

Thomas Finzell

Physics & Astronomy PhD

Academic Appointments

2023–Present **Visiting Assistant Professor in the Department of Computer Science, Carleton College**

2021–2023 **Assistant Professor in the Department of Computational Mathematics, Science and Engineering (NTT), Michigan State University**

2020–2021 **Postdoctoral Researcher in the Department of Computational Mathematics, Science and Engineering, Michigan State University**

2019–2020 **Visiting Assistant Professor, Macalester College**

2017–2019 **Postdoctoral Researcher in Physics Education, University of Michigan**

Education

2015–2017 **PhD, Michigan State University**
Doctorate in Physics & Astronomy

2011–2015 **MSc, Michigan State University**
Masters in Physics & Astronomy

2007–2011 **B.S., University of Wisconsin**
Double Major in Physics & Astronomy; Certificate in Computer Science

References

Dr. Danny Cabellero, caballero@pa.msu.edu
(517)-884-5657

Dr. John Cannon, jcannon@macalester.edu
(651)-696-6798

Dr. Devin Silvia, dsilvia@msu.edu
(517)-432-0212

Courses Taught

W24 **CS 320, Carleton College**
Machine Learning

F23, W24, **CS 111, Carleton College**
S24 Introduction to Computer Science

F22, S23 **CMSE 202, Michigan State University**, Multi-Section Lead S23
Computational Modeling and Data Analysis II

1622 Lake Drive – Haslett, MI 48840

✉ (651)-271-7129 • ✉ thomasfinzell@gmail.com

F20, S21, **CMSE 201**, *Michigan State University*, Multi-Section Lead S22
F21, S22 Introduction to Computational Modeling

Spring 2020 **PHYS 394**, *Macalester College*, (Co-)Creator
Computational Physics

Spring 2020 **PHYS 461**, *Macalester College*
Mechanics

Fall 2019 **PHYS 226**, *Macalester College*
Principles of Physics I

Fall 2019 **PHYS 443L**, *Macalester College*
Electromagnetic Theory Lab

Winter 2019 **PHYS 260**, *University of Michigan*
(Co)-Instructor of Record, Honors Introductory Physics II

Fall 2018 **PHYS 160**, *University of Michigan*
(Co)-Instructor of Record, Honors Introductory Physics I

Summer **PHYS 140**, *University of Michigan*

2018, 2019 General Physics I

2014–2015 **LB 273L**, *Michigan State University*, Lyman-Briggs
Redesigned a lab and co-taught it as part of the Professional Development Program

2011–2013 **ISP 205L**, *Michigan State University*
Primary instructor. Astronomy lab course for non-majors

Undergraduate Students Supervised or Co-Supervised

2020 **Paige Stevenson**, *Adviser*
Summer Research

2020 **Penny Ahlfeld**, *Adviser*
Summer Research

2019–2020 **James Cannon**, *Co-Adviser*
Senior Thesis Work

2017–2019 **Sameer Barretto**, *Supervisor*
Undergraduate Research Assistant

2017–2019 **Jessica Zhang**, *Supervisor*
Undergraduate Research Assistant

2015 **Daniel Coulter**

2015–2016 **Carolyn Wendeln**

2013–2015 **Naomi Williams**

2012–Present **Leah Nonis**, *Mentor*
As part of the WaMPS mentoring program

2012–2016 **Tess O’Neal**, *Mentor*
As part of the WaMPS mentoring program

Graduate Students Taught or Mentored

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2019 **Prachi Atmasiddha**
As part of the DIALUP Curriculum Design Team

