

# Zhuo Chen

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<b>EDUCATION</b>	<b>University of Rochester</b> , Rochester, New York, USA	
	▪ Ph.D. in Astronomy	Jan 2014 – Aug 2018
	• Thesis: Evolution of low-mass symbiotic binaries	
	• Advisor: Prof. Adam Frank & Prof. Eric G. Blackman	
	• Focus: Radiation transfer, hydrodynamics, equation of state	
	▪ M.A. in Physics	Jan 2014 – Mar 2016
	▪ M.Sc. in Mechanical Engineering	Aug 2012 – Mar 2014
	• Focus: GPU Poisson solver (using C++)	
	<b>Tongji University</b> , Shanghai, China	
	▪ B.Sc. in Engineering Mechanics	Sep 2007 – Jul 2012
<b>ACADEMIC INTERESTS</b>	Radiation-hydrodynamics, equation of state, magnetohydrodynamics, stellar evolution, high performance computing	
<b>EMPLOYMENT</b>	CITA National Postdoctoral Fellow at the University of Alberta	Sep 2018 – Sep 2020
<b>AWARDS &amp; SCHOLARSHIPS</b>	▪ Horton Fellowship, University of Rochester	2014 – 2018
	▪ Travel grant, IAUS323 “Planetary Nebulae”	Oct 2016
	▪ Best student presentation award, IAUS323 “Planetary Nebulae”	Oct 2016
	▪ Tsung-Dao Lee Visiting Scholarship	Dec 2019
<b>PROFESSIONAL SERVICE</b>	▪ Reviewer of <i>Astronomy &amp; Astrophysics</i>	2017 – Present
<b>TEACHING EXPERIENCE</b>	▪ TA in electromagnetic theory, University of Rochester	2014
	▪ TA in statistical mechanics, University of Rochester	2015
<b>CO-PI</b>	▪ Hubble Space Telescope Cycle 25 Unveiling hidden companions in post-AGB stars: 3D simulations of evolved star binaries	2017 – 2020
<b>TALKS</b>	▪ Columbia University, USA	Sep 2017
	▪ Max Planck Institute for Astrophysics, Germany	Jan 2018
	▪ Canadian Institute for Theoretical Astrophysics, Canada	Apr 2019
	▪ Tsinghua University, China	Jun 2019
	▪ Kavli Institute for Astronomy and Astrophysics, China	Jun 2019
<b>PRESENTATIONS IN CONFERENCES</b>	▪ Poster presentation, “Mass transfer and disc formation in AGB binary systems”, Peking University, China	Oct 2016
	▪ Oral presentation “Wind-accelerated orbital evolution in binary systems with giant stars”, HongKong, China	Dec 2017
	▪ Oral presentation “On the variability and dust-driven winds of AGB stars”, Center for Computational Astrophysics, USA	May 2019
<b>SKILLS</b>	▪ Fortran, C, C++, MPI 3.0, OpenMP, Python, Visit, HDF5	

## PUBLICATIONS

### JOURNALS (FIRST AND SECOND AUTHOR)

- [1] Zhuo Chen, Adam Frank, Eric G. Blackman, and Jason Nordhaus, “The creation of AGB fallback shells”, *MNRAS*, vol. 457, issue. 3, pp. 3219–3224, Apr 2016.
- [2] Zhuo Chen, Jason Nordhaus, Adam Frank, Eric G. Blackman, and Bruce Balick, “Three-dimensional hydrodynamic simulations of L2 Puppis”, *MNRAS*, vol. 460, issue. 4, pp. 4182–4187, Aug 2016.
- [3] \*Zhuo Chen, Adam Frank, Eric G. Blackman, Jason Nordhaus, and Jonathan Carroll-Nellenback, “Mass transfer and disc formation in AGB binary systems”, *MNRAS*, vol. 468, issue. 4, pp. 4465–4477, Jul 2017.
- [4] Zhuo Chen, Eric G. Blackman, Jason Nordhaus, Adam Frank, and Jonathan Carroll-Nellenback, “Wind-accelerated orbital evolution in binary systems with giant stars”, *MNRAS*, vol. 473, issue 1, pp. 747–756, Jan 2018.
- [5] Adam Frank, Zhuo Chen, Thomas Reichardt, Orsola De Marco; Eric G. Blackman, Jason Nordhaus, “Planetary Nebulae Shaped by Common Envelope Evolution”, *Galaxies*, vol. 6, issue 4, pp. 113, Oct 2018.
- [6] \*Zhuo Chen, Matthew S.B. Coleman, Eric G. Blackman, and Adam Frank, “Solving the Riemann problem for realistic astrophysical fluids”, *Journal of Computational Physics*, vol. 388, pp. 490–517, Jul 2019.
- [7] \*Zhuo Chen, Natalia Ivanova, and Jonathan Carroll-Nellenback, “A 3D radiation-hydrodynamic AGB binary model”, *The Astrophysical Journal*, vol. 892 pp. 110 Apr 2020.

### JOURNALS (CONTRIBUTE AUTHOR)

- [1] “Accretion in common envelope evolution”, *MNRAS*, vol. 480, issue. 2, pp. 1898–1911, Oct 2018.
- [2] “Hydrodynamic simulations of disrupted planetary accretion discs inside the core of an AGB star”, *MNRAS*, accepted, Sep 2018.

### CONFERENCES

- [1] Zhuo Chen, Adam Frank, Eric G. Blackman, Jason Nordhaus and Jonathan Carroll-Nellenback, “Mass transfer in asymptotic-giant-branch binary systems,” in *Proceedings of the International Astronomical Union*, Beijing, China, Oct 2016.

[CV compiled on 2020-07-28]