

LAURA D. VEGA

CURRICULUM VITAE

Astrophysicist | Heising-Simons Foundation Astrophysics Postdoctoral Fellow

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Center for Research and Exploration in Space Science and Technology II (CRESST II)
NASA/GSFC, Greenbelt, MD 20771

Summary

Astrophysicist with a PhD specializing in multiwavelength astronomy, with a focus on M-dwarf stellar flares (postdoctoral work) and late-stage stellar evolution (dissertation). Experienced in leading and contributing to scientific publications, demonstrating adaptability in research focus. Skilled in data analysis, public speaking, and outreach. Passionate about sharing knowledge and collaborating on diverse research projects to advance our understanding of stellar physics.

Education

Fisk-Vanderbilt Masters-to-PhD Bridge Program

- **Astrophysics Ph.D., 2021** – Vanderbilt University *Advisor: Keivan G. Stassun*
Dissertation Title: *Stellar Evolution at the Crossroads: Resolving the Nature of RV Tauri Variable Systems Using Unprecedented Observations from the Kepler and XMM-Newton Space Telescopes*
- **Physics M.A., 2017** – Fisk University *Advisor: Keivan G. Stassun*
Thesis Title: *Evidence for Binarity and Disk Obscuration in Kepler Observations of the Pulsating RV Tau Variable Star DF Cygni*

Physics B.Sc., 2013 – The University of Texas at San Antonio (UTSA) *Advisor: Eric M. Schlegel*

Relevant Skills

Languages: English; Spanish

Computer: Unix; Python; LaTeX; Astropy; Lightkurve; HEASARC:FTOOLS, XSPEC; SAOImage DS9

Data experience: X-ray/Ultraviolet (NICER, *Swift*); Optical (*Kepler*, TESS, AAVSO, DASCH), and Radio (VLA) time series

Writing Skills: Technical writing; Proposal writing

Grants/Fellowships

Heising-Simons Foundation Future Faculty Launch Program Postdoctoral Fellowship	2021 - 2025
NASA Sellers Exoplanet Environments Collaboration (SEEC) Internal Scientist Funding Model (ISFM) Mini-Proposals (Role: Co-I ; PI: A. Mandell, Total Budget: \$50K)	2024 - 2025
NASA Astrophysics Data Analysis (ADAP) (Role: Co-I ; PI: J. Schlieder, Total Budget: \$62K)	2021 - 2023
NASA TESS Cycle 4 GI Program (Role: PI , Total Budget: \$70K)	2021 - 2022
NASA TESS Cycle 3 GI Program (Role: PI , Total Budget: \$50K)	2020 - 2021
NASA Minority University Research Education Project (MUREP)/Advanced STEM Training and Research (ASTAR): Harriett G. Jenkins Pre-doctoral Fellowship	2015 - 2020
Smithsonian Latino Center - LIP (Research at the Center for Astrophysics and Outreach at the National Air & Space Museum)	2017, 2018, 2019
UTSA Vaughan Family Grant (AAS Conference Travel)	2011, 2012, 2014
National Institute on Minority Health and Health Disparities – Nanotechnology and Human Health Core Grant (2012 Summer Undergraduate Nanoparticles Research at UTSA)	2012
Bill & Alicia Hoover Grant (For 2010 Summer Research at UTSA)	2010

Service

NASA Fellows and Scholars Alumni at the Southern Regional Education Board (SREB) Institute on Teaching and Mentoring, Panelist	2018, 2019, 2023
NASA Astrophysics Theory Program (ATP), Review Panel Member	Sep. 2021
NASA Fellowship Activity Peer Review Panel, Executive Scribe	Apr. 2020
NASA TESS18 Review Panel, Scribe	May 2019
NASA en Español, English-to-Spanish Text Translator (occasional)	2018 - Present

Honors and Awards

Most Outstanding Student Publication - Vanderbilt Physics & Astronomy Department	2018
NASA Office of Education's MUREP: Harriett G. Jenkins Pre-doctoral Fellow	2015
Best Poster in Physics - Fisk University Science Symposium	2016
Toastmasters International - Competent Leader	2015
Toastmasters International - Competent Communicator	2015
The Sam Madrid Jr. Endowed Scholarship - UTSA	2012
The Dr. B. Thyagarajan Endowed Scholarship - UTSA	2009
Dean's List - UTSA	2007, 2008
Honor Roll - UTSA	2009, 2010, 2011

