

TERESA PANURACH

Dept. of Physics and Astronomy ◇ 567 Wilson Rd. Rm 3265 ◇ East Lansing, MI, USA 48824

tpanurach.github.io ◇ panurach@msu.edu

RESEARCH INTERESTS

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

EDUCATION

Michigan State University (MSU)

East Lansing, MI, USA

Ph.D in Astronomy and Astrophysics

Expected 2023

M.S in Astronomy and Astrophysics

2021

Advisors: J. Strader and L. Chomiuk

The City University of New York (CUNY) at Hunter College

New York, NY, USA

B.A in Physics

2018

AWARDS, GRANTS, AND FELLOWSHIPS

VLA22A: *Tracking the Enigmatic Globular Cluster Ultracompact X-ray Binary*

2021

X1850-087, 3 hours, Joint with Swift (6ks), **PI: T. Panurach**

#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, \$500

2018

AstroCom NYC Senior Scholarship, \$700

2017

SELECTED RESEARCH EXPERIENCES

Graduate Research Assistant:

Dept. of Physics and Astronomy, MSU, East Lansing, MI

Advisors: J. Strader and L. Chomiuk

2018 - Present

- Radio and X-ray observations of low-mass X-ray binaries in globular clusters

Undergraduate Research Assistant:

Dept. of Astrophysics, American Museum of Natural History, New York, NY

Advisor: N. W. C. Leigh

2017 - 2018

- Constrained the formation of blue stragglers in globular clusters using proper motion velocity distributions observed by *Hubble Space Telescope*; resulted in second-author publication
- Created numerical simulations of binary-binary star systems using FEWBODY; resulted in n-author publication

SOFTWARE KNOWLEDGE AND SKILLS

Programming: Python (pandas, matplotlib, numpy, scipy, scikit-learn)

Major Astronomical Packages: AstroPy, CASA

Observational Experience: SOAR Observatory

Languages: English (native), Thai (fluent)

TEACHING

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

STUDENT SUPERVISION

Research

- | | |
|--|-------------|
| Jennifer Rodriguez (MSU, Charles Drew Scholar) | 2019 - 2020 |
| <ul style="list-style-type: none">• Reduced and analyzed <i>VLA</i> observations of black hole X-ray binary, GS2000+25; resulted in student's first-author publication | |
| Jerry Ortiz (CUNY at College of Staten Island, AstroCom NYC Scholar) | Summer 2019 |
| <ul style="list-style-type: none">• Calculated the velocity dispersion of nucleated galaxies in the Virgo Cluster using optical spectroscopy from <i>Keck</i> | |

Career

- | | |
|--|----------------|
| Atticus Chong (MSU, Charles Drew Scholar) | 2021 - Present |
| Ryan Copeland (MSU, Charles Drew Scholar) | 2021 - Present |
| Elias Taira (MSU, Charles Drew Scholar) | 2021 - Present |
| Anita Agasaveeran (MSU, Charles Drew Scholar) | 2021 - Present |
| Ashley Stone (MSU) | 2021 - Present |
| Wasundara Athukoralalage (MSU, Wielenga Scholar) | 2020 - Present |

MSU ACADEMIC SERVICE

- | | |
|---|----------------|
| P-A Research Experiences with Drew Scholars Conference Organizer | Aug 2021 |
| Physics and Astronomy Department Colloquium Host | 2020 - Present |
| 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

- | | |
|---|----------------|
| Stellar Mentorship Program Mentor (East Lansing, MI) | 2020 - Present |
| Maximizing Your Mentoring Relationships Workshop (East Lansing, MI) | June 2020 |
| P-A Research Experiences with Drew Scholars Director (East Lansing, MI) | 2020 - Present |
| 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 |
| National Radio Consortium Chapter Leader (East Lansing, MI) | 2019 - Present |
| 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 |

CONFERENCE AND SEMINAR TALKS

American Museum of Natural History Astronomy Seminar (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

Intrepid Sea, Air and Space Museum's GOALS for Girls Presenter (Virtual)	July 2021
MSU Twitter Manager (@MSU_astro)	April 2021 - Present
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

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

PUBLICATIONS

Refereed Publications:

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

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

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

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

Other Publications:

Undergraduate Jessie Miller Wins Thomas Osgood Outstanding Senior Award June 2021

T. Panurach. MSU Astronomy Group Newsletter.

Four Astronomy Undergraduates Receive Lawrence W. Hantel Endowed Fellowship March 2021

T. Panurach. MSU Astronomy Group Newsletter.

PROFESSIONAL REFERENCES

Jay Strader	straderj@msu.edu
Associate Professor, MSU	(517) 884-5605

Laura Chomiuk	chomiukl@msu.edu
Associate Professor, MSU	(517) 884-5608