Kyle Conroy

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Web Version

Positions

Sept 2021 - Present	Senior Software Engineer | Space Telescope Science Institute
Aug 2019 - June 2021	Adjunct Professor | Villanova University
June 2018 - Sep 2021	Postdoctoral Researcher | Villanova University

Education

May 2018	PhD in Physics, **Vanderbilt University** Nasvhille, TN | Advisors: Keivan Stassun & Andrej Prša Dissertation: *Astrophysics of Stellar Multiple Systems*
May 2011	BS in Astronomy and Astrophysics, **Villanova University** Villanova, PA | Advisor: Andrej Prša | Minor: Physics

Teaching Positions

Fall 2019 - Current	Adjunct Professor | Villanova University Taught physics for engineers and biomedical and astronomy for liberal arts lab sessions
Spring 2018, 2012	Teaching Assistant | Villanova University Graded and helped teach the senior-level capstone course 'Modeling Analysis'
Jan 2014, June 2015	Internship Sponsor | Vanderbilt University Hosted high-school students for 6-week internships
Spring 2015	Contributing Lecturer | Vanderbilt University Planned and cotaught a freshman "Commons Seminar" on exoplanets
Aug 2013 - June 2014	Graduate Teaching Assistant | Vanderbilt University Intro Nighttime Astronomy Lab - helped create labs and taught the lab
Fall 2008 - 2010	Undergraduate Teaching Assistant | Villanova University Co-taught and graded labs for AST 1073 Stellar Lab

Research Positions

June 2018 - Current	Astronomy Post-Doc Researcher | Villanova University
Nov 2016 - May 2018	Research Technician | Villanova University Dr Andrej Prša
June 2012 - May 2018	Graduate Research Assistant | Vanderbilt University Dr Keivan Stassun
Aug 2011 - June 2012	Research Consultant | Villanova University Dr Andrej Prša
Summer 2011	Research Associate | Pennsylvania State University Dr Richard Wade
Summer 2010	SARA NSF REU Intern | Butler University Dr Brian Murphy
Feb 2008 - June 2011	Undergraduate Research Assistant | Villanova University Dr Edward Guinan and Dr Andrej Prša

Observing Experience

May 2015	Arranged world-wide photometric follow-up campaign for triple eclipse event of KIC 2835289
Summer 2012	Mayall 4-m at KPNO
Summer 2010	SARA 0.9-m at KPNO and remotely at CTIO

Selected Publications

Conroy, K.E., Kochoska, A., et al. 2020, **ApJS**, 250, 2.
Physics of Eclipsing Binaries. V. General Framework for Solving the Inverse Problem

Jones, D.; **Conroy, K. E.**, Horvat, M.; et al. 2020, **ApJS**, 247, 63.
Physics of Eclipsing Binaries. IV. The Impact of Interstellar Extinction on the Light Curves of Eclipsing Binaries

Horvat, M., **Conroy, K. E.**, Pablo, H., et al. 2018, **ApJS**, 237, 26.
Physics of Eclipsing Binaries. III. Spin-Orbit Misalignment

Conroy, K. E., Prša, A., Horvat, M., Stassun K.G., 2016, **ApJ**, 854, 163.
The Effects of Barycentric and Asymmetric Transverse Velocities on Eclipse and Transit Times

Prša, A., **Conroy, K. E.**, Horvat, M., et al. 2016, **ApJS**, 227, 29.
Physics of Eclipsing Binaries. II. Toward the Increased Model Fidelity

Abdul-Masih, M., Prša, A., **Conroy, K.**, et al. 2016, **AJ**, 151, 101.
Kepler Eclipsing Binary Stars. VIII. Identification of False Positive Eclipsing Binaries and Re-extraction of New Light Curves

Kirk, B., **Conroy, K.**, Prša, A., et al. 2016, **AJ**, 151, 68.
Kepler Eclipsing Binary Stars. VII. The Catalog of Eclipsing Binaries Found in the Entire Kepler Data-Set

Conroy, K. E., Prša, A., Stassun, K. G., et al. 2014, **PASP**, 126, 914.
Kepler Eclipsing Binary Stars. V. Identification of 31 Candidate Eclipsing Binaries in the K2 Engineering Dataset

Conroy, K. E., Prša, A., Stassun, K. G., et al. 2014, **AJ**, 147, 45.

