YASWANT DEVARAKONDA

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RESEARCH INTERESTS

Type Ia Supernova - Ultraviolet Emission - Super-Chandrasekhar Mass Supernova - CSM Interaction
Binary Companion Interaction - Supernova/Host Galaxy Relations - Cosmology - Astrostatistics

BACKGROUND

Texas A&M University
PhD in Astronomy — Expected: May 2023
M.S. in Astronomy — December 2021
Applied Statistics Certificate — December 2021
Associate Certificate from the Center for the Integration of Research, Teaching, and Learning — July 2019

The University of Texas at Austin
B.S. in Physics, B.S. in Astronomy — May 2018

SKILLS

Proficient: Python, Excel, PowerPoint, Word, UNIX, and LaTex.
Familiar: GIT, HTML, JMP, R

RESEARCH EXPERIENCE

Graduate Research Assistant, Texas A&M University — Fall 2020 - Current
Advisors: Dr. Peter Brown & Dr. Nicholas Suntzeff

- Creating the first UV/optical Hubble diagram that uses Type Ia SNe in the Hubble flow using Swift UVOT and HST observations
- Developed a template fitting routine to estimate UV/optical dust extinction and k-corrections for SNe Ia
- Compared the UV and optical properties of SNe Ia light curves to provide statistical constraints on diversity and correlation across wavelength regimes

Graduate Research Assistant, Texas A&M University — Fall 2018 - Summer 20200
Advisor: Dr. Jonelle Walsh

- Analyzed connections between SMBHs and their host galaxies for the MASSIVE survey
- Estimated contributions to the total mass of galaxies based on their stellar and dark matter components
- Created kinematic maps of galaxies based on IFU spectroscopy of their stellar populations

Undergraduate Research Assistant, University of Texas at Austin — Fall 2015 - Summer 2018
Advisor: Dr. Steve Finkelstein

- Examined gravitationally lensed Lyman-Alpha emmitting galaxies to fill out the faint end of the LAE luminosity function
- Led a team of 5 students in calibrating IFU spectrographs as part of the HETDEX project
- Measured the PSF of DECam data as part of the HETDEX survey

TEACHING EXPERIENCE

Instructor of Record

- **ASTR 102: Observational Astronomy, Texas A&M University** — Fall 2019 - Spring 2021
  - Taught a total of 160 students observing and research techniques useful in modern astronomy
  - Developed new lesson plans and lab activities for students learning in virtual or hybrid formats in response to the COVID-19 pandemic
  - Implemented evidence-based teaching techniques to sustain student participation during virtual and hybrid learning

Teaching Assistant

- **ASTR 111: Overview of Modern Astronomy (Lab), Texas A&M University** — Fall 2018 - Spring 2019
  - Led a total of 80 students in an activity based exploration of astronomical concepts
- **AST 321: The Future of Humanity, University of Texas at Austin** — Spring 2018
  - Graded assignments for 60 students in an essay based course that combined concepts from astronomy, engineering, anthropology, and philosophy
- **AST 309: The Lives and Deaths of Stars, University of Texas at Austin** — Fall 2017
  - Graded assignments for 80 students
- **AST 301: Introduction to Astronomy, University of Texas at Austin** — Fall 2016 - Spring 2017
  - Provided assistance in class and through office hours and proctored exams for a total of 240 students

SERVICE

- **AggieNova Undergraduate Research Group** Summer 2022 - Current
  - Mentoring a team of 4 undergraduate students in individual research projects
- **Mentoring and Advising Graduates in an Inclusive Community** (MAGIC) Fall 2019 - Current
  - Mentoring first-year PhD students with regular meetings and professional development workshops
- **Texas A&M University Graduate and Professional Student Government** (GPSG)
  - Advocacy Committee Co-Chair for Legislative Affairs Summer 2022 - Current
  - Senator Fall 2020 - Current
  - Wrote and Introduced GPSG Bill 55.07: *On the Accessibility of Menstrual Health Products on Campus*
- **Texas A&M Queer Empowerment Council**
  - Co-Founder, Treasurer Fall 2022-Current
  - Assembled leaders of LGBTQ+ related organizations to directly advocate for queer students, faculty, and staff with the university administration and local and state governments.
- **American Astronomical Society Congressional Visits Day**
  - Selected Participant, Legislative Branch 2-4 May 2022
  - Selected Participant, Executive Branch 20 July 2022
  - AAS Policy Blog Guest Post 8 August 2022
- **Graduates Learning Astronomy Skills Seminar (GLASS)** Fall 2020 - Summer 2022
  - Co-Chair, host and develop professional development workshops for graduate students and postdocs
- **Society for the Underrepresented in Physics and Astronomy** (SUPA) Fall 2020 - Summer 2022
  - Co-Chaired organization focused on highlighting DEI issues within the department and providing community support for marginalized people
- **Discover, Explore, and Enjoy Phyics and Engineering** (DEEP) Fall 2020 - Spring 2022
  - Mentored a total of 7 undergraduates in creating demonstrations aimed at K-12 students
- **Conference for Undergraduate Women in Physics** (CUWiP), Texas A&M University 17-19 January 2020
  - Organizing Committee, Panel Moderator, Social Media Co-Lead
- **Astronomy Students Association**, University of Texas at Austin Fall 2014 - Spring 2018
  - President Fall 2016 - Summer 2017
  - Secretary Fall 2015 - Summer 2016
- **Undergraduate Astrophysical Journal Club**, University of Texas at Austin Summer 2017 - Summer 2018
  - Founder, Co-Chair

