

Travis Court

University of Pittsburgh

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Education

- 2021 - Present **University of Pittsburgh, Ph.D. Candidate in Physics and Astronomy**, Pittsburgh, PA.
THESIS TITLE: Effect of Circumstellar Environment on Type Ia Supernova Remnants
RESEARCH ADVISOR: Dr. Carles Badenes
- 2021 **University of Pittsburgh, M.S. in Physics.**
- 2018 **Allegheny College, B.S. in Physics, Psychology Minor**, Meadville, PA, *Summa Cum Laude.*
THESIS TITLE: Cassiopeia A: Seeing a Supernova Remnant in a New Light
RESEARCH ADVISOR: Dr. James C. Lombardi, Jr.

Research Experience

- FA 2019 - Present **Graduate Student**, *University of Pittsburgh.*
RESEARCH ADVISOR: Dr. Carles Badenes
X-ray and computational research on Type Ia supernova remnants in circumstellar environments
- SU 2018 **Research Assistant**, *Los Alamos National Laboratory.*
RESEARCH ADVISOR: Dr. Chris Fryer
Computational research on binary progenitors to supernovae
- 2015 - 2018 **Undergraduate Independent Study and Senior Project**, *Allegheny College.*
RESEARCH ADVISOR: Dr. James C. Lombardi, Jr.
Computational research on merging binary systems using smoothed particle hydrodynamics
- SU 2017 **Undergraduate Research Assistant**, *Flatiron Institute, Center for Computational Astrophysics.*
RESEARCH ADVISOR: Dr. Francisco Villaescusa-Navarro
Computational research on cosmology and Large-Scale Structure
- SU 2016 **NSF REU**, *Rutgers University.*
RESEARCH ADVISOR: Dr. Saurabh Jha
Optical spectroscopy research on Type Ia supernovae

Awards and Honors

- 2024 **Grad Expo Outstanding Speaker Award** Dietrich School of Arts and Sciences, University of Pittsburgh
- 2023 **3 Minute Thesis Finalist** Dietrich School of Arts and Sciences, University of Pittsburgh
- 2021 **Thomas-Lain Essay Contest** Physics and Astronomy, University of Pittsburgh
- 2019 - 2020 **Dietrich School of Arts and Sciences Fellowship** University of Pittsburgh
- 2018 **Phi Beta Kappa** Allegheny College
- 2018 **Summa Cum Laude** Allegheny College
- 2017 **Goldwater Scholarship Honorable Mention**
- 2017 **Physics Department Junior Student Award** Allegheny College
- 2014 - 2018 **Distinguished Alden Scholar** (High Dean's List) Allegheny College
- 2011 **Eagle Scout**

Mentorship

- FA 2023 - Present **Peri Schindelheim**, *Modeling SNR 0519-69.0 in a Planetary Nebula Cocoon*, University of Pittsburgh.
Undergraduate and Post-Baccalaureate Research Mentor
- 2023 - 2024 **Aidan Payton**, *Physics and Astronomy*, University of Pittsburgh.
Graduate Student Peer Mentor

Teaching

- 2024 **Physics Instructor**, *Pitt EXCEL, Swanson School of Engineering*, University of Pittsburgh.
Summer Engineering Academy
- 2023 **Teaching Fellow (Instructor of Record)**, *Physics and Astronomy*, University of Pittsburgh.
Phys 110: Introduction to Physics 1, *SU2 2023*
- 2022 - 2023 **Session Leader**, *AstroPGH Python Bootcamp*, University of Pittsburgh, Carnegie Mellon University.
Numpy II, *SU 2023*
Numpy III, Numpy IV, *SU 2022*
- 2020 - 2021 **Teaching Assistant**, *Physics and Astronomy*, University of Pittsburgh.
Astron 089: Stars, Galaxies, and the Cosmos, *SU1, SU2 2020, SU1, SU2 2021*
Physics 219: Basic Laboratory Physics for Science and Engineering, *FA 2020*
- 2016 - 2017 **Undergraduate Teaching Assistant**, *Physics*, Allegheny College.
Physics 120: Core Concepts in Physics II, *FA 2017*
FS 101: Science in 19th Century Literature, *FA 2017*
Physics 110: Core Concepts in Physics I, *FA 2016*
Physics 102: Fundamentals of Physics II, *SP 2016*
- 2015 **Individual Tutor**, *Maytum Learning Commons*, Allegheny College.
Introductory Calculus for Life Sciences, *SP 2015*
- 2014 - 2015 **Teaching Assistant**, *Crawford County READ Program*, Meadville, PA.
GED Class, *SP 2015*
Adult Basic Education Tutor, *FA 2014*