Kepler Eclipsing Binary Stars. IV. Precise Eclipse Times for Close Binaries and Identification of Candidate Three-body Systems

Slawson, R. W., Prša, A., Welsh, W. F., ..., **Conroy, K. E.** 2011, **AJ**, 142, 160.
Kepler Eclipsing Binary Stars. II. 2165 Eclipsing Binaries in the Second Data Release

Prša, A., Batalha, N., Slawson, R. W., .., **Conroy, K. E.** 2011, **AJ**, 141, 83.
Kepler Eclipsing Binary Stars. I. Catalog and Principal Characterization of 1879 Eclipsing Binaries in the First Data Release

Contributed Publications

Abdul-Masih, M.; Sana, H.; **Conroy, K. E.**; et al. 2020, **A&A**, 636, A59.
Spectroscopic patch model for massive stars using PHOEBE II and FASTWIND

LaCourse, D. M., Jek, K. J., Jacobs, T. L., ..., **Conroy, K. E.** 2015, **MNRAS**, 452, 3561.
Kepler Eclipsing Binary Stars. VI. Identification of Eclipsing Binaries in the K2 Campaign 0 Data-set

Hambleton, K. M., Kurtz, D. W., Prša, A., ..., **Conroy, K. E.** 2013, **MNRAS**, 434, 925.
KIC 4544587: an eccentric, short-period binary system with δ Sct pulsations and tidally excited modes

Oral Presentations

Conroy, K. E. 2020, Contributions of the Astronomical Observatory Skalnaté Pleso, 50, 530
Upcoming support for triple stellar systems in PHOEBE

Conroy, K. E. 2016, Hotwiring the Transient Universe V., Villanova University
Model-Centric All-Sky EB Catalog: collaborative open-science and optimizing follow-up efforts

Conroy, K. E. 2016, Binary Stars in Cambridge, University of Cambridge
Modeling Triple Star Systems in PHOEBE 2.0

Conroy, K. E., Prša, A., & Stassun, K. 2015, AAS Meeting Abstracts, 225, #415.06.
A Triple Eclipsing System as a Test Case for Close Binary Formation Through Kozai Cycles

Conroy, K. E., Prša, A., Stassun, K. 2015, ASP Conference Series, 496, 99C
A Triple Eclipsing System as a Test Case for Close Binary Formation Through Kozai Cycles

Conroy, K., Degroote, P., Hambleton, K., et al. 2013, EAS Publications Series, 64, 295.
PHOEBE 2.0 - Triple and Multiple Systems

Conroy, K. E., Prša, A., Orosz, J., et al. 2012, AAS Meeting Abstracts 220, #406.03.
Eclipse Timing Variations of Short-Period Binaries in the Kepler Field

Poster Presentations

Conroy. K. E., Jones, D.; Horvat, M.; Pablo, H.; Kochoska, A.; Giammarco, J.; Prsa, A. 2020, AAS Meeting Abstracts 235, #114.05.
New Physics and Features in the 2.2 Release of the PHOEBE Eclipsing Binary Modeling Code

Conroy, K., Horvat, M., Hambleton, K., Kochoska, A., Giammarco, J., Prša, A. 2019, AAS Meeting Abstracts 233, #348.27.
Considerations and Design Principles for the 2.1 Release of the PHOEBE Eclipsing Binary Modeling Code

Conroy, K., Prša A., Horvat, M., Stassun K. 2018, AAS Meeting Abstracts, 231, #244.25.
The Effect of Transverse Motion on Eclipse and Transit Times

