

Jeremy L. Smallwood

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Employment

Dodge Family Prize Fellowship in Astrophysics University of Oklahoma, Norman, OK, USA	[2024 – Present]
ASIAA Distinguished Postdoctoral Fellowship Academia Sinica Institute of Astronomy and Astrophysics, Taipei, Taiwan	[2022 – 2024]
CASPER Postdoctoral Fellow Baylor University, Waco, Texas, USA	[2021 – 2022]
NCTS Prize Postdoctoral Fellowship National Center for Theoretical Science Physics Division, Taiwan	[2021]

Education

PhD in Astronomy University of Nevada, Las Vegas Supervised by Professor Rebecca Martin	[2017 – 2021]
MS in Astronomy University of Nevada, Las Vegas	[2015 – 2017]
BA Astrophysics Baylor University, Waco, Texas	[2010 – 2015]

Publications

Total Refereed: 22; 1st-authored: 18; Citations: 301; h-index: 9; i10-index: 9. Statistics from [ADS](#).

1st-authored

22. Shedding light on the origin of the broken misaligned circumtriple disk around GW Ori
Smallwood J. L., Lubow H. S., Martin R. G., ApJL, Accepted, [ADS](#)
21. Circumbinary accretion as a diagnostic for binary–disc misalignment
Smallwood J. L., Li Y-P., Deng H., Franchini A., MNRAS, Accepted, [ADS](#)
20. Observational Signatures of Dust Traffic Jams in Polar-aligning Circumbinary Disks
Smallwood J. L., Nealon R., Yen H-W., Pinte C., Longarini C., Aly H., Lin M-K., ApJL, 976, L23, [ADS](#)
19. Polar alignment of a dusty circumbinary disc – II. Application to 99 Herculis
Smallwood J. L., Lin M-K., Nealon R., Aly H., Longarini C., 2024, MNRAS, 534, 4018, [ADS](#)
18. Polar alignment of a dusty circumbinary disc – I. Dust ring formation
Smallwood J. L., Lin M-K., Aly H., Nealon R., Longarini C., 2024, MNRAS, 532, 1068, [ADS](#)
17. Formation of misaligned second-generation discs through flyby encounters
Smallwood J. L., Nealon R., Cuello N., Dong R., Booth R. A., 2024, MNRAS, 527, 2094, [ADS](#)
16. Formation of the warped debris disc around β Pictoris
Smallwood J. L., 2023, MNRAS, 523, 3526, [ADS](#)

15. Exciting spiral arms in protoplanetary discs from flybys
Smallwood J. L., Yang C-C., Zhu Z., Martin R. G., Dong R., Cuello N., Isella A., 2023, MNRAS, 521, 3500, [ADS](#)
14. Formation of polar circumstellar discs in binary star systems
Smallwood J. L., Martin R. G., Lubow H. S., 2023 MNRAS, 520, 2952, [ADS](#)
13. Accretion onto a binary from a polar circumbinary disc
Smallwood J. L., Lubow H. S., Martin R. G., 2022, MNRAS, 514, 1249, [ADS](#)
12. GW Ori: circumtriple rings and planets
Smallwood J. L., Nealon R., Chen C., Martin R. G., Bi J., Dong R., Pinte C., 2021, MNRAS, 508, 392, [ADS](#)
11. On the role of resonances in polluting white dwarfs by asteroids
Smallwood J. L., Martin R. G., Livio M., Veras D., 2021, MNRAS, 504, 3375, [ADS](#)
10. Sustained Kozai-Lidov oscillations in misaligned circumstellar gas discs
Smallwood J. L., Martin R. G., Lubow H. S., 2021, ApJ, 907, L14, [ADS](#)
9. Formation of the polar debris disc around 99 Herculis
Smallwood J. L., Franchini A., Chen C., Becerril E., Lubow S. H., Yang C-C., Martin R. G., MNRAS, 2020, MNRAS, 494, 487, [ADS](#)
8. Alignment of a circumbinary disc around an eccentric binary with application to KH 15D
Smallwood J. L., Lubow S. H., Franchini A., Martin R. G., 2019, MNRAS, 486, 2919, [ADS](#)
7. Investigation of the asteroid collision model for the repeating fast radio bursts
Smallwood J. L., Martin R. G., Zhang B., 2019, MNRAS, 485, 1367, [ADS](#)
6. White dwarf pollution by asteroids from secular resonances
Smallwood J. L., Martin R. G., Livio M., Lubow S. H., 2018, MNRAS, 480, 57, [ADS](#)
5. Asteroid impacts on terrestrial planets: The effects of super-Earths and the role of the ν_6 resonance
Smallwood J. L., Martin R. G., Lepp S., Livio M., 2018, MNRAS, 473, 295, [ADS](#)

