

# TERESA PANURACH (SHE/HER)

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## RESEARCH INTERESTS

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surveys, globular clusters, low-mass X-ray binaries, radio astronomy, high energy phenomena

## APPOINTMENTS

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Norfolk State University, Norfolk, VA  
Executive Director, NoVEL Consortium Program 2023 - Present

## EDUCATION

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Michigan State University (MSU), East Lansing, MI  
*Accreting Neutron Stars in Galactic Globular Clusters* – Advised by J. Strader and L. Chomiuk  
Ph.D in Astrophysics and Astronomy 2023

MSU, East Lansing, MI  
M.S in Astrophysics and Astronomy 2021

The City University of New York (CUNY) at Hunter College, New York, NY  
B.A in Physics 2018

## AWARDS, GRANTS, AND FELLOWSHIPS

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HONES Michigan Space Grant Consortium: Discovering Astronomy with LSST: 2024  
Resources to Promote Research, **Co-PI: T. Panurach**, \$5000

Alliances with Under-Resourced Institutions LSST Discovery Alliance Inclusive Collaboration, 2023  
**Co-PI: T. Panurach**, \$20,000

Packard Foundation: Increasing Diversity in STEM, **Co-PI: T. Panurach**, \$85,3000 2023

#iteachmsu Educator Award 2021

NSF Graduate Research Fellowship, \$138,000 2020 - 2023

AstroCom NYC Fellowship, Full Tuition Coverage and Summer Research Stipend 2016 - 2018

American Astronomical Society FAMOUS Travel Grant (229th Meeting), \$500 2018

AstroCom NYC Senior Scholarship, \$700 2017

## ACCEPTED TELESCOPE PROPOSALS

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*Radio Monitoring of Her X-1 During its Superorbital Period* VLA 24B-265  
12 hours, **PI: T. Panurach**

*A Radio Survey of Ultra-Compact X-ray Binaries* ATCA CS024  
90 hours, **Co-PI: T. Panurach**

*Radio Observations of Neutron Star Ultra-Luminous X-ray Sources* ATCA C3547  
12 hours, **Co-PI: T. Panurach**

*Tracking the Enigmatic Globular Cluster Ultracompact X-ray Binary X1850-087* VLA 22A-111  
3 hours, Joint with Swift (6ks), **PI: T. Panurach**

## CONFERENCE AND SEMINAR TALKS

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Norfolk State University Physics Seminar (Norfolk, VA) March 2023

241st American Astronomical Society Dissertation Talk (Seattle, WA) Jan 2023

National Society of Black Physicists Contributed Talk (Charlottesville, VA) Nov 2022

Liverpool John Moores University Journal Club Speaker (Virtual)	Sept 2022
MSU Astronomy Seminar (Virtual)	April 2022
Northwestern University CIERA Science Happy Hour (Virtual)	April 2022
American Museum of Natural History Astronomy Colloquium (Virtual)	Jan 2022
Compact Objects 9 (Virtual)	May 2021
Vanderbilt University Astronomy Seminar (Virtual)	Nov 2020
Chandra Frontiers in Time-Domain Science Lightning Talk (Virtual)	Oct 2020
MSU Physics Graduate Organization Seminar (Virtual)	Sept 2020
AAS: High Energy Astronomy Division Frontier Seminar (Virtual)	Sept 2020
REU Symposium (New York, NY)	Aug 2017
CUNY at Hunter College Undergraduate Research Conference (New York, NY)	April 2017
Society for Physics and Astronomy Research Conference (New York, NY)	Oct 2016
REU Symposium (New York, NY)	Aug 2016

## OUTREACH AND PUBLIC TALKS

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STARS Science Career Panel (Norfolk, VA)	July 2023
Intrepid Sea, Air and Space Museum's GOALS for Girls Presenter (Virtual)	July 2021
MSU Twitter Manager (@MSU_astro)	2021 - 2023
One Million Women in STEM Featured Scientist	Jan 2021
Intrepid Sea, Air and Space Museum's GOALS for Girls Presenter (Virtual)	July 2020
MSU's Science Festival Presenter (East Lansing, MI)	April 2019
Astronomy on Tap: Lansing Presenter (Lansing, MI)	Sept 2018
Astronomy on Tap: New York City Presenter (Brooklyn, NY)	June 2018

