

Alex Teachey

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Education	Columbia University	2015 - 2020
	ON THE DETECTION AND CHARACTERIZATION OF EXOMOONS THROUGH SURVEY AND TARGETED OBSERVATIONS	
	– <i>Doctor of Philosophy</i> , Astronomy	2020
	– <i>Master of Philosophy</i> , Astronomy	2018
	– <i>Master of Arts</i> , Astronomy	2017
	CUNY Hunter College	2012 - 2015
	– <i>Bachelor of Arts</i> , Physics – <i>summa cum laude</i>	
	New York University	2003 - 2006
	– <i>Bachelor of Fine Arts</i> , Theatre – <i>magna cum laude</i>	
Affiliations	Academia Sinica Institute of Astronomy & Astrophysics	
	<i>Distinguished Postdoctoral Fellow</i>	2020 - Present
	Columbia University Department of Astronomy	
	<i>National Science Foundation Graduate Research Fellow</i>	2015 - 2020
	The American Museum of Natural History Department of Astrophysics	
	<i>Undergraduate Researcher</i>	2013 - 2015
	The National Radio Astronomy Observatory (Socorro, NM)	
	<i>National Science Foundation REU</i>	Summer 2014
Awards	Postdoctoral Fellow Academic Research Award - MOST (Taiwan) (NT \$100,000)	2022
	Hubble Space Telescope observation GO-15149 (PI) (US \$52,683).	2017
	Keck (NOIRLab, 0.5 nights) (Co-I)	2021
	Graduate Research Fellowship - National Science Foundation (US \$144,000)	2015 - 2020
	Phi Beta Kappa honor society	July 2015
	Undergraduate Research Fellowship - Hunter College (US \$ 2000)	2014 and 2015
	Raab Presidential Fellowship - Hunter College (US \$4100)	2013
Publications & Products	Refereed papers:	
	Teachey, A. & Kipping, D.M.. “Identifying Potential Exomoon Signals with Convolutional Neural Networks”. <i>Monthly Notices of the Royal Astronomical Society</i> , September 2021. arXiv:2109.10503	
	Teachey, A. “The Exomoon Corridor for Multiple Moon Systems”. <i>Monthly Notices of the Royal Astronomical Society</i> , July 2021. arXiv:2106.13421	
	Teachey, A. , Kipping, D.M., Burke, C.J., Angus, R., and Howard, A.W.. “Loose Ends for the Exomoon Candidate Host Kepler-1625b”. April 2019. <i>The Astronomical Journal</i> , February 2020. arXiv:1904.11896	
	Teachey, A. & Kipping, D.M. “Evidence for a Large Exomoon Orbiting Kepler-1625b”. <i>Science Advances</i> , October 2018. arXiv:1810.02362	
	Teachey, A. , Kipping, D.M., and Schmitt, A.R.. “HEK VI: On the Dearth of Galilean Analogs in <i>Kepler</i> , and the Exomoon Candidate Kepler-1625b I”. <i>The Astronomical Journal</i> , January 2018. arXiv:1707.08563	
	Kipping, D.M., and Teachey, A. “Impossible moons – Transit timing effects that cannot be due to an exomoon”. <i>The Monthly Notices of the Royal Astronomical Society</i> <i>under review</i> . May 2020. arXiv:2004.04230	
	Kipping, D.M. & Teachey, A. “A Cloaking Device for Transiting Planets”. <i>Monthly Notices of the Royal Astronomical Society</i> , June 2016. arXiv:1603.08928 .	

Abrahams, R.D., **Teachey, A.**, Paglione, T.A.D.. “Calibrating Column Density Tracers with Gamma-Ray Observations of the ρ Ophiuchi Molecular Cloud”. The Astrophysical Journal, January 2017. [arXiv:1611.02265](https://arxiv.org/abs/1611.02265).

Kipping, D.M., Bryson, St., Burke, C., [...] & **Teachey, A.** “An Exomoon Survey of 70 Cool Giant Exoplanets and the New Candidate Kepler-1708 b-i.” Nature Astronomy, January 2022. [arXiv:2201.04643](https://arxiv.org/abs/2201.04643)

Kipping, D.M., Torres, G., Henze, C., **Teachey, A.**, *et al.* “A Transiting Jupiter Analog”. The Astrophysical Journal, April 2016. [arXiv:1603.00042](https://arxiv.org/abs/1603.00042).

Kipping, D.M., Nesvorný, D., Hartman, J., [...], and **Teachey, A.**. “A resonant pair of warm giant planets revealed by TESS”. Monthly Notices of the Royal Astronomical Society, April 2019. [arXiv:1902.03900](https://arxiv.org/abs/1902.03900).

Under review:

Teachey, A. “On the prediction of microlensing by known exoplanets for mass determination and exomoon detection”. *submitted to* Monthly Notices of the Royal Astronomical Society, July 2022.

Software:

MoonPy light curve tools. github.com/alexteachey/moonpy 2019

Teaching & Mentoring

ASIAA Summer Student Program 2021 - Present

Students:

Garvit Agarwal (IISER Pune) & Al Emran (University of Arkansas) Summer 2022
Chetan Chawla (ZS Associates) & Charity Chien-Chu Wei (UC Santa Cruz) Summer 2021

Student papers in prep:

C. Chawla, A. Teachey, & A. Emran. “Identification of Planet Candidates in Full-Frame Images from the TESS Continuous Viewing Zone”.

G. Agarwal & A. Teachey. “On the Impact and Utility of Single-Exomoon Modeling for Multiple-Exomoon Systems.”

Graduate Teaching Fellow

Fall 2016 - Fall 2017

Taught three semesters of introductory astronomy labs. Designed the curriculum and developed several new labs, incorporating technology resources.

