

Alex Teachey

amteachey@asiaa.sinica.edu.tw | alexteachey.com | ORCID | +1 804-366-0404 | +886 09-6350-9533 | US citizen

| | | |
|------------------------------------|--|----------------|
| 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 - Ministry of Science and Technology | 2022 |
| | Hubble Space Telescope observation GO-15149 (PI) | 2017 |
| | Keck (NOIRLab, 0.5 nights) (Co-I) | 2021 |
| | Graduate Research Fellowship - National Science Foundation | 2015 - 2020 |
| | Phi Beta Kappa honor society | July 2015 |
| | Undergraduate Research Fellowship - Hunter College | 2014 and 2015 |
| | Raab Presidential Fellowship - Hunter College | 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

Professional Presentations

Invited talk, [Stars, Planets, and Formosa conference](#) (forthcoming) 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
Diversis Mundi 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

Teaching & Mentoring

ASIAA Summer Student Program 2021 Summer 2021
Sole advisor for one student (Chetan Chawla) and co-advisor for another (Charity Chien-Chu Wei).

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”.

Outreach

Regular contributions:
Co-Host, [Astronomy on Tap Taipei](#) (monthly) Fall 2020 - Present
Co-Host, [Weekly Space Hangout](#) (monthly) February 2020 - Present
Co-Host, [Astronomy on Tap New York City](#) (monthly) Fall 2018 - Spring 2020

Guest contributions:

| | |
|--|----------------|
| ASIAA Open House “ Ask The Astronomers ” (video) | 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 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 |

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, <i>Astronomy & Astrophysics</i> | 2022 |
| Referee, <i>The Astrophysical Journal</i> (2×) | 2018, 2021 |
| Referee, <i>Monthly Notices of the Royal Astronomical Society</i> (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 |

Graduate Coursework

| | |
|---------------------------------------|-----------------------------|
| Radiative Processes | J. Halpern |
| Stellar Structure & Evolution | G. Bryan |
| Galactic Dynamics | J. van Gorkom & K. Johnston |
| Fluid Dynamics | G. Bryan |
| Instabilities | L. Sironi |
| Physics of the ISM & IGM | F. Paerels |
| Astrophysics II (Black Holes and AGN) | A. Beloborodov |
| Cosmology | 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)
Elisabeth A.C. Mills (NRAO)

Spring 2013 - Summer 2015
Summer 2014

References

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