## CONFERENCE POSTERS

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235th American Astronomical Society Meeting (Honolulu, HI)	Jan 2020
231st American Astronomical Society Meeting (Washington D.C)	Jan 2018
Columbia University Astrofest (New York, NY)	Sept 2017
229th American Astronomical Society Meeting (Grapevine, TX)	Jan 2017
Princeton University Conference for Undergraduate Women in Physics (CUWiP)	Jan 2017

## ACADEMIC SERVICE

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Time/Funding Allocation Committees: NASA ADAP (Panel Chair), NASA GO Reviewer	2023 - Present
Publication Referee: Monthly Notices of the Royal Astronomical Society	2023 - Present
MSU Astronomy Group Seminar Committee	2022 - 2023
MSU Astronomy Group Website Committee	2021 - 2023
P-A Research Experiences with Drew Scholars Conference Organizer	2021 - 2022
Physics and Astronomy Department Colloquium Host	2020 - 2021
Co-creator and organizer of Astro Coffee Journal Club	2020 - 2021
X-ray Binary Journal Club Host	2020 - 2021
Graduate Student Search Committee Representative for Astronomy Faculty Position	2020
Graduate Student Recruitment Organizer	2019
CUWiP Local Organizing Committee	2018 - 2019

## DIVERSITY, EQUITY, AND INCLUSION

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Mentoring Relationships and Owning Your Career (Virtual, Henry Ford College)	June 2024
Stellar Mentorship Program Mentor (East Lansing, MI)	2020 - 2023
Maximizing Your Mentoring Relationships Workshop (East Lansing, MI)	June 2020
P-A Research Experiences with Drew Scholars Director (East Lansing, MI)	2020 - 2023

National Radio Consortium Chapter Leader (East Lansing, MI)	2019 - 2023
Maximizing Your Mentoring Relationships Workshop (Charlottesville, VA)	June 2019
Maximizing Your Mentoring Relationships Workshop (New York, NY)	June 2019
Maximizing Your Mentoring Relationships Workshop (East Lansing, MI)	June 2019
Applying to REU and Internships Workshop (MSU CUWiP)	Jan 2019
Maximizing Your Mentoring Relationships Workshop (New York, NY)	June 2018
Maximizing Your Mentoring Relationships Workshop (New York, NY)	June 2017

## SOFTWARE KNOWLEDGE AND SKILLS

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Technologies: Python (pandas, matplotlib, numpy, scipy, scikit-learn, astropy), Jupyter-Notebook/Lab, Anaconda, UNIX/Linux, Git, statistics, statistical modeling, regression analysis  
 Major Astronomical Packages: AstroPy, CASA, IRAF  
 Languages: English (native), Thai (fluent)

## INTERNATIONAL COLLABORATIONS AND PROFESSIONAL SOCIETIES

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The Legacy Survey of Space & Time - Transient and Variable Stars Working Group	2023 - Present
National Society of Black Physicists	2022 - Present
Milky Way ATCA and VLA Exploration of Radio-sources in Clusters Survey	2018 - Present
American Astronomical Society	2017 - Present

## TEACHING

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Teaching Assistant AST 208: Planets and Telescopes (31 students, MSU)	2020
<ul style="list-style-type: none"> <li>Assistant instructor for introductory astronomy lab and lecture for astronomy majors</li> </ul>	
Teaching Assistant ISP 205L: Visions of the Universe (8 sections, 300 students, MSU)	2018 - 2019
<ul style="list-style-type: none"> <li>Instructor of record for introductory astronomy lab for non-majors</li> </ul>	