Publications ([Number] = Number of citations for refereed papers as of CV's date-of-update)

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16. Vega L. D. et al. 2024, *In Prep.*; *Simultaneous TESS and Swift Observations of Wolf 359.*
 15. Vega L. D. et al. 2024, *In Prep.*; *From Radio to X-ray: Tracing the flares of YZ Canis Minoris Across the Spectrum.*
 14. Howard, W. S. et al. 2024, Accepted for publication in AAS Journals. *Preparing for the Early eVolution Explorer: Characterizing the photochemical inputs and transit detection efficiencies of young planets using multiwavelength flare observations by TESS and Swift*
 13. Paudel R. R. et al. 2024; *A Multiwavelength Survey of Nearby M Dwarfs: Optical and Near-ultraviolet Flares and Activity with Contemporaneous TESS, Kepler/K2, Swift, and HST Observations*, The Astrophysical Journal, 971, 24. [2]

12. Tovar-Mendoza, G. et al. 2023; *Enabling Stellar Flare Science in the Roman Galactic Bulge Survey: Cadence, Filters, and the Read-Out Strategy Matter*, Roman Core Community Survey White Paper. [1]
11. Wittrock, J. M. et al. 2023; *Validating AU Microscopii d with Transit Timing Variations*, The Astronomical Journal, 166, 232. [12]
10. Barclay, T. et al. 2023, Submitted to AAS Journals; *The transmission spectrum of the potentially rocky planet L 98-59 c*. [10]
9. Chavali, S. et al. 2022; *A Pilot Survey of an M Dwarf Flare Star with Swift's UV Grism*, Research Notes of the AAS, 6, 201. [6]
8. Wittrock, J. M. et al. 2022; *Transit Timing Variations for AU Microscopii b and c*, The Astronomical Journal, 164, 27. [14]
7. Gilbert, E. A. et al. 2022; *Flares, Rotation, and Planets of the AU Mic System from TESS Observations*, The Astronomical Journal, 163, 147. [49]
6. Paudel, R. R. et al. 2021; *Simultaneous Multiwavelength Flare Observations of EV Lacertae*, The Astrophysical Journal, 922, 31. [27]
5. Vega, L. D. et al. 2021; *Multiwavelength Observations of the RV Tauri Variable System U Monocerotis: Long-Term Variability Phenomena Can Be Explained by Binary Interactions With a Circumbinary Disk*, The Astrophysical Journal, 909, 138. (NASA Feature). [5]
4. Gilbert, E. A. et al. 2020; *The First Habitable Zone Earth-sized Planet from TESS. I: Validation of the TOI-700 System*, The Astronomical Journal, 160, 116. (NASA Feature). [98]
3. Kostov, V. B. et al. 2019; *The L 98-59 System: Three Transiting, Terrestrial-size Planets Orbiting a Nearby M Dwarf*, The Astronomical Journal, 158, 32. (NASA Feature). [107]
2. Vega, L. D. et al. 2017; *Evidence for Binariness and Possible Disk Obscuration in Kepler Observations of the Pulsating RV Tau Variable DF Cygni*, The Astrophysical Journal, 839, 48. [14]
1. Schlegel, E. M. et al. 2016; *NGC 5195 In M51: Feedback 'Burps' After a Massive Meal?*, The Astrophysical Journal, 823, 75. (NASA Feature). [11]

ACCEPTED Observing Proposals

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| 20. | TESS Cycle 6 GI Program
<i>Study Of Optical/Near-Ultraviolet Energy Fractionation In Stellar Flares Using Simultaneous 20-s TESS And Swift NUV Data</i>
Role: Co-I , PI: Rishi Paudel | Jan. 2024 |
| 19. | ALMA Cycle 9 GI Program
<i>The Origin and Impact of Flares in M Dwarf Systems</i>
Role: Co-I , PI: Meredith MacGregor | Apr. 2022 |
| 18. | TESS Cycle 5 GI Program
<i>Multiwavelength TESS-Swift-NICER Observations of Pulsations in Flares on Solar-Type Stars</i>
Role: Co-I , PI: Teresa Monsue | Jan. 2022 |

