

Alexander P. Stephan

OSU PRESIDENT'S POSTDOCTORAL SCHOLAR

The Ohio State University

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Research Interests

Multi-body Dynamics Exoplanets · Binary & Triple Stars · Galactic Nuclei
Stellar Evolution Planet Engulfment · Binary Mergers · Compact Object Formation
Theory and Computation Focused on producing observable predictions

Employment & Associations

2021 - 2023	OSU President's Postdoctoral Scholar	The Ohio State University	Columbus, OH
2020 - 2023	CCAPP Affiliate Fellow	The Ohio State University	Columbus, OH
2020 - 2021	Buckeye Prize Postdoctoral Fellow	The Ohio State University	Columbus, OH

Education

2014 - 2020	PhD in Astronomy & Astrophysics	University of California, Los Angeles	Los Angeles, CA
2014 - 2016	M.S. in Astronomy	University of California, Los Angeles	Los Angeles, CA
2010 - 2014	B.A. in Physics with a Specialization in Astrophysics	University of Chicago	Chicago, IL

Awards

2020	Rodger Doxsey Travel Prize	235th AAS Meeting	Honolulu, HI
2018	Michael A. Jura Memorial Graduate Award	University of California, Los Angeles	Los Angeles, CA
2014	B.A. with General Honors, B.A. in Physics with Honors	University of Chicago	Chicago, IL

Students

Andrew Miller

UNDERGRADUATE (CO-ADVISOR DAVID V. MARTIN)

• Binary stellar evolution · Population synthesis · Gravitational wave progenitors

OSU, OH

2022 - 2023

Cheryl Wang

UNDERGRADUATE

• Gravitational wave events · Galactic Center · [led to paper with mentee as first author](#)

UCLA, CA

2019 - 2020

Shelley Cheng

UNDERGRADUATE

• Triple star dynamics

UCLA, CA

2018 - 2020

Isabella Goetting

UNDERGRADUATE

• Gas giant spin evolution · Star-planet interactions

UCLA, CA

2017 - 2018

Paul Denham

UNDERGRADUATE

• Multi-planet systems · Binary stars · Secular dynamics · [led to paper with mentee as first author](#)

UCLA, CA

2017 - 2018

Joseph Guzman

REU STUDENT

• Triple star dynamics

UCLA, CA

2016

Teaching

2014	ASTR 3: Nature of the Universe	Teaching Assistant	<i>UCLA</i>
2015	ASTR 5: Life in the Universe	Teaching Assistant	<i>UCLA</i>
2016	PHYS 17: Elements of Quantum Mechanics and Statistical Mechanics	Teaching Assistant	<i>UCLA</i>
2015	PHYS 18L: Modern Physics Laboratory	Teaching Assistant	<i>UCLA</i>
2017	PHYS 105A: Analytical Mechanics	Teaching Assistant	<i>UCLA</i>
2018	ASTR 273: Diffuse Matter in Space	Special Reader	<i>UCLA</i>

Leadership, Service, Outreach & DEI

2022 - 2023	Astronomy-CCAPP Postdoc Committee	Astronomy Representative	<i>OSU</i>
2022	OSU Summer Outreach	Bexley Public Library Talk	<i>Columbus, OH</i>
2016 - 2020	Naoz Research Group	Weekly Meeting Coordinator	<i>UCLA</i>
since 2016	Student Mentoring	Mentoring in particular students from underrepresented groups	<i>UCLA & OSU</i>
2014 - 2020	Astronomy Live! (Outreach Group)	Co-Leader & Volunteer	<i>UCLA</i>
2014 - 2020	Exploring Your Universe (Science Fair Event)	Organization Committee Member & Volunteer	<i>UCLA</i>
since 2014	DEI Meetings & Seminars	Participation & Striving for effective Allyship	<i>UCLA & OSU</i>
since 2014	Journal Referee	ApJ/AJ · A&A · MNRAS	
	Membership	AAS	

Talks

CONFERENCE TALKS & SEMINARS

2022	240th AAS Meeting		<i>Pasadena, CA</i>
2022	Exoplanets IV		<i>Las Vegas, NV</i>
2021	TESS Science Conference II		<i>Virtual</i>
2021	Triple Evolution & Dynamics 3		<i>Virtual</i>
2020	CCAPP Seminar		<i>Columbus, OH</i>
2020	51th Annual DDA Meeting		<i>Virtual</i>
2020	235th AAS Meeting	Dissertation Talk	<i>Honolulu, HI</i>
2019	Pennsylvania State University	Penn State CEHW seminar Invited Talk	<i>State College, PA</i>
2019	University of Chicago	Exoplanet seminar	<i>Chicago, IL</i>
2019	Northwestern University	Theory seminar	<i>Chicago, IL</i>
2019	University of Maryland	Friday seminar	<i>Chicago, IL</i>
2019	Princeton University	Exoplanet Lunch seminar	<i>Princeton, NJ</i>
2019	Columbia University	Thursday seminar	<i>New York, NY</i>
2019	Yale University	Galaxy Lunch seminar & Exoplanet seminar	<i>New York, NY</i>
2019	MIT	Kavli Institute BBL seminar	<i>Boston, MA</i>
2019	Harvard University	ITC seminar	<i>Boston, MA</i>
2019	50th Annual DDA Meeting		<i>Boulder, CO</i>
2018	Japanese-German Meeting on Exoplanets and Planet Formation	Invited Talk	<i>Edesheim, GER</i>
2018	Triple Evolution & Dynamics 2		<i>Leiden, NL</i>
2018	OWL Exoplanet Summer Program		<i>Santa Cruz, CA</i>
2018	Exoplanets Orbiting Hot Stars	Invited Talk	<i>Nashville, TN</i>
2017	Galactic Center Group Workshop		<i>Los Angeles, CA</i>
2017	ExSoCal		<i>Pasadena, CA</i>
2017	Formation and Dynamical Evolution of Exoplanets		<i>Aspen, CO</i>
2015, 16, 17, 18	UCLA	Astrobash	<i>Los Angeles, CA</i>