2019 **Benjamin Scheff**
As part of the DIALUP Curriculum Design Team

2019 **Cameron Spitzfaden**
As part of the DIALUP Curriculum Design Team

2018–2019 **Kelsey Bates**
As part of the DIALUP Curriculum Design Team

2017–2019 **Grace Kerber**
As part of the DIALUP Curriculum Design Team

2018–2019 **Harry Liu**
As part of the DIALUP Curriculum Design Team

2018–2019 **Joseph Paki**
As part of the DIALUP Curriculum Design Team

2017–2019 **Alec Tewsley-Booth**
As part of the DIALUP Curriculum Design Team

2018–2019 **Benjamin Girodias**
As part of the DIALUP Curriculum Design Team

2017–2018 **Chelsea Hendrus**
As part of the DIALUP Curriculum Design Team

2017–2018 **Gle Leung**
As part of the DIALUP Curriculum Design Team

2017–2018 **Jordan Roth**
As part of the DIALUP Curriculum Design Team

Research Awards

2018 **Gilbert Whitaker Fund for the Improvement of Teaching, Grant**

2013 **Future Academic Scholars & Teachers, Fellowship**

2013 **AAS International Travel Grant**

2009 **Wisconsin Space Grant Consortium, Undergraduate Research Award**

Service/Outreach

2019–2020 **Women in Physics and Astronomy Reading Group, Co-Creator/Co-Leader**

2017–2019 **Developers of Instruction, Assessment, and Lessons for Undergraduate Physics (DIALUP), Creator/Leader**

2015–2016 **Physics & Astronomy Day, Impression 5 Museum, Docent**

2015 **Mid-Michigan Leadership Academy, Outreach with Elementary Kids**

2014–2016 **Astronomy Journal Club, Chair/Organizer**

2013–2017 **Science Olympiad, Astronomy State Event Coordinator**

2011–2017 **Women and Minorities in the Physical Sciences (WaMPS), Mentor**

2009–2011 **Science Olympiad, Astronomy Regional Event Co-Coordinator**
2010–2011 **Waisman Center, Weekly Outreach with Pre-K Children**
2010 **UW Madison, Summer Outreach Program, Grandparents University**

Presentations/Workshops/Summer Schools

2023 **Special Interest Group on Computer Science Education, Poster**, "Using Resource Theory to Understand How Students Think About Indexing"
Toronto, ON

2019 **Physics Education Research Conference, Poster**
Provo, UT

2019 **Partnership for the Integration of Computation in Undergraduate Physics Summer Workshop**
River Falls, WI

2019 **American Association of Physics Teachers Summer Meeting, Talk**
Provo, UT

2019 **American Association of Physics Teachers Winter Meeting, Poster**
Houston, TX

2018 **Partnership for the Integration of Computation in Undergraduate Physics Summer Workshop**
River Falls, WI

2018 **Physics Education Research Conference, Poster**
Washington, D.C.

2018 **American Association of Physics Teachers Summer Meeting, Poster**
Washington, D.C.

2016 **Shocks and Particle Acceleration in Novae and Supernovae, Poster**
Columbia University

2016 **The Transient Sky, Poster**
Harvard

2016 **Stellar Remnants at the Junction, Poster**
Texas Tech

2014 **The Physics of Cataclysmic and Compact Binaries, Talk**
Columbia University

2014 **CLOUDY Summer School**
Queens University

2014–2015 **Professional Development Program**
Institute for Scientist & Engineer Educators, Monterey, CA

2014 **NRAO Interferometry Summer School**
NRAO Socorro

2014–2016 **Compact Objects Meeting, Talk**
2014 Michigan State; 2015 University of Michigan; 2016 Wayne State University

2011 **217th American Astronomical Society Meeting, Poster**
Seattle, WA

2010 **215th American Astronomical Society Meeting, Poster**
Washington, D.C.

Refereed Publications

First Author

2018 **A Detailed Observational Analysis of V1324 Sco, the Most Gamma-Ray-luminous Classical Nova to Date**

Finzell, Thomas; Chomiuk, Laura; Metzger, Brian D.; Walter, Frederick M.; Linford, Justin D.; Mukai, Koji; Nelson, Thomas; Weston, Jennifer H. S.; Zheng, Yong; Sokoloski, Jennifer L.; Mioduszewski, Amy; Rupen, Michael P.; Dong, Subo; Starrfield, Sumner; Cheung, C. C.; Woodward, Charles E.; Taylor, Gregory B.; Bohlsen, Terry; Buil, Christian; Prieto, Jose; Wagner, R. Mark; Bensby, Thomas; Bond, I. A.; Sumi, T.; Bennett, D. P.; Abe, F.; Koshimoto, N.; Suzuki, D.; Tristram, P. J.; Christie, Grant W.; Natusch, Tim; McCormick, Jennie; Yee, Jennifer; Gould, Andy

2015 **Distance and Reddening of the Enigmatic Gamma-ray-Detected Nova V1324 Sco**

Finzell, Thomas; Chomiuk, Laura; Munari, Ulisse; Walter, Frederick M.