17. Swift Cycle 18 GI Program Sep. 2021
A Swift and Alma View of the Origin and Impact of M-Dwarf Flares
 Role: **Co-I**, PI: Ward Howard; Total Budget: \$35K

16. TESS Cycle 4 GI Program Jan. 2021
Exploring the Star-planet Connection via Simultaneous Tess and Swift Observations of Highly Active M Dwarfs
 Role: **PI**, PI: **Vega, L. D.**; Total Budget: \$70K

15. TESS Cycle 4 GI Program Jan. 2021
Using Tess 20-S Cadence Data To Study Flares On M Dwarfs
 Role: **Co-I**, PI: Rishi Paudel; Total Budget: \$70K

14. NICER Cycle 3 GI Program Nov. 2020
A Study of M Dwarf Flares Using Simultaneous High Cadence Multi-wavelength Data
 Role: **Co-I**, PI: Rishi Paudel

13. XMM-Newton - Announcement of Opportunity 20 Oct. 2020
Pilot Study of RV Tau Variables: A new class of X-ray emitting stars?
 Role: **Co-I**, PI: Rodolfo Montez Jr.

12. Hubble Space Telescope Cycle 28 GO Program Oct. 2020
Confirming a Tentative Detection of an Atmosphere Around a Potentially Rocky Planet
 Role: **Co-I**, PI: Thomas Barclay

11. Swift Cycle 16 GI Program Sep. 2020
Defining the Energy Budget for Abiogenesis on M-dwarf Planets
 Role: **Co-I**, PI: A. Youngblood; Total Budget: \$35K

10. Swift - Target of Opportunity Jul. 2020
20 kilo-second UVOT observations of the AU Mic system
 Role: **PI**, PI: **Vega, L. D.**

9. Joint TESS-Swift Cycle 3 GI Program Jan. 2020
Exploring the Star-Planet Connection via Simultaneous TESS and Swift Observations of Highly Active M Dwarfs
 Role: **PI**, PI: **Vega, L. D.**; Total Budget: \$50K

8. TESS Cycle 3 GI Program Jan. 2020
Discovering Circumbinary Planets With Tess
 Role: **Co-I**, PI: Veselin Kostov; Total Budget: \$50K

7. NICER Cycle 2 GI Program Nov. 2019
Multiwavelength Observations of Highly Active M Dwarfs
 Role: **Co-I**, PI: Rishi Paudel

6. Hubble Space Telescope Cycle 27 Apr. 2019
Searching for Secondary Atmospheres in a System of Benchmark Worlds
 Role: **Co-I**, PI: Thomas Barclay

5. NOAO - Center for High Angular Resolution Astronomy Apr. 2019
Diving into the close stellar environment of the magnetic RV Tauri star U Mon
 Role: **Co-I**, PI: Laurence Sabin

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| 4. | SAO - Submillimeter Array
<i>Hunting for Disks Around Pulsating RV Tau Stars</i>
Role: PI , PI: Vega, L. D. | Mar. 2019 |
| 3. | SAO - Submillimeter Array Filler Program
<i>Disks around RV Tauri Variable Stars: U Mon in High Resolution</i>
Role: Co-I , PI: Rodolfo Montez Jr. | Mar. 2019 |
| 2. | SAO - Submillimeter Array Filler Program
<i>Disks around RV Tauri Variable Stars: U Mon (0.8 mm)</i>
Role: Co-I , PI: Rodolfo Montez Jr. | Oct. 2018 |
| 1. | SAO - Submillimeter Array Filler Program
<i>Disks around RV Tauri Variable Stars: U Mon</i>
Role: Co-I , PI: Rodolfo Montez Jr. | Oct. 2018 |