Conroy, K. E., Prša, A., Horvat, M., & Stassun, K. 2016, AAS Meeting Abstracts, 229, #344.22.
Robust Modeling of Stellar Triples in PHOEBE

Conroy, K. E., Prša, A., & Stassun, K. 2014, AAS Meeting Abstracts, 223, #155.20.
A Triple Eclipsing System as a Test Case for Close Binary Formation Through Kozai Cycles

Conroy, K. E., Darragh, A. N., Liu, Z. J., & Murphy, B. W. 2011, Bulletin of the AAS, 43, #152.18.
Variable Stars in the Globular Cluster M14

Conroy, K., Engle, S., Ballouz, R., & Prša, A. 2010, Bulletin of the AAS, 42, #419.36.
Surface Activity Analysis of the Eclipsing Binary UV Leonis Based On New Spectrophotometric Data

Invited Talks

August 2020	Invited Summer School Tutor ERASMUS GATE Summer School
July 2020	Invited Colloquium Speaker Radboud University, Nijmegen
October 2019	Invited Speaker University of Liege, Belgium
Summer 2018, 2019, 2021	Co-Lead Workshops, including giving tutorials and talks PHOEBE Workshop | Villanova University
December 2017	Invited Colloquium Speaker Department of Mathematics and Physics | Ljubljana University, Slovenia
April 2015	Invited to lead workshop on using PHOEBE Space-Inn Workshop | KU Leuven, Belgium

Code Products

Data Analysis Tools at Space Telescope	Software Engineer contributing to multiple software repositories, including: github.com/spacetelescope/jdaviz github.com/spacetelescope/lcviz github.com/astropy/specreduce
PHOEBE	Lead developer (Python package, web UI, desktop UI) github.com/phoebe-project
PHOEBE Website	Author and maintainer of PHOEBE website phoebe-project.org
`distl`	Author and maintainer of `distl` python distributions package github.com/kecnry/distl
`crimpl`	Author and maintainer of `crimpl` python compute resource management package github.com/kecnry/crimpl
`autofig`	Author and maintainer of `autofig` python plotting package github.com/kecnry/autofig
`nparray`	Author and maintainer of `nparray` python package github.com/kecnry/nparray
KeplerEBs Website	Author and maintainer of Kepler Eclipsing Binaries web portal keplerEBs.villanova.edu

Professional Development

Refereed Articles	Astronomical/Astrophysical Journal (9), Astronomy & Astrophysics (3), Monthly Notices of the Royal Astronomical Society (9), Publications of the Astronomical Society of the Pacific (2), Publications of the Astronomical Society of Japan (3), Information Bulletin on Variable Stars (1), MDPI Data (1), MDPI Galaxies (1), Astrophysics & Space Science (1), New Astronomy (2), Open Astronomy (1), Serbian Astronomical Journal (1)
Grant Review Panels	NSF AAG (1), NASA ROSES FINESST (1)
Scientific Organizing Committees	Universe of Binaries | Telč, Czech Republic | September 2019
Local Organizing Committees	PHOEBE Workshop | Villanova University | June-July 2021 PHOEBE Workshop | Villanova University | July 2019 PHOEBE Workshop | Villanova University | June 2018
Summer 2015	Started departmental AstroHacks | Vanderbilt University weekly meetings to work on collaborative code projects (GitHub repository)

Memberships

2025 - Present	Astropy Voting Member
2020 - Present	TESS Eclipsing Binary Collaboration | Member
2011 - 2016	Kepler Eclipsing Binary Working Group | Member
2010 - Present	American Astronomical Society | Junior Member
2010 - Present	Society of Physics Students | Member

Fellowships & Awards

2015 - 2018	NASA NESSF Graduate Fellowship Recipient
May 2011	Gregor Mendel Dean's Award – Academic Excellence in the Sciences
May 2010	Sigma Pi Sigma – Physics National Honor Society
April 2010	Barry M Goldwater Honorable Mention
Oct 2008 - Dec 2009	NASA International Year of Astronomy Student Ambassador for PA