OUTREACH

- **Astronomy on Tap BCS** Fall 2018 - Current
  - *What's Up* Segment Host
  - Show Host (recurring)
  - Presenter (recurring)
- **Texas A&M Physics and Engineering Festival** (Physics Fest) Spring 2019 - Current
  - Astronomy Demonstrations Co-Lead Spring 2021-Spring 2022
  - Organized teams of undergraduate and graduate students to present demonstrations at a festival attended by 5,000 K-12 students
- **Astronomy on Tap ATX** Spring 2017 - Summer 2018
  - Stargazing Coordinator
- **Painter Hall Observatory** Spring 2017 - Summer 2018
  - Telescope Operator and Star Party Host

TALKS & PRESENTATIONS

- **Science Seminar Series**, University of Wisconsin-Madison
  - Invited Talk: *Unlocking the Ultraviolet Properties of Type Ia Supernovae* 17 October 2022
- **Time Domain and Multi-Messenger Astrophysics NASA Workshop**, Annapolis, Maryland
  - Poster: *Type Ia Supernovae in the UV and Optical* 22-24 August 2022
- **240th Meeting of the American Astronomical Society**, Pasadena, California
  - iPoster: *Early Light-Curves of Type Ia Supernovae in the Ultraviolet* 13 June 2022
- **Cook's Branch Supernova Retreat**, Montgomery, TX
  - Talk: *Early Light Curves of Type Ia SNe in the UV and Optical* 15 March 2022
- **ComSciCon Houston**, Rice University
  - Talk: *Type Ia SNe in the Ultraviolet* 5 March 2022
- **SuperVirtual 2021** (Virtual)
  - Poster: *Comparing Type Ia Supernovae in the Ultraviolet and Optical* 17 November 2021
- **Statistical Challanges in Modern Astronomy VII** (Virtual)
  - Virtual Poster: *The Variability of Type Ia Supernovae in the Ultraviolet* 7 June 2021
- **Frank N. Bash Symposium**, University of Texas at Austin
  - Poster: *Using Stellar Kinematics to Measure Black Hole Masses* 22 October 2019
  - Poster: *The Faint End of the Lyman Alpha Luminosity Function from* $2 \leq z \leq 3.8$ 23 October 2017

- **231st Meeting of the American Astronomical Society**, Washington, DC
  - Poster: *The Faint End of the Lyman Alpha Luminosity Function from $2 \leq z \leq 3.8$* 9 January 2018
- **Texas Undergraduate Research Symposium**, Rice University
  - Talk: *The Faint End of the Lyman Alpha Luminosity Function from $2 \leq z \leq 3.8$* 13 October 2017

PUBLICATIONS

First Author

Comparisons of Type Ia Supernova Light Curves in the UV and Optical with the Swift Ultra-violet/Optical Telescope
Y. Devarakonda & P. J. Brown, The Astronomical Journal, Volume 163, Issue 6, id.258, 10 pp. (2022) ADS

Co-Author

The Spitzer-HETDEX Exploratory Large Area Survey. II. The Dark Energy Camera and Spitzer/IRAC Multiwavelength Catalog
I. G. B. Wold, L. Kawinwanichakij, M. L. Stevens, S. L. Finkelstein, C. Papovich, **Y. Devarakonda**, and 12 additional authors
The Astrophysical Journal Supplement Series, Volume 240, Issue 1, article id. 5, 21 pp. (2019) ADS

Contributing Author

The Hobby-Eberly Telescope Dark Energy Experiment (HETDEX) Survey Design, Reductions, and Detections
K. Gebhardt, E. Mentuch Cooper, R. Ciardullo, V, and 60 additional authors including **Y. Devarakonda**
The Astrophysical Journal, Volume 923, Issue 2, id.217, 39 pp. (2021) ADS