Oral Presentations

24. **Invited Talk:** Updates on our Multiwavelength Observations Campaign of Active M Dwarf Stars with TESS, Swift, and NICER; NASA JPL Virtual Exoplanet Lecture Series; Virtual Meeting, Pasadena, CA, Mar. 2024.
23. Exploring Flares in Simultaneous Multiwavelength Observations of Active M Dwarf Stars; NASA/CRESST II Retreat; University of Maryland, College Park, MD, Mar. 2024.
22. Is the Flaring Star Wolf 359 a Good Exoplanet Host?; American Astronomical Society, AAS 243rd Meeting. New Orleans, LA, Jan. 2024.
21. **Invited Talk:** Exploring Flares in Simultaneous Multiwavelength Observations of Active M Dwarf Stars; Penn State Center for Exoplanets and Habitable Worlds; State College, PA, Nov. 2023.
20. **Invited Talk:** Exploring Flares in Simultaneous Multiwavelength Observations of Active M Dwarf Stars; National Society of Black Physicists Conference; Knoxville, TN, Nov. 2023.
19. Exploring Flares in Simultaneous Multiwavelength Observations of Active M Dwarf Stars; [Institute for Theory and Computation Luncheon](#); Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, Nov. 2023.
18. **Invited Talk:** My Research on RV Tauri Stars and M Dwarf Flares; Tecnológico de Monterrey Campus Sonora Norte, Hermosillo, Sonora, México, Oct. 2023.
17. **Invited Talk:** Exploring RV Tauri Stars: A Study of DF Cygni and U Monocerotis; Mid-Hudson Astronomical Association, Virtual Meeting, SUNY-New Paltz, New Paltz, NY, Sep. 2023.
16. Exploring Flares in Simultaneous Multiwavelength Observations of Wolf 359; Early Career Scientist Forum 2023, Sciences and Exploration Directorate 600, Goddard Space Flight Center, Greenbelt, MD, Sep. 2023.
15. **Invited Talk:** Stellar Evolution at the Crossroads: Resolving the Nature of RV Tauri Stars using Multiwavelength Observations from Kepler, XMM-Newton, DASCH, AAVSO, and the SMA; Earth and Planets Laboratory Astronomy Seminar, Carnegie Institution for Science; Washington, DC, May 2023.

14. **Invited Talk:** Simultaneous Multiwavelength TESS, Swift, and NICER Observations of Highly Active M Dwarf stars; NASA JPL Exoplanets Journal Club; Virtual Meeting, Pasadena, CA, Nov. 2022.
13. Simultaneous Multiwavelength Observations of the Highly Active M Dwarf YZ CMi; SACNAS, San Juan, Puerto Rico, Oct. 2022.
12. [The APS Bridge Program and my journey to the PhD](#); Session L05: Experiences from the APS Bridge Program, APS April Meeting 2022, New York, NY, Apr. 2022.
11. [Multiwavelength observations of Highly Active M Dwarf stars using Swift, TESS, and NICER](#); Ultraviolet Science at Goddard, NASA Goddard Space Flight Center, Greenbelt, MD, Apr. 2022.
10. [Simultaneous Multiwavelength Swift, TESS, and NICER Observations of Highly Active M Dwarf Stars](#); Invited Talk Colloquium, Virtual Meeting, UTSA Department of Physics & Astronomy, San Antonio, TX, Apr. 2022.
9. Resolving the Nature of RV Tauri Variable Systems Using Unprecedented Observations From the Kepler and XMM-Newton Space Telescopes; AAS Dissertation Talk, Stars IV Oral Session, AAS 238th Meeting. Virtual, Jun. 2021.
8. Stellar Evolution at the Crossroads: Resolving the Nature of RV Tauri Variable Systems Using Unprecedented Observations from Kepler and XMM-Newton Space Telescopes; Invited Talk Colloquium, Virtual Meeting, Howard University, Washington, DC, Mar. 2021.
7. Observations of Disks Around RV Tauri Variable Stars with the Submillimeter Array; SACNAS Conference, the Henry B. González Convention Center, San Antonio, TX, Oct. 2018.
6. [Evidence for Disk Obscuration in Kepler Observations of the RV Tau Star DF Cyg](#); 5th Annual Astrophysics Conference - DC, The George Washington University, Washington DC, Jul. 2017.
5. [Kepler's Unprecedented High Temporal Precision Observations of the RV Tauri variable DF Cygni](#), Astronomy Journal Club, Vanderbilt University, Nashville, TN, Sep. 2016.
4. [M51 and the Effect of the Arm Resonance and Interaction on Diffuse X-ray Emission](#); American Astronomical Society, AAS 225th Meeting. Seattle, WA, Jan. 2015.
3. [Cosmic Background Radiation and the Evolution of the Universe](#); UTSA's Friday Nights, Celestial Lights Series. San Antonio, TX, Apr. 18, 2014.
2. Diffuse X-ray & Multi-wavelength Emission in Nearby, Face-on Spiral Galaxies; San Antonio, Texas Astrophysics Researchers Meeting. San Antonio, TX, Mar. 22, 2013.
1. "Diffuse X-ray & Multi-wavelength Emission in Nearby, Face-on Spiral Galaxies" and poster presentation "Diffuse X-ray Emission and Star Clusters in Nearby, Face-on Spiral;" UTSA College of Science, COS, Research Conference. San Antonio, TX, Oct. 5, 2012.

