
7. **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

8. **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
9. **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
10. **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

V. Presentations and Symposia

- 43 Invited conference presentations
- 48 Departmental colloquia at universities and institutes, including
  - (06/2020) University of Edinburgh (Virtual)
  - (05/2019) Flatiron Institute
  - (04/2017) University of California – Berkeley
  - (05/2016) University of Heidelberg (joint colloquium between 6 astrophysics institutions)
  - (02/2016, 10/2013) University of Tokyo
  - (10/2014) California Institute of Technology
- 27 Contributed conference presentations

VI. Grants and Contracts

- **Currently funded**
  - **As Principal Investigator:** 6 NSF and NASA awards, totaling $1.9M and 36.9M core-hours
  - As Co-I or collaborator: 5 NSF and NASA awards, totaling $4.7M and 97.4M core-hours
- **Previously funded**
  - **As Principal Investigator:** 7 NSF and NASA awards, totaling $1.2M and 34.2M core-hours
  - As Co-I or collaborator: 6 NSF and NASA awards, totaling $1.1M and 140.8M core-hours

VII. Teaching

- (7) Thank a Teacher Awards (2011-2018)
- Developed 2 new astro courses: *Fundamentals of Astrophysics* and *Cosmology and Galaxies*
- Revamped the Honors Physics II laboratory to be remote and distinct from Intro Physics II
- **Courses Taught:** Intro Physics II (PHYS 2212), Honors Physics II (PHYS 2232), Computational Physics (PHYS 3266), Fundamentals of Astrophysics (PHYS 4347), Cosmology and Galaxies (PHYS 7127)
- Primary advisor for 4 current PhD students and 4 PhD awardees
  - **Positions after graduation:** Stanford University, Kavli Institute for Particle Astrophysics and Cosmology, Google, JingChi (self-driving cars)
- Primary research advisor for 1 MS awardees
- Primary research advisor for 23 undergraduates
- Committee member on 19 PhD theses
- Mentored 6 postdoctoral researchers

VIII. Service

- Member of the Scientific Organizing Committee for 8 conferences
- Lead organizer and host for Enzo/Enzo-E user and developer workshops
- (May 2016) Scientific Advisor for Senate Committee Hearing on Space Weather Research
- (6) Public Science Talks in North Georgia and Japan
- **Current Georgia Tech Committees:** GT Student Computer Ownership (Chair 2018-19), Physics Graduate Program, College of Science Diversity Council