Lecture Teaching Assistant

Fall 2015 - Spring 2016

In-class assistant for “Life in the Universe” and “Stars & Atoms”.

Administrative Experience & Service

ASIAA Postdoc Representative 2022
ASIAA Summer Research Committee 2022
Magellan & MMT Time Allocation Committee (internal ASIAA review) 2021
Admissions Committee (Columbia Dept of Astronomy) 2019
Referee, *Astronomy & Astrophysics* 2022
Referee, *The Astrophysical Journal* (3×) 2018, 2021, 2022
Referee, *Monthly Notices of the Royal Astronomical Society* (2×) 2021, 2022
Graduate Student Representative (Columbia Dept of Astronomy) 2017 - 2018
Building Committee (Columbia Dept of Astronomy) 2017
Undergraduate Administrative Aide (NYU Dept of French) 2007 - 2012

Professional Presentations

Contributed talk, [Stars, Planets, and Formosa conference](#) August 2022
Invited colloquium, Universidad Nacional Autónoma de México March 2022
Invited colloquium, National Tsing Hua University (Taiwan) February 2022
Oral presentation, [Taiwan Physical Society annual meeting 2022](#) January 2022
Invited colloquium, [National Taiwan Normal University](#) November 2021
Invited talk, [Circumplanetary Disk and Satellite Formation II Conference](#) March 2021

Invited colloquium, National Central University (Taiwan)	March 2021
Invited seminar, University of Cambridge	May 2020
Invited colloquium, Academia Sinica Institute of Astronomy & Astrophysics	February 2020
Invited seminar, Yale University	January 2020
AAS 235 in Honolulu, HI (dissertation talk)	January 2020
Extreme Solar Systems IV in Reykjavík, Iceland (poster)	August 2019
ERES V conference at Cornell University (talk)	June 2019
Seminar, University of Oxford	February 2019
Seminar, University College London	February 2019
AAS 233 in Seattle, WA (talk)	January 2019
Exoplanets II conference at the University of Cambridge (poster)	July 2018
ERES IV conference at Pennsylvania State University (talk)	June 2018
<i>Diversis Mundi</i> conference in Santiago, Chile (talk)	March 2018
AAS 231 in Washington, DC (talk and poster)	January 2018
AAS 229 in Grapevine, TX (talk)	January 2017
AAS 225 in Seattle, WA (poster)	January 2015

Outreach

Regular contributions:

Co-Host, Astronomy on Tap Taipei (monthly)	Fall 2020 - Present
Co-Host, Weekly Space Hangout (monthly)	February 2020 - May 2022
Co-Host, Astronomy on Tap New York City (monthly)	Fall 2018 - Spring 2020
Co-Host, Out In Space (LGBTQIA+ in astro podcast)	Fall 2019 - Fall 2020

Guest contributions:

ASIAA Open House “ Ask The Astronomers ”	November 2021
Cool Worlds Lab YouTube channel (contributor)	2016 - 2020
Skype A Scientist volunteer	Fall 2019
Amateur Astronomers Association of New York (public lecture)	December 2019
Intrepid Museum GOALS for Girls (keynote lecture)	November 2019
The Bluffs Community Center (public lecture)	December 2018
Westchester Amateur Astronomers (public lecture)	June 2018
Westport Astronomical Society (public lecture)	February 2018
Columbia University Public Outreach Night (lecture)	October 2017
Rider University “Science Fridays” (public lecture)	October 2017
Congressional District Office Meeting (Sen. Chuck Schumer)	August 2017
Entertaining Science at Cornelia Street Cafe (public lecture)	June 2017
Arts and Astro at Columbia University (public talk)	March 2017
South Bronx Classical Charter School II (classroom visit)	May 2016
Astronomy on Tap NYC guest presenter (various topics)	2016 - 2018
Columbia University Public Outreach Night volunteer	2015 - Present
<i>Sagan’s Brain</i> (science outreach blog)	2009 - 2016

Select Media

The Astro Show (Wyoming Stargazing)	September 2022
“ Living and Working in Taiwan ” (ASIAA)	September 2022
The Fraser Cain YouTube Channel (Universe Today)	November 2021
<i>The Download</i> (Parts 1 , 2 , 3 , 4 , 5) (Radio Taiwan International)	October 2021
AAASky (Amateur Astronomers Association of New York)	April 2021
ASIAA astronomy podcast	March 2021
<i>Science Friday</i> (WNYC)	October 2018
<i>Quirks & Quarks</i> (CBC radio)	October 2018
Guest columnist, <i>Scientific American</i>	July 2017
<i>The Roe Conn Show</i> (WGN radio)	April 2016
<i>The Takeaway</i> (WNYC)	March 2014

Graduate Coursework

Radiative Processes	J. Halpern
Stellar Structure & Evolution	G. Bryan
Galactic Dynamics	J. van Gorkom & K. Johnston
Fluid Dynamics	G. Bryan

Instabilities
Physics of the ISM & IGM
Astrophysics II (Black Holes and AGN)
Cosmology

L. Sironi
F. Paerels
A. Beloborodov
L. Hui

Skills Python, machine learning, Bayesian analysis, transit modeling, HST observation planning and data reduction, time-domain photometry analysis, N -body simulations, German (intermediate), Mandarin Chinese (intermediate), administration, public outreach

Advisors David M. Kipping (Columbia) Fall 2015 - Summer 2020
Marcel A. Agüeros (Columbia) Fall 2016 - Spring 2017
Timothy A.D. Paglione (CUNY / AMNH) Spring 2013 - Summer 2015
Elisabeth A.C. Mills (NRAO) Summer 2014

References David M. Kipping (Columbia), Caleb Scharf (Columbia), Min-Kai Lin (ASIAA)