Poster Presentations

20. [From Radio to X-ray: Tracing YZ CMi's Flares Across the Spectrum](#); Cool Stars 22, San Diego, California, Jun. 24-28, 2024.
19. Is the Flaring Star Wolf 359 a Good Exoplanet Host?; 2023 UMD Postdoctoral Research Symposium, University of Maryland, College Park, MD, Sep. 2023.

18. [Is the Flaring Star Wolf 359 a Good Exoplanet Host?](#); Towards Other Earths III: The Planet-Star connection, Porto, Portugal, Jul. 17-21, 2023.
17. Simultaneous Multiwavelength Swift, TESS, and NICER Observations of Highly Active M Dwarf Stars; 2022 UMD Postdoctoral Research Symposium, University of Maryland, College Park, MD, Sep. 2022.
16. [Simultaneous Multiwavelength Swift, TESS, and NICER Observations of Highly Active M Dwarf Stars](#); Cool Stars 21, Toulouse, France, Jul. 4-9, 2022.
15. [Simultaneous Multiwavelength Observations of the Highly Active M Dwarf YZ CMi](#); TESS Science Conference II, Virtual Meeting, Aug. 2021.
14. [Multiwavelength Observations of the RV Tau Variable U Monocerotis](#); American Astronomical Society, AAS 235th Meeting. Honolulu, HI, Jan. 2020.
13. [X-ray & Submillimeter Observations of the Pulsating RV Tau Variable U Mon](#); 2019 Spring Symposium - The Deaths and Afterlives of Stars; Space Telescope Science Institute; Apr. 2019.
12. [Submillimeter Array Observations of the Large Disk Around RV Tau Star U Mon](#); 7th National Capital Area Disks Meeting; Johns Hopkins University / Space Telescope Science Institute; 26 Sep., 2018.
11. [Observations of Disks Around RV Tau Variables with the Submillimeter Array](#); Cool Stars Conference; Boston University, Boston, MA, Jul. 2018.
10. Evidence for Disk Obscuration in Kepler Observations of the Pulsating RV Tau Variable DF Cyg; Kepler-K2 Science Conference; NASA Ames, Mountain View, CA, Jun. 2017.
9. [Evidence for Binariness in Kepler Observations of the Pulsating RV Tau Variable DF Cygni](#); American Astronomical Society, AAS 229th Meeting. Grapevine, TX, Jan. 2017.
8. [Stellar Evolution at the Crossroads: A Closer Look at the RV Tauri Variable Star DF Cygni](#); 4th Annual DC/MD/VA Astrophysics Meeting, The George Washington University, Washington DC, Jun. 2016.
7. Stellar Evolution at the Crossroads: A Closer Look at the RV Tauri Variable Star DF Cygni; Fisk University Symposium, Nashville, TN, Aug. 2015.
6. Stellar Evolution at the Crossroads: A Closer Look at the RV Tauri Variable Star DF Cygni; Fisk-Vanderbilt Masters-to-PhD Bridge Program, Research Celebration Day. Nashville, TN, Aug. 2015.
5. [Diffuse Hot Gas in M51](#); Chandra's X-ray View of Galaxy Ecosystems; Boston, MA. Jul. 2014.
4. [Diffuse Emission in Nearby, Face-on Spiral Galaxies](#); AAS 223rd Meeting; Washington, DC, Jan. 5-9, 2014.
3. [Diffuse X-ray Emission and Star Clusters in Nearby, Face-on Spiral Galaxies](#); AAS 219th Meeting. Austin, TX, Jan. 7-12 2012.
2. [X-ray Eclipses in the 2010 Outburst of the Recurrent Nova U Sco? & Observations of the 2010 January Outburst of the Recurrent Nova U Sco using NASA's Swift](#); AAS 117th Meeting; Seattle, WA, Jan. 9-13 2011.

