

# Somayeh Khakpash

## CURRICULUM VITAE

Department of Physics, 307 Lewis Lab, 16 Memorial Drive East, Bethlehem, PA 18015  
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### Research interests

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Microlensing, Astronomical Data Science and Machine Learning, Lightcurve Classification, Stellar Astrophysics

### Education

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#### Lehigh University

Ph.D. Physics 2017- present

M.S. Physics 2015- 2016

Advisor : Professor Joshua Pepper

#### Sharif University of Technology

B.A. Physics 2010-2015

### Skills

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**Programming Software:** Python, C++, MATLAB, LaTeX

**Professional Packages:** Astropy, Scipy, George, AstroML, scikit-learn, Glue, Bokeh, ParaView

### Awards and Honors

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- AAS FAMOUS Travel Grant, Jan 2019
- LSSTC Data Science Fellowship Program 2017-2019
- Lehigh University, College of Arts and Sciences Dean's Summer Fellowship 2017

### Refereed Publications

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1. **Khakpash, S.**, Penny, M. and Pepper, J., 2019. "A Fast Approximate Approach to Microlensing Survey Analysis". *The Astronomical Journal*, 158(1), p.9.
2. Johns, D., Reed, P., Rodriguez, J., Pepper, J., 2019, including **Khakpash, S.** "KELT-23b: A Hot Jupiter Transiting a Near-Solar Twin Close to the TESS and JWST Continuous Viewing Zones". *The Astronomical Journal*, 158(2), p.14.

### In Preparation and submitted

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1. **Khakpash, S.**, Penny, M., Pepper, J., Street, R. and Gaudi, S., 2019 "Classifying High-cadence Microlensing Lightcurves"
2. Rodriguez, J.E., Eastman, J.D., Zhou, G., Quinn, 2019, including **Khakpash, S.** "KELT-24b: A 5M<sub>J</sub> Planet on a 5.6 day Well-Aligned Orbit around the Young V= 8.3 F-star HD 93148". *arXiv preprint arXiv:1906.03276*.

### White Papers

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1. Street, R.A., Lund, M.B., Donachie, M., **Khakpash, S.**, 2018. "Unique Science from a Coordinated LSST-WFIRST Survey of the Galactic Bulge". *arXiv preprint arXiv:1812.04445*
2. Street, R.A., Lund, M.B., **Khakpash, S.**, Donachie, 2018. "The Diverse Science Return from a Wide-Area Survey of the Galactic Plane". *arXiv preprint arXiv:1812.03137*.

## Attended Conferences and Workshops

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- LSST TVS-SMWLV Workshop, Oct 2019, Newark, DE
- Central Pennsylvania Consortium Conference, Apr 2019, Gettysburg, PA
- International Microlensing Conference, Jan 2019, Nashville, TN
- American Astronomical Society Meeting, Jan 2019, Seattle, WA
- American Astronomical Society Meeting, Jan 2018, Washington DC
- LSST Transients and Variable Stars Science Collaboration Workshop, Jun 2018, Bethlehem, PA
- Sagan Exoplanet Workshop: Microlensing in the Era of WFIRST, Aug 2017, Pasadena, CA
- KELT Workshop, Jun 2017, Bethlehem, PA
- KELT Workshop, Aug 2016, Nashville, TN
- Astrophily Conference, Aug 2016, Philadelphia, PA
- Astronomy Summer School, Aug 2013, Karaj, Iran

## Contributed Talks and Posters

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- **Talk** at LSST TVS-SMWLV Workshop, Oct 2019, Newark, DE
- **Talk** at Central Pennsylvania Consortium Conference, Apr 2019, Gettysburg, PA
- **Talk** at International Microlensing Conference, Jan 2019, Nashville, TN
- **Talk** at American Astronomical Society Conference, Jan 2019, Seattle, WA
- **Poster** at American Astronomical Society Conference, Jan 2018, Washington DC
- **Talk** at KELT Workshop, Aug 2016, Nashville, TN

## Invited Talks

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- Pennsylvania State University, Oct 2019, State Collage, PA
- The Lehigh Valley Amateur Astronomical Society (LVAAS), Mar 2019, Allentown, PA

## Teaching Experience

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- Co-teaching “Modern Astrophysics II” with professor Joshua Pepper, Spring 2019
- Teaching assistant for “Introduction to Astronomy”, Fall 2018
- Physics Lab I, Fall 2015 & 2016 & 2019, Spring 2019
- Physics Lab II, Spring 2017 & 2018
- Concepts in Physics Lab, Spring 2016