co-authored

4. Polar alignment of a massive retrograde circumbinary disc around an eccentric binary
Abod C., Chen C., **Smallwood J. L.** et al., 2022, MNRAS, 517, 732, [ADS](#)
3. GW Ori: interactions between a triple-star system and its circumtriple disk in action
Bi J., van der Marel N., Dong R., Muto T., Martin R. G., **Smallwood J. L.** et al., 2020, ApJ, 895, L18, [ADS](#)
2. Asteroid belt survival through stellar evolution: dependence on the stellar mass
Martin R. G., Livio M., **Smallwood J. L.**, Chen C., 2020, MNRAS, 494, L17, [ADS](#)
1. Late delivery of nitrogen to Earth
Chen C., **Smallwood J. L.**, Martin R. G., Livio M., 2019, AJ, 157, 80, [ADS](#)

Awards and Grants

Dodge Family Price Fellowship in Astrophysics	[2024-present]
Poster Award at "Postdoc Research & Scholarly Activity Day", University of Oklahoma	[2025]
Poster Award at "DISC Inaugural Data Science Symposium", University of Oklahoma	[2025]
DISC Postdoctoral Fellowship, University of Oklahoma	[2024-2025]
Taiwan Outstanding Postdoctoral Fellowship Award	[2023]
Academia Sinica Travel Grant	[2023]
UNLV Outstanding STEM Dissertation Award	[2022]

UNLV Research Assistant Fellowship	[2021]
UNLV Graduate Assistant Fellowship	[2016 – 2021]
UNLV Golden Medallion Award	[2021]
UNLV Summer Research Scholarship	[2020]
UNLV Graduate Showcase Award	[2020]
Wolzinger Family Science Research Fellowship	[2019-2020]
NASA Nevada Space Grant Consortium Fellowship	[2017 – 2018]
UNLV Outstanding STEM Thesis Award	[2018]
Baylor University NSF Summer Research Fellowship	[2014]

Teaching Experience

Instructor for ASTR 1523 (Life in the Universe), OU	[2025]
Astronomy Lab Instructor, UNLV	[2016 – 2021]
Guest Lecturer of Introductory Astronomy: the Solar System, UNLV	[2017]
Teaching Assistant for Astronomy Laboratory, Baylor Uni.	[2015]
Teaching Assistant for Physics of Sound and Acoustics Laboratory, Baylor Uni.	[2015]
Teaching Assistant for Partial Differential Equations, Baylor Uni.	[2014]
Supplemental Instructor in Chemistry, Baylor Uni.	[2012 – 2013]

Academic Service

Peer review referee for <i>ApJ</i> , <i>MNRAS</i> , <i>Nature Astronomy</i> , <i>PSJ</i> , and <i>A&A</i>	[2019 – Present]
Session chair for Architectures 2 at Exoplanets IV	[2022]

Mentorship and Departmental Activities

Mentoring three students from the "Summer School for Planet Formation and Protoplanetary Disks" (China Center of Advanced Science and Technology)	[2024 – Present]
<ul style="list-style-type: none"> • Ruiqi Yang – "Circumbinary accretion onto unequal mass binary star systems" • Ho Wan Cheng – "The growth of inclined planetary systems" • Zhizhen Qin – "Fast radio bursts from asteroid-Neutron star collisions from the KL instability" 	
Mentoring a student from the ASIAA Summer Student Program	[2023 – Present]
<ul style="list-style-type: none"> • Wei-Shan Su – "The evolution of dusty spiral arms excited from flybys" 	
Mentored an undergraduate student in research (planet habitability) and classes, UNLV	[2019–2021]
Organizer of the UNLV Astro Coffee and Journal Club, UNLV	[2017–2018]

Professional Development and Summer Schools

Research Collaboration with Dr. Ruobing Dong	[2023]
University of Victoria, Victoria, Canada	
– Visited Dr. Dong to increase my capabilities of producing synthetic observations	
Research Collaboration with Dr. Daniel Price	[2019]
Monash University, Melbourne, Australia	
– Visited Dr. Price to increase my capabilities of hydrodynamical simulations.	

Tsung-Dao Lee Institute (TDLI) Summer School in Computational Astrophysics [2017]
 Minhang Campus of Shanghai Jiao Tong University in Shanghai, China
 – Summer school on astrophysical fluid dynamics lectured by Dr. Daniel Price.