1. “X-ray Eclipses in the 2010 Outburst of the Recurrent Nova U Sco?” & “Observations of the 2010 January Outburst of the Recurrent Nova U Scorpii using NASA’s Swift”; Joint Fall 2010 Meeting of the Texas Sections of the APS, AAPT, Zone 13 of SPS and the National Society of Hispanic Physicists, San Antonio, TX, Oct. 21-23, 2010.

Leadership & Outreach

Public Talks & Engagement

- **Astronomy on Tap (AoT) Baltimore, Guilford Hall Brewery, Baltimore, MD Jan. 2024**
General Public Talk: “Stellar Cheers: A Toast to the Eccentricities of RV Tauri Binary Stars.”
- **NASA International Space Apps Challenge – Hermosillo, Local Mentor and Judge, Tecnológico de Monterrey Campus Sonora Norte, Hermosillo, Sonora, México, Oct. 2023**
Engaged with student groups, evaluated presentations, and gave a talk on my academic journey and research. Delivered a formal scientific talk to professors and graduate students at the university.
- **The Roman Space Observer Jun. 2022**
Twitch stream (Spanish version) interview with @NASAenEspañol to promote NASA’s retro 8-bit Roman Space Observer video game and to discuss some of the science The Nancy Grace Roman Space Telescope will do.
- **NASA Hyperwall, Honolulu, HI, Jan. 2020: “Astrophysics with TESS” presentation at American Astronomical Society, AAS 235th Meeting.**

Committee Work & Mentoring

- **Graduate Resources Advancing Diversity with Maryland Astronomy and Physics (GRAD-MAP) Winter Workshop Presenter 2021, 2022, 2023, 2024**
Presentations to GRAD-MAP student about my career path and annual informational presentation on “Post Bacs, Masters, and Bridge Programs.”
- **Better Astronomy for the New Generation! (BANG!) Organizing Committee Member Sept. 2022–May 2023**
Organized seminars on equity, career paths, and soft skills for astronomers.
- **Research Mentor Oct. 2020–Jan. 2021**
Mentored a high school senior in Madison County, VA, on classifying M-dwarf flares based on the Solar-flare classification system.
- **Fisk-Vanderbilt Bridge Program Recruitment at SACNAS, Long Beach, CA Oct. 2016**
Booth at SACNAS to recruit undergraduate student for the Fisk-Vanderbilt Bridge Program.
- **DCA Stars at The University of Maryland - College Park, Summer 2016**
Students and mentors met weekly and discussed our research, goals, setbacks, and successes.
- **Inclusive Astronomy Conference at Vanderbilt, Nashville, TN Jun. 17–19, 2015**
Volunteer host member for the inaugural conference on diversity and inclusion.

- **Astronomy Torus 2012 Workshop at UTSA, San Antonio, TX** **Dec. 5–7, 2012**
International workshop focused on active galactic nuclei; Local Organizing Committee Member: Logistics planning; Registration desk.

Youth Outreach & Educational Events

- **Society of Physics Students and SACNAS student chapters - Presentation** **Feb. 2023**
Invited Talk: *My Journey to the PHD*; San Antonio College, San Antonio, TX.
- **Colorado Springs Cool Science Festival - Zoom-a-Scientist** **Oct. 2020**
Virtual sessions with elementary students in Fairbanks, AK and Colorado Springs, CO, discussing astronomy.
- **Smithsonian National Air & Space Museum - Volunteer Astronomer** **Oct. 2017 - Present**
Engaged in [Astronomy Chats](#) and Hispanic Heritage Month Outreach Familia Day in Washington, DC.
- **Barrera Veterans Elementary School's Career Day - Astronomy Chat** **May 2019**
Shared experiences in astronomy with students across different grade levels in Von Ormy, TX.
- **Bancroft Elementary Saturday Academy - Astronomy Chat** **Jan 2019**
Visited bilingual Latinx students to discuss astronomy, in collaboration with the Smithsonian Air & Space Museum and sponsored by the Smithsonian Latino Center in Washington, DC.
- **Smithsonian Astrophysical Observatory's Rising Stars Camp - Astronomy Chat** **Jul. 2018**
Led activities using robotic telescopes and gave a research talk on star lifecycles at St. Katharine Drexel in Roxbury Crossing MA.