Academic Service

- SU 2023 - Present **Writing Fridays Workshops**, *Co-Lead*, Astronomy Group, University of Pittsburgh.
- 2023 **Summer Research Grant Committee**, *Reviewer*, Arts and Science Graduate Student Organization, University of Pittsburgh.
- 2022 - 2023 **AstroSnacks Journal Club**, *Organizer*, University of Pittsburgh.
- 2021 - 2023 **Association of Physics and Astronomy Graduate Students**, *Co-President*, University of Pittsburgh.
- 2021 - 2023 **Dietrich School of Arts and Sciences Graduate Council**, *Graduate Student Representative*, University of Pittsburgh.
- FA 2020 - SP 2021 **Dietrich School of Arts and Sciences Council**, *Graduate Student Representative*, University of Pittsburgh.
- FA 2020 **Computational Astrophysics Seminar**, *Organizer*, University of Pittsburgh.
- FA 2017 - SP 2018 **Committee of Student Affairs**, *Co-Director*, Student Government, Allegheny College.
- SP 2016 - SP 2018 **Astronomy Club**, *President*, Allegheny College.
- SP 2017 - SP 2018 **Society of Physics Students**, *Vice President*, Allegheny College.

Presentations

- June 2024 **Supernova Remnants III**, *Poster*, Crete, Greece.
Type Ia Supernova Remnants in Different Circumstellar Environments
- March 2024 **Grad Expo**, *Talk*, Dietrich School of Arts and Science, University of Pittsburgh.
The Impact of Pre-Supernova Mass Loss on Type Ia Supernova Remnants
- March 2023 **Lecture Series**, *Invited Talk*, Allegheny College.
"Type Ia Supernova Remnants: The Story Behind the Explosion"
- August 2022 **Supernova Remnants and Their Progenitors**, *Talk*, Harvard Center for Astrophysics.
"Models for the X-Ray Emission of Type Ia Supernova Remnants in Different Circumstellar Environments"
- March 2022 **High Energy Astrophysics Division of the American Astronomical Society**, *Poster*, Pittsburgh, PA.
"Models for the X-Ray Emission of Type Ia Supernova Remnants in Different Circumstellar Environments"
- May 2018 **Cook-Lahti Senior Scholars Symposium**, *Invited Poster*, Allegheny College.
"Cassiopeia A: Seeing a Supernova Remnant in a New Light"
- January 2018 **American Astronomical Society**, *Poster*, National Harbor, MD.
"Impact of Massive Neutrinos on Dark Matter Halo Environment"
- October 2017 **Gator Day Physics Research Symposium**, *Poster*, Allegheny College.
"SALT Spectroscopy of ASASSN-15lh: The Most Luminous Supernova?"
- January 2017 **American Astronomical Society**, *Poster*, Grapevine, TX.
"SALT Spectroscopy of ASASSN-15lh: The Most Luminous Supernova?"

Outreach

- 2022 - Present **Astronomy on Tap**, *Co-Organizer*, Pittsburgh, PA.
Recruited speakers, partnered with multiple locations, operated social media outreach, co-hosted 11 events
- June 2023 **Astrophysicist for a Day**, *Group Leader*, Pittsburgh, PA.
Lead group of local high school students in hands-on problem solving project involving error propagation
- June 2023 **Astronomy on Tap**, *Talk*, Pittsburgh, PA.
"Astronomy for Pittsburghers"

Publications

3. *Do Type Ia Supernovae Explode Inside Planetary Nebulae?*
Court, T., Badenes, C., Lee, S-H., Patnaude, D., García-Segura, G., Bravo, E. (2023), eprint arXiv:2309.00572.
2. *Multiplicity Statistics of Stars in the Sagittarius Dwarf Spheroidal Galaxy: Comparison to the Milky Way*,
Bonidie, V., **Court, T.**, Daher, C. M., Fielder, C. E., Badenes, C., Newman, J., Moe, M., Kratter, K. M., Walker, M. G., Majewski, S. R., Hayes, C. R., Hasselquist, S., Stassun, K., Kounkel, M., Dixon, D., Stringfellow, G. S., Carlberg, J. K., Anguiano, B., De Lee, N., & Troup, N. W. (2022), *Astrophysical Journal, Letters*, 933, L18.
1. *Weighing neutrinos with the halo environment*,
Banerjee, A., Castorina, E., Villaescusa-Navarro, F., **Court, T.**, & Viel, M. (2020), *Journal of Cosmology and Astroparticle Physics*, 2020, 032.