Publications

15 peer reviewed papers h-index = 10
8 first author papers 7 published, 1 under review
2 papers with supervised students highlighted in red · both with student first author
400+ citations 100+ max citations
News articles on 4 papers New Scientist · AAS Nova (x2) · Nature · Physics Today
All papers listed are published, accepted or under review (none are “in prep”)

SUPERVISED STUDENT FIRST AUTHOR (2 TOTAL)

Gravitational-wave Signatures from Compact Object Binaries in the Galactic Center

WANG, H · STEPHAN, A P · NAOZ, S · HOANG, B-M · BREIVIK, K

ApJ

2021

Hidden planetary friends: on the stability of two-planet systems in the presence of a distant, inclined companion

DENHAM, P · NAOZ, S · HOANG, B-M · STEPHAN, A P · FARR, W

MNRAS

2019

FIRST AUTHOR (8 TOTAL, 7 PUBLISHED, 1 UNDER REVIEW)

Exoplanet Nodal Precession induced by Rapidly Rotating Stars: Impacts on Transit Probabilities and Biases

STEPHAN, A P · GAUDI, B S

Submitted to ApJ

Nodal Precession and Tidal Evolution of Two Hot Jupiters: WASP-33 b and KELT-9 b

STEPHAN, A P · WANG, J · CAULEY, P W · GAUDI, B S · ILYIN, I · JOHNSON, M C · STRASSMEIER, K G

ApJ

2022

Giant Planets, Tiny Stars: Producing Short-period Planets around White Dwarfs with the Eccentric Kozai-Lidov Mechanism

STEPHAN, A P · NAOZ, S · GAUDI, B S

ApJ

2021

Eating Planets for Lunch and Dinner: Signatures of Planet Consumption by Evolving Stars

STEPHAN, A P · NAOZ, S · GAUDI, B S · SALAS, J M

ApJ

2020

The Fate of Binaries in the Galactic Center: The Mundane and the Exotic

STEPHAN, A P · NAOZ, S · GHEZ, A M · MORRIS, M R · CIURLO, A · DO, T · ET AL.

ApJ

2019

A-type Stars, the Destroyers of Worlds: The Lives and Deaths of Jupiters in Evolving Stellar Binaries

STEPHAN, A P · NAOZ, S · GAUDI, B S

AJ

2018

Throwing Icebergs at White Dwarfs

STEPHAN, A P · NAOZ, S · ZUCKERMAN, B

ApJL

2017

Merging Binaries in the Galactic Center: The eccentric Kozai-Lidov mechanism with stellar evolution

STEPHAN, A P · NAOZ, S · GHEZ, A M · WITZEL, G · SITARSKI, B N · DO, T · KOCSIS, B

MNRAS

2016

FURTHER PUBLICATIONS (6 TOTAL)

Spectroscopy of TOI-1259 - an unpolluted white dwarf companion to a transiting inflated warm Saturn

FITZMAURICE, E · MARTIN, D V · RODRÍGUEZ MARTÍNEZ, R · VALLELY, P · **STEPHAN, A P** · BOLEY, K · ET AL.

MNRAS

2022

Kepler-1656b's Extreme Eccentricity: Signature of a Gentle Giant

ANGELO, I · NAOZ, S · PETIGURA, E · MACDOUGALL, M · **STEPHAN, A P** · ISAACSON, H · HOWARD, A W

Work based on code developed by me at UCLA

AJ

2022

TOI-1259AB - a gas giant with 2.6% deep transits and a bound white dwarf companion

MARTIN, D V · EL-BADRY, K · [...] · **STEPHAN, A P** · ET AL.

MNRAS

2021

A population of dust-enshrouded objects orbiting the Galactic black hole

CIURLO A · CAMPBELL, R D · MORRIS, M R · DO, T · GHEZ, A M · [...] · **STEPHAN, A P**

Work enabled by predictions provided by Stephan et al. (2016)

Nature

2020

Unseen companions of V Hya inferred from periodic ejections

SALAS, J M · NAOZ, S · MORRIS, M R · **STEPHAN, A P**

ApJ

2019

Formation of Black Hole Low-mass X-Ray Binaries in Hierarchical Triple Systems

NAOZ, S · FRAGOS, T · GELLER, A · **STEPHAN, A P** · RASIO, F A

ApJ

2016