Other Contributions & Leadership

- **[Latinx Employee Association \(LEA\)](#) at the University of Maryland - Grad Student and Postdoc Representative** **Feb. 2022 - Present**
Collaborating in the revitalization and re-establishment of the association to support Latino/Hispanic employees through community building, advocacy, professional development, and outreach initiatives.
- **Toastmasters International** **Oct. 2013 - Present**
Vice President of Public Relations at Goddard Toastmasters (06/2022-2024) and Vanderbilt Toastmasters (05/2015-2018); UTSA Roadrunner Toastmasters Treasurer (01/2014-07/2014); Deliver prepared and extemporaneous speeches as well as evaluating other speakers.
- **Society for Advancement of Chicanos & Native Americans in Science (SACNAS)** **Jan. 2015 - May 2017**
Founding officer (Treasurer) and later Public Relations Officer for the first SACNAS chapter in Tennessee at Vanderbilt University.
- **The Physics Honor Society | Sigma Pi Sigma at UTSA - President** **Apr. 2013 - Jan. 2014**
Organized study sessions for the Physics GRE and tutored students in physics and math.

- **Society of Physics Students at UTSA - Public Relations Officer Aug. 2012 - Apr. 2013**
Outreach: Led various STEM outreach events for high school and elementary school students.
Public Relations Officer: Created promotional materials, managed social media, and organized monthly outreach events like UTSA's "Friday Nights, Celestial Lights."

Interviews

- **Scientist of the Month** — NASA/Goddard CRESST II Feb. 2023
- **First a Bridge Program Graduate, Now a NASA Astrophysicist** — APS News Jan. 2023
- **Early Career Spotlight** — NASA Sciences and Exploration Directorate Oct. 2022
- **Ver Oportunidades En El Fracaso Y Persistir** — Animal MX (Mexican journal) Sep. 2022
- **Alumni Spotlight** — UTSA College of Sciences Dec. 2020

Professional Memberships/Affiliations

National Society of Black Physicists (NSBP)	2023 - Present
Latinx Employee Association (LEA) at UMD	2021 - Present
Vanderbilt Association of Hispanic and Latinx Alumni	2021 - Present
Sigma Xi The Scientific Research Society ($\Sigma\Xi$)	2015 - Present
National Society of Hispanic Physicists (NSHP)	2013 - Present
Toastmasters International	2013 - Present
Society for Advancement of Chicanos & Native Americans in Science (SACNAS)	2013 - Present
American Physical Society (APS)	2011 - Present
American Astronomical Society (AAS)	2011 - Present
Sigma Pi Sigma The Physics Honor Society ($\Sigma\Pi\Sigma$)	2011 - Present
LeaderShape Institute Alumna & Pebble Club	2011 - Present
UTSA Alumni Association	2013 - 2014
San Antonio Astronomical Association	2013 - 2014
UTSA San Antonio Texas Astrophysics Researchers (STAR)	2011 - 2014
Society of Physics Students (SPS)	2010 - 2013
National Society of Collegiate Scholars (NSCS)	2008 - 2013

References

Keivan G. Stassun, Stevenson Professor of Astrophysics, College of Arts & Science
 Professor of Computer Science, Vanderbilt School of Engineering
 Professor of Management, Owen Graduate School of Management
 Director, Frist Center for Autism and Innovation at Vanderbilt
 Vanderbilt University, Nashville, TN
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Dissertation Advisor & Chair

Rodolfo Montez, Jr., Astrophysicist
 Smithsonian Astronomical Observatory, Cambridge, MA
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Graduate Research Mentor, Dissertation Committee Member

Eric M. Schlegel, Vaughan Family Professor of Astronomy
 The University of Texas at San Antonio, San Antonio, TX
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Dissertation Committee Member, Former Undergraduate Research Advisor

Patricia T. Boyd, Director, NASA MOSAICS (formerly SMD Bridge) Program
 NASA Headquarters, Washington, DC
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Dissertation Committee Member, Former (Graduate and Postdoctoral) Advisor

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Postdoctoral Co-Advisor

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Jackie Villadsen, Assistant Professor of Physics & Astronomy
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Postdoctoral Research Mentor