Ellen M. Price

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Appointments

University of Chicago, Chicago, IL, USA — Sep 2021 – present
51 Pegasi b Postdoctoral Fellow

Awards

Eric R. Keto Prize for Graduate Students in Theoretical Astrophysics — May 2021
Best thesis in theoretical astrophysics by a student at the Center for Astrophysics

Education

Harvard University, Cambridge, MA, USA — May 2021
Doctor of Philosophy in Astronomy and Astrophysics

Harvard University, Cambridge, MA, USA — May 2018
Master of Arts in Astronomy and Astrophysics

California Institute of Technology, Pasadena, CA, USA — June 2015
Bachelor of Science in Astrophysics
Graduation with Honor

Research Experience

Lawrence Livermore National Laboratory HEDP internship — 2019
Summer internship studying neutron statistics with kernel density estimation

Harvard University, graduate researcher — 2015 – 2021
Research combining chemistry and dynamics in protoplanetary disks

Space Telescope Science Institute summer intern — 2014
Summer internship optimizing the `cloud-kepler` *software*

Caltech Carolyn Ash SURF Fellow — 2013
Summer internship studying Kepler Objects of Interest orbiting A stars

Caltech Robert and Delpha Noland Summer Fellow — 2012
Summer internship at NASA Marshall Space Flight Center studying cosmic ray transport

Relevant Skills

Proficient in C, C++, Python, and LaTeX

Proficient in symbolic computation with SymPy and *Mathematica*

Moderate experience with MPI, OpenMP, TBB, and ISPC parallelization tools

Some experience with high-performance computing (Chicago Midway cluster)

Moderate experience with git version control

Extensive scientific visualization

Open Source Software and Contributions

benzaiten: Automatic differentiation of abstract functions in C++20

`cloud-kepler`: Pipeline for processing *Kepler* lightcurves and search for signals of planets/flares

First-Author Publications

1. **Price, E. M.**, Cleeves, L. I., Bodewits, D., and Öberg, K. I. (2021). Ice-coated Pebble Drift as a Possible Explanation for Peculiar Cometary CO/H_2O Ratios. ApJ, 913, 9. https://iopscience.iop.org/article/10.3847/1538-4357/abf041
2. **Price, E. M.** and Rogers, L. A. (2020). Tidally-Distorted, Iron-Enhanced Exoplanets Closely Orbiting Their Stars. ApJ, 894, 1. https://iopscience.iop.org/article/10.3847/1538-4357/ab7c67
3. **Price, E. M.**, Cleeves, L. I., and Öberg, K. I. (2020). Chemistry Along Accretion Streams in a Viscously Evolving Protoplanetary Disk. ApJ, 890, 154. https://iopscience.iop.org/article/10.3847/1538-4357/ab5fd4
4. **Price, E. M.**, Rogers, L. A., Johnson, J. A., and Dawson, R. I. (2015). How Low Can You Go? The Photoeccentric Effect for Planets of Various Sizes. ApJ, 799, 17. http://iopscience.iop.org/0004-637X/799/1/17
5. **Price, E. M.** and Rogers, L. A. (2014). Transit Light Curves with Finite Integration Time: Fisher Information Analysis. ApJ, 794, 92. http://iopscience.iop.org/0004-637X/794/1/92

Selected Presentations

1. **Price, E. M.**, Rogers, L. A. (2020). Tidally Distorted, Iron-enhanced Exoplanets Closely Orbiting Their Stars. Contributed poster at the Exoplanets III conference.
2. **Price, E. M.**, Cleeves, L. I., Öberg, K. I. (2020). Chemistry Along Accretion Streams in Protoplanetary Disks. Contributed talk at the Astrochemical Frontiers conference.
3. **Price, E. M.**, Cleeves, L. I., Öberg, K. I. (2019). Applications of PETSc to Open Questions in Planet Formation Theory. Invited talk at the PETSc User Meeting 2019.
4. **Price, E. M.**, Cleeves, L. I., Öberg, K. I. (2018). Coupling Dynamics and Chemistry in Viscously-Evolving, Accreting Protoplanetary Disks. Poster presentation at the Astrochemistry: Past, Present, and Future conference hosted by the California Institute of Technology.
5. **Price, E. M.**, Cleeves, L. I., and Öberg, K. I. (2017). Coupling Dynamics and Chemistry in Viscously-Evolving, Accreting Protoplanetary Disks. Poster presentation at the GRC Origins of Solar Systems conference hosted by Mount Holyoke College.
6. **Price, E. M.**, Cleeves, L. I., and Öberg, K. I. (2017). Coupling Dynamics and Chemistry in Accreting Protoplanetary Disks. Poster presentation at the 332nd International Astronomical Union Symposium in Puerto Varas, Chile.
7. **Price, E. M.**, Rogers, L. A., Johnson, J. A., Shporer, A., Morton, T., Crepp, J. R., Swift, J., Muirhead, P. S. (2015). Characterizing the "Hot" Kepler Objects of Interest. Poster presentation at the 225th American Astronomical Society Meeting in Seattle, WA.
8. **Price, E. M.**, Rogers, L. A., Johnson, J. A., and Dawson, R. I. (2014). How Low Can You Go? The Photoeccentric Effect for Planets of Various Sizes. Poster presentation at the 223rd American Astronomical Society Meeting in Washington, DC.
9. **Price, E. M.**, Rogers, L. A., Shporer, A., Morton, T., Crepp, J. R., Swift, J., Muirhead, P. S., Johnson, J. A. (2013). Characterizing the "Hot" Kepler Objects of Interest. Poster presentation at the *Kepler* Science Conference II at Ames Research Center.

Teaching and Leadership

Teaching Fellow, ASTRON218: Radio Astronomy	Harvard, Fall 2017
Teaching Fellow, ASTRON16: Stellar and Planetary Astronomy	Harvard, Spring 2017
Head Teaching Assistant, CS2: Introduction to Programming Methods	Caltech, Winter 2015
Head Teaching Assistant, CS2: Introduction to Programming Methods	Caltech, Winter 2014
Teaching Assistant, CS2: Introduction to Programming Methods	Caltech, Winter 2013