## STUDENT SUPERVISION

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### Research

Payton Brown (NSU)	2024 - Present
<ul style="list-style-type: none"> <li>Reduce and analyze VLA observations from the MAVERIC Survey of globular cluster, Djorg2</li> </ul>	
Jennifer Rodriguez (MSU, Charles Drew Scholar-grad school at Ohio State U.)	2019 - 2020
<ul style="list-style-type: none"> <li>Reduced and analyzed VLA observations of black hole X-ray binary, GS2000+25; resulted in student's first-author publication</li> </ul>	
Jerry Ortiz (CUNY at College of Staten Island, AstroCom NYC Scholar)	Summer 2019
<ul style="list-style-type: none"> <li>Calculated the velocity dispersion of nucleated galaxies in the Virgo Cluster using optical spectroscopy from <i>Keck</i></li> </ul>	

### Career

Shakiiya Yindui (NSU, NoVEL SURE Scholar)	2024 - Present
De'ja Bailey (NSU, NoVEL SURE Scholar)	2024 - Present
Alice Cuffee (NSU, NoVEL SURE Scholar)	2024 - Present
Jaycee Jenkins (NSU, NoVEL SURE Scholar)	2024 - Present
Kavon Ragland (Virginia State U., NoVEL SURE Scholar)	2024 - Present
Chantel Johnson (NSU, NoVEL SURE Scholar)	2023 - Present
Jordan Simmons (NSU, NoVEL SURE Scholar)	2023 - Present
Shamaar Howard (NSU, NoVEL SURE Scholar)	2023 - Present
Curtis Jordan (NSU, NoVEL SURE Scholar)	2023 - Present

Asia Jones (NSU, NoVEL SURE Scholar)	2023 - Present
Jaylin Coleman (NSU, NoVEL SURE Scholar)	2023 - 2024
Anthony Martin (Virginia State U., NoVEL SURE Scholar)	2023 - 2024
Dominic Ross (Virginia State U., NoVEL SURE Scholar)	2023 - 2024
Miguel Montalvo (UC Berkley, NAC Fellow– grad school at Princeton U.)	2022 - 2023
Daniel Gallego (CUNY City Tech, NAC Fellow)	2022 - 2023
Miranda Pikus (MSU, Charles Drew Scholar–grad school at Purdue U.)	2022 - 2023
Payton Walton (MSU, Charles Drew Scholar)	2022 - 2023
Atticus Chong (MSU, Charles Drew Scholar)	2021 - 2023
Ryan Copeland (MSU, Charles Drew Scholar)	2021 - 2023
Lauren McDermott (MSU, Charles Drew Scholar–grad school at Washington State U.)	2021 - 2022
Elias Taira (MSU, Charles Drew Scholar)	2021 - 2023
Anita Agasaveeran (MSU, Charles Drew Scholar)	2021 - 2023
Ashley Stone (MSU–grad school at West Virginia U.)	2021 - 2023
Wasundara Athukoralalage (MSU, SURF Fellow at Caltech–grad school at Harvard U.)	2020 - 2023

## PUBLICATION LIST

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### Refereed Publications:

10. *Do Neutron Star Ultra-Luminous X-Ray Sources Masquerade as Intermediate Mass Black Holes in Radio and X-Ray?*

**T. Panurach**, K. C. Dage, R. Urquhart, R. Plotkin, J. Paul, A. Bahramian, M. C. Brumback, T. J. Galvin, I. Molina, J. C. A. Miller-Jones, P. Saikia, 2024, Submitted to the Astrophysical Journal

9. *A Survey for Radio Emission from White Dwarfs in the VLA Sky Survey*

I. Pelisoli et al. (including **T. Panurach**), 2024, Monthly Notices of the Royal Astronomical Society, 531, 1805P

8. *Revisiting the Classics: On the Evolutionary Origin of the Fe II and He/N Spectral Classes of Novae*

E. Aydi et al. (including **T. Panurach**), 2024, Monthly Notices of the Royal Astronomical Society, 527, 9303A

7. *Catching a Nova X-ray/UV Flash in the Visible? Early Spectroscopy of the Extremely Slow Nova Velorum 2022 (Gaia22alz)*