Technical Skills: Computer Modeling and Programming

Programming Languages: Python, Julia, MATLAB, Mathematica, Fortran, C++, Shell Script, HTML

Simulation Techniques: Smoothed Particle Hydrodynamics (SPH), N-body Simulations

Documentation and Typesetting: LaTeX

Modeling and Analysis Tools: MATLAB, Mathematica

Scripting and Automation: Shell Scripting for data processing and workflow automation

Talks

Invited Talks

Physics Colloquium, Baylor University	[2025]
The formation and long-term evolution of circumbinary planetary systems across the H-R diagram	[2025]
Astronomy Colloquium, University of Geneva	[2025]
Physics & Astronomy Colloquium, University of Georgia	[2024]
Lunch talk, University of Oklahoma	[2024]
Astronomy Colloquium, National Taiwan Normal University	[2024]
Astronomy Colloquium, Academia Sinica, Institute of Astronomy and Astrophysics	[2024]
Astronomy Colloquium, Tsinghua University	[2024]
50 years of Binaries and Disks: Lubow@75, University of Nevada, Las Vegas	[2024]
Simulating Physics in Celestial Ecosystem (SPICE): Star, Disk, and Planet Formation, Sendai, Japan	[2024]
Joint Franco-Australian 5th Phantom+MCFOST Users Workshop 2024, Monash University	[2024]
Astronomy Colloquium, Southern University of Science and Technology	[2023]
Astronomy Colloquium, Shanghai Astronomical Observatory	[2023]
Astronomy Colloquium, Chiense University of Hong Kong	[2023]
Astronomy Colloquium, Hong Kong University Laboratory of Space Research	[2023]
Astronomy Colloquium, University of Oklahoma	[2023]
Physics & Astronomy Colloquium, University of Alabama	[2023]
Astronomy Colloquium, University of Nevada, Las Vegas	[2023]
Astronomy Colloquium, National Central University	[2023]
Astronomy Colloquium, Dominion Astrophysical Observatory	[2023]
Astronomy Colloquium, National Taiwan Normal University	[2023]
Coffee talk, University of Cambridge	[2022]
Astronomy Colloquium, University of Warwick	[2022]
Astronomy Colloquium, University of St. Andrews	[2022]
Astronomy Colloquium, University of Edinburgh	[2022]
Astronomy Colloquium, Academia Sinica, Institute of Astronomy and Astrophysics	[2021]
Astronomy Colloquium, University of Texas, San Antonio	[2021]
Astronomy Colloquium, University of Florida	[2021]
Astronomy Colloquium, Rice University	[2021]
Astronomy Colloquium, Baylor University	[2021]
Astronomy Colloquium, University of Southern Queensland	[2019]

Astronomy Colloquium, University of New South Wales	[2019]
Astronomy Colloquium, Australian National Institute for Theoretical Astrophysics	[2019]
Homecoming Physics Talk, Baylor University	[2018]

Contributed Talks

Rogue Worlds 2024: Uniting Theory and Observation	[2024]
EAS 2024: Stars, discs & planets: dynamics & evolution in multiple systems	[2024]
Exoplanets & Planet Formation Workshop, Yanqing, Beijing, China	[2023]
Asia Oceania Geosciences Society 20 th Annual Meeting	[2023]
European Astronomical Society Annual Meeting	[2023]
The inner disk of young stars: accretion, ejection, and planet formation, Corsica, France	[2023]
Protostar and Planets VII	[2023]
East-Asian ALMA Science Workshop 2023	[2023]
Taiwanese Theoretical Astrophysics Workshop II	[2022]
Planet and binary formation in gravitationally unstable protoplanetary discs in the high-resolution era	[2022]
NCTS-ASIAA Workshop: Stars, Planets, and Formosa	[2022]
European Astronomical Society Annual Meeting	[2022]
Exoplanets IV, Las Vegas, Nevada	[2022]
Lunar and Planetary Science Conference	[2022]
NCTS Annual Theory Meeting	[2021]
SPF2: Star and Planet Formation in the Southwest, Biosphere 2, Oracle, Arizona	[2018]
UNLV Journal Club Talk, University of Nevada, Las Vegas	[2017]
Lunar and Planetary Conference	[2015]
Undergraduate Research Symposium, Baylor University	[2014]
Texas Astronomy Undergraduate Research Symposium, University of Texas, Austin	[2014]

Press Releases

"This May Be the First Planet Found Orbiting 3 Stars at Once", The New York Times	[2021]
"This May Be The First Planet Ever Found Orbiting Three Stars At Once", IFL Science	[2021]
"UNLV grad's team may have found first planet orbiting 3 stars", Las Vegas Review Journal	[2021]
"Exoplanet in a triple star system may orbit all three at once", New Scientist	[2021]
"UNLV astronomers discover planet appearing to orbit three stars", Fox 5 News	[2021]
"The first planet to orbit three stars", Italian National Institute of Astrophysics Journal	[2021]
"Super-Earths draw asteroids to other worlds, which may seed life", New Scientist	[2017]