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📄 Publications 🔗 arXiv 📄 Zenodo 📞 0000-0003-3954-3291



🏛️ EDUCATION

2018 – 2024 **PhD in Astronomy & Astrophysics**, University of Toronto 🔗 Toronto, ON, Canada
2014 – 2018 **B.S. in Mathematical Physics and Astronomy**, Case Western Reserve University 🔗 Cleveland, OH, USA

🏢 SELECT PROFESSIONAL APPOINTMENTS

2024 – 2027 **Postdoctoral Associate**, MIT Kavli Institute for Astrophysics and Space Research 🔗 Cambridge, MA, USA
2021 – **Coordinator & Core Developer**, Astropy 🔗

📄 SELECT PUBLICATIONS

Students I supervised or advised: [undergraduate[†]](#), [graduate[†]](#).

1. Euclid Collaboration, **N. Starkman**, J. Nibauer, S. Pearson, **S. Wu[†]**, M. Walmsley, L. Necib, et al. *Euclid Quick Data Release (Q1): The geometry of dark matter halos from extragalactic streams*. Astronomy & Astrophysics [SUBMITTED](#) 🔗 ADS 🔗 arXiv:2606.21774
2. **C. Myers[†]**, **N. Starkman**, L. Necib. *Reconstructing Galactic Gravitational Potentials from Stellar Kinematics with Physics-Informed Neural Networks*. Monthly Notices of the Royal Astronomical Society [SUBMITTED](#) 🔗 ADS 🔗 arXiv:2606.18386 🔗
3. **S. Wu[†]**, **N. Starkman**, S. Pearson, J. Nibauer, J. Miro-Carretero, D. Martinez-Delgado. *Potamides: Mapping Dark Matter Halo Shapes from Stellar Stream Tracks in the Local Universe*. The Astrophysical Journal [ACCEPTED](#) 🔗 ADS 🔗 arXiv:2605.07809
4. **N. Starkman**, J. Nibauer, J. Bovy, J. Webb, K. Tavangar, A. Price-Whelan, et al. *Stream Members Only: Data-Driven Characterization of Stellar Streams with Mixture Density Networks*. The Astrophysical Journal 980, 253 📄 [10.3847/1538-4357/ad94f2](#) 🔗 ADS 🔗 arXiv:2311.16960 🔗📄
5. **N. Starkman**, J. Bovy, J. Webb, D. Calvetti, E. Somersalo. *On the fast track: Rapid construction of stellar stream paths*. Monthly Notices of the Royal Astronomical Society 522, 5022 📄 [10.1093/mnras/stad1166](#) 🔗 arXiv:2212.00949 🔗🔗🔗🔗📄

🏆 SELECT FELLOWSHIPS & AWARDS

Jan 2025 **AAS Lancelot M. Berkeley–New York Community Trust Prize**, American Astronomical Society 🔗
to the Astropy Collaboration
Feb 2024 **Brinson Prize Fellowship** 🔗
2020 – 2023 **NSERC - CGS D** 🔗
2018 – 2024 **University of Toronto Graduate Fellowship**, University of Toronto

🔗 SELECT SOFTWARE

potamides 📄 2026

Constrain gravitational potentials from stellar stream curvature

unxt 📄 2025 ⓘ

Units in JAX

galax ⓘ 📄

Galactic dynamics in JAX

coordinax ⓘ

Coordinates in JAX