E. Aydi et al. (including **T. Panurach**), 2023, Monthly Notices of the Royal Astronomical Society, 524, 1946A

6. *Tracking the Enigmatic Globular Cluster Ultracompact X-ray Binary X1850087: Extreme Radio Variability in the Hard State*

**T. Panurach**, R. Urquhart, J. Strader, L. Chomiuk, A. Bahramian, J. Miller-Jones, C.O. Heinke, T.J. Maccarone, G.R. Sivakoff. 2023, Astrophysical Journal, 946, 88P

5. *Multi-wavelength Observations of a New Redback Milisecond Pulsar Candidate 4FGL J1910.75320*

K. Au, J. Strader, S. J. Swihart, L. C. C. Lin, A. K. H. Kong, J. Takata, C. Hui, **T. Panurach**, I. Molina, E. Aydi, K. Sokolovsky, and K. Li. 2022, Astrophysical Journal, 943, 103A

4. *The MAVERIC Survey: Variable Jet–Accretion Coupling in Luminous Accreting Neutron Stars in Galactic Globular Clusters*

**T. Panurach**, J. Strader, A. Bahramian, L. Chomiuk, J. Miller-Jones, C.O. Heinke, T.J. Maccarone, L. Shishkovsky, G.R. Sivakoff, E. Tremou, V. Tudor, and R. Urquhart. 2021, Astrophysical Journal, 923, 88

3. *GS2000+25: The Least Luminous Black Hole X-ray Binary*

J. Rodriguez, R. Urquhart, R. Plotkin, **T. Panurach**, L. Chomiuk, J. Strader, J. Miller-Jones, E. Gallo, G.R. Sivakoff. 2020, *Astrophysical Journal*, 889, 58R

2. *Constraints On Blue Straggler Formation Mechanisms in Galactic Globular Clusters from Proper Motion Velocity Distributions*

N. W. C. Leigh, **T. Panurach**, M. Simunovic, A. M. Geller, D. Zurek, M. M. Shara, A. Sills, C. Knigge, N. Gosnell, R. Mathieu, T. H. Puzia, J. Ventura, Q. Minor. 2019, *Monthly Notices of the Royal Astronomical Society*, 482, 231

1. *When Do Clusters Become Multiple Star Systems?: II. Towards a Half-Life Formalism with Four Bodies*

T. Ibragimov, N. W. C. Leigh, T. Ryu, **T. Panurach**, R. Perna. 2018, *Monthly Notices of the Royal Astronomical Society*, 477, 4213

**Unrefereed Publications:**

*SOAR spectroscopic confirmation of Gaia22bhs as a highly reddened Galactic classical nova*

A. Kawash, E. Aydi, J. Strader, L. Chomiuk, K. Sokolovsky, **T. Panurach.**, I. Molina. 2022, *The Astronomers Telegram*, No. 15318

**Other Publications:**

8. [\*NoVEL Consortium Official Website\*](#) June 2023

**T. Panurach.** NSU College of Science, Engineering, and Technology: Programs.

7. [\*The Astronomy Group Welcomes Two Graduate Students\*](#) Dec 2022

**T. Panurach.** MSU Astronomy Group Newsletter.

6. [\*Unforecasted Turbulence: Teresa Panurach\*](#) May 2022

**T. Panurach.** MSU College of Natural Science: NatSci Profiles (Reposted from Astrobites).

5. [\*Celebrating this Year's Milestones\*](#) May 2022

**T. Panurach.** MSU Astronomy Group Newsletter.

4. [\*Unforecasted Turbulence: Teresa Panurach\*](#) May 2022

**T. Panurach.** Astrobites.

3. [\*The Astronomy Group Welcomes Three Graduate Students\*](#) Jan 2022

**T. Panurach.** MSU Astronomy Group Newsletter.

2. [\*Undergraduate Jessie Miller Wins Thomas Osgood Outstanding Senior Award\*](#) June 2021

**T. Panurach.** MSU Astronomy Group Newsletter.

1. [\*Four Astronomy Undergraduates Receive Lawrence W. Hantel Endowed Fellowship\*](#) March 2021

**T. Panurach.** MSU Astronomy Group Newsletter.