Nth Author

2017 **A nova outburst powered by shocks**

Li, Kwan-Lok; Metzger, Brian D.; Chomiuk, Laura; Vurm, Indrek; Strader, Jay; Finzell, Thomas; Beloborodov, Andrei M.; Nelson, Thomas; Shappee, Benjamin J.; Kochanek, Christopher S.; Prieto, JosÃ L.; Kafka, Stella; Holien, Thomas W.-S.; Thompson, Todd A.; Luckas, Paul J.; Itoh, Hiroshi

2017 **The Peculiar Multiwavelength Evolution Of V1535 Sco**

Linford, J. D.; Chomiuk, L.; Nelson, T.; Finzell, T.; Walter, F. M.; Sokoloski, J. L.; Mukai, K.; Mioduszewski, A. J.; van der Horst, A. J.; Weston, J. H. S.; Rupen, M. P.

2017 **A Radio Emission Analysis of Classical Nova V351 Pup (1991))**

Wendeln, Carolyn; Chomiuk, Laura; Finzell, Thomas; Linford, Justin D.; Strader, Jay

2016 **Shock-powered radio emission from V5589 Sagittarii (Nova Sgr 2012 # 1)**

Weston, Jennifer H. S.; Sokoloski, J. L.; Chomiuk, Laura; Linford, Justin D.; Nelson, Thomas; Mukai, Koji; Finzell, Tom; Mioduszewski, Amy; Rupen, Michael P.; Walter, Frederick M.

2016 **Non-thermal radio emission from colliding flows in classical nova V1723 Aql**

Weston, Jennifer H. S.; Sokoloski, J. L.; Metzger, Brian D.; Zheng, Yong; Chomiuk, Laura; Krauss, Miriam I.; Linford, Justin D.; Nelson, Thomas; Mioduszewski, Amy J.; Rupen, Michael P.; Finzell, Tom; Mukai, Koji

2016 **Gamma-ray novae as probes of relativistic particle acceleration at non-relativistic shocks**

Metzger, B. D.; Finzell, T.; Vurm, I.; HascoÃt, R.; Beloborodov, A. M.; Chomiuk, L.

2015 **1FGL J1417.7-4407: A Likely Gamma-Ray Bright Binary with a Massive Neutron Star and a Giant Secondary**

Strader, Jay; Chomiuk, Laura; Cheung, C. C.; Sand, David J.; Donato, Davide; Corbet, Robin H. D.; Koeppe, Dana; Edwards, Philip G.; Stevens, Jamie; Petrov, Leonid; Salinas, Ricardo; Peacock, Mark; Finzell, Thomas; Reichart, Daniel E.; Haislip, Joshua B.

2015 **Photometric evolution and peculiar dust formation in the gamma-ray Nova Sco 2012 (V1324 Sco)**

Munari, U.; Walter, F. M.; Henden, A.; Dallaporta, S.; Finzell, T.; Chomiuk, L.

2013 **Signatures of Multiple Stellar Populations in Unresolved Extragalactic Globular/Young Massive Star Clusters)**

Peacock, Mark B.; Zepf, Stephen E.; Finzell, Thomas

Accepted Proposals

2016 **A Candidate Eccentric Redback Pulsar with an Unusually Massive Secondary, Green Bank Telescope**

McLaughlin, M., Finzell, T., Jones, M., Chomiuk, L., Strader, J., Swihart, S.

2015 **Imaging Shocks in Classical Novae, Very Large Array**

Linford, J., Chomiuk, L., Sokoloski, J., Mioduszewski, A., Rupen, M., Mukai, K., Finzell, T., Weston, J., Nelson, T.

2015 **Tempests, Not Bombs: The Complex Explosions of Novae, Very Large Array**

Linford, J., Chomiuk, L., Nelson, T., Rupen, M., Mukai, K., Sokoloski, J., Mioduszewski, A., Finzell, T., Weston, J.

2015 **Multi-wavelength Observations of Shocks in Classical Novae, Very Large Array**

Linford, J., Chomiuk, L., Nelson, T., Rupen, M., Mukai, K., Sokoloski, J., Mioduszewski, A., Finzell, T.

2014 **Searching For Radio Pulsations in the Fermi Source J0523.5-2529, Green Bank Telescope**

Finzell, T., Jones, M., Chomiuk, L., McLaughlin, M., Strader, J.

2014 **Time Variable Sodium Lines in V745 Sco: Heraldng the Progenitors of Type Ia Supernovae, Very Large Telescope**

Chomiuk, L., Finzell, T., Walter, F.