

Curriculum Vitae
Shea C. Garrison-Kimmel

Postdoctoral Scholar
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Professional Appointments

- Postdoctoral Scholar, California Institute of Technology *August 2018 - present*
- Einstein Fellow, California Institute of Technology *August 2015 - August 2018*

Education

- Ph.D. in Physics and Astronomy, University of California, Irvine *Awarded June 2015*
- M.S. in Physics and Astronomy, University of California, Irvine *Awarded Dec 2010*
- B.S. in Physics and Astronomy, concentration in Computer Science, Haverford College *Awarded May 2009*

Fellowships and Awards

- Einstein Postdoctoral Fellowship, NASA *Awarded July 2015*
- Chancellor's Club Dissertation Fellowship, University of California, Irvine *Awarded Dec 2014*
- Price Prize, Ohio State University *Awarded July 2014*
- Chancellor's Fellowship, University of California, Irvine *Awarded Feb 2009*
- Summer Research Fellowship, University of California, Irvine *Awarded Feb 2009*

Research Interests

Galaxy formation and theoretical cosmology, such as:

- Placing the Milky Way in its proper cosmological context as a member of the Local Group
- Numerical simulations of structure formation on both large and small scales
- Constraining the behavior of dark matter by comparing with local galactic properties
- The impact of environment on dwarf galaxy evolution
- The formation and evolution of the smallest galaxies in the Universe
- Comparing theoretical predictions with observational data to constrain baryonic processes
- Using gravitational wave observations to probe galaxy formation and binary star evolution

Professional Service

- Created and organized inaugural GalFRESCA workshop *Summer 2016*
- Co-organized second and third annual GalFRESCA workshops *Summer 2017, 2018*
- Twice served on NASA Astrophysics Theory Program grant review panel

Teaching and Mentoring

Teaching experience

- University of California, Irvine, Teaching Assistant *Sept 2009 - June 2010 and March 2014 - June 2014*
- California State Summer School for Mathematics and Science, Teaching Assistant *July 2010, 2011, and 2012*
- Haverford College, Physics Clinic Tutor *Feb 2007 - May 2009*

Mentoring and Advising Experience

- Mentored Jaspreet Lally, then a rising junior at University of California, Irvine, on how to run and analyze simulations of dwarf galaxies in isolation with a time varying potential to search for core formation, resulting in an authorship on Garrison-Kimmel et al., 2013. Jaspreet successfully graduated the following year.
- Mentored Kyle Lee, then a sophomore at Chapman University, on how to set up, simulate, and analyze cosmological simulations, resulting in an authorship on Garrison-Kimmel et al., 2014 and helping to secure his current position in a Ph.D. program at Stony Brook University.
- Mentored Emma Bardwell, then a rising sophomore at Case Western University, on a project exploring the relationship between halo mass and galaxy stellar mass, and the impact of scatter in that relation, resulting in an authorship on Garrison-Kimmel et al., 2016.
- Mentored Kris Burke, then a senior at University of California, Irvine, on simulating the cosmological evolution of galaxies with a central potential to explore the impact of the Milky Way disk on the substructure population with minimal CPU cost, resulting in an authorship on a paper in preparation. Kris has since continued into a M.Sc. program at Texas A&M.
- Aided Dr. Astrid Lamberts in mentoring the summer research of Kaliden Drango, then an entering undergraduate at Caltech who built the initial machinery for applying binary population synthesis models to the FIRE simulations to make gravitational wave predictions.
- Currently co-advising Ivanna Escala, a graduate student at Caltech, on a study comparing galactic evolution as inferred from one-zone chemical evolution models applied to simulated dwarf galaxies to the actual evolution of those dwarfs.

References

Philip F. Hopkins*

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Postdoc advisor

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