

CONTACT Center for Astrophysics
INFORMATION 60 Garden Street MS 78
 Cambridge, MA, 02138

Phone: (+1) 617-495-7259
E-mail: rteague@cfa.harvard.edu
Web: <https://richteague.github.io>

CITIZENSHIP United Kingdom

RESEARCH **Smithsonian Astrophysical Observatory** Sep. 2019 – Apr. 2020
EXPERIENCE *Submillimeter Array Fellow*

- Unveiling the Kinematics of the Planet Formation Process

University of Michigan May 2017 – Jul. 2019
Postdoctoral Researcher

- Molecular probes of the physical structure of protoplanetary disks.
- Advisor: Prof. Ted Bergin

Max-Planck-Institute for Astronomy Jan. 2017 – Apr. 2017
Postdoctoral Researcher

- Sub-mm observations of planet forming disks.
- Advisor: Prof. Thomas Henning

EDUCATION **Max-Planck-Institute for Astronomy**, Heidelberg, Germany
Ph.D. in Astronomy (Magna Cum Laude) Oct. 2013 – Jan. 2017

- Thesis title: *Tracing the Earliest Stages of Planet Formation through Modelling and Sub-Millimeter Observations*
- Advisors: Prof. Thomas Henning and Dr. Dmitry Semenov
- Fellow of the International Max Planck Research School (IMPRS).

University of Edinburgh, Edinburgh, United Kingdom
MPhys Astrophysics (First Class Honours) Sept. 2008 – May 2013

- Thesis title: *Cosmology in Modified Gravity Models*
- Advisor: Prof. Andy Taylor

HONOURS & **Ernst Patzer Award** Nov. 2016
AWARDS *Awarded for the best refereed publication by a young scientist.*

Pre-Honours Certificate of Merit May 2011
Awarded for top 5% performance in pre-honours exams.

Pre-Honours Certificate of Merit May 2010

Awarded for top 5% performance in pre-honours exams.

| | | |
|--------------------------|--|---------------|
| PROFESSIONAL SERVICES | Postdoc and Research Scientist DEI Representative | 2018 – 2019 |
| | <i>Department Diversity, Equity and Inclusion Committee Member</i> | |
| | Equi-Tea Organizer | 2018 – 2019 |
| | <i>Diversity, Equity and Inclusion Journal Club</i> | |
| | Stars, Planets and Formation Seminar Organizer | 2018 – 2019 |
| | <i>Departmental Seminar Series</i> | |
| | Conversations on Equity and Inclusion Co-organizer | 2018 – 2019 |
| | <i>Joint Physics / Astronomy / Space Sciences DEI Colloquium Series</i> | |
| | NESSF External Reviewer | 2018 |
| | Heidelberg MPG Student Workshop Organizer | 2016 |
| | PSF Coffee Organizer | 2015 – 2017 |
| | <i>Departmental Seminar Series</i> | |
| | MPIA Student Representative | 2015 – 2017 |
| TALKS & SEMINARS | MPIA Student Workshop Organizer | 2015, 2016 |
| | IMPRS Graduate Student Representative | 2013 – 2017 |
| | Referee for AAS, A&A and MNRAS journals | |
| | JPL Astrophysics Colloquium | November 2019 |
| | <i>Witnessing the Dynamics of Planetary Assembly</i> | (invited) |
| | Gordon Research Seminar | June 2019 |
| | <i>Unveiling the Dynamics of Planet Formation</i> | |
| | IAU Symposium 350: Laboratory Astrophysics | Apr. 2019 |
| | <i>Tracing The Physical Conditions of Planet Formation with Molecular Excitation</i> | (invited) |
| | Planet-Forming Disks | Mar. 2019 |
| | <i>Unveiling the Dynamics of Planet Formation</i> | (invited) |
| | NAOJ Theoretical Astronomy Seminar | Oct. 2018 |
| | <i>Observing the Kinematics of Planet-Disk Interactions with ALMA</i> | (invited) |
| | LMU Munich Astronomy Colloquium | Aug. 2018 |
| | <i>Using Kinematics to Search for Embedded Protoplanets</i> | (invited) |
| | University of Tübingen Astronomy Seminar | Aug. 2018 |
| | <i>Kinematical Detections of Embedded Protoplanets</i> | (invited) |
| | Astrophysical Frontiers in the Next Decade and Beyond | Apr. 2018 |
| | <i>The First Kinematical Detection of Embedded Protoplanets</i> | |
| | Magnetic Fields or Turbulence | Feb. 2018 |
| | <i>A Spatially Resolved Search for Turbulence in TW Hya</i> | |
| | MPIA Patzer Awards Colloquium | Nov. 2016 |

| | | |
|-----------------------------|--|-------------|
| | <i>Measuring Turbulence in TW Hya with ALMA: Methods and Limitations</i> | (invited) |
| | MPIA Königstuhl Colloquium | Nov. 2016 |
| | <i>Observing the Earliest Stages of Planet Formation</i> | (invited) |
| | Astrochemistry with ALMA Cycle 4 | Jun. 2016 |
| | <i>Detecting Turbulence in Protoplanetary Disks</i> | (invited) |
| | Sant-Cugat Forum on Astrophysics | Apr. 2016 |
| | <i>Turbulence in Protoplanetary Disks: Methods and Limitations</i> | |
| | Protoplanetary Discussions | Mar. 2016 |
| | <i>Turbulence in TW Hya</i> | |
| | Chemical Diagnostics of Star and Planet Formation | Jan. 2015 |
| | <i>Deuterium Fraction in Protoplanetary Disks</i> | (invited) |
| | ZAG - IPAG - MPIA Workshop on Planet Formation | Jan. 2015 |
| | <i>Deuterium Fraction in DM Tau</i> | (invited) |
| SUPERVISION | Deryl Long University of Michigan | 2019 |
| | <i>Undergraduate student. Co-supervised with Ted Bergin and Ke Zhang, UMich.</i> | |
| | Case Hazewinkel University of Michigan | 2019 |
| | <i>Undergraduate student. Co-supervised with Ted Bergin, UMich.</i> | |
| | Jeanne Kwon University of Michigan | 2018 – 2019 |
| | <i>Undergraduate Research Opportunity Program</i> | |
| | Julian Penzinger Ludwig Maximilian University | 2016, 2018 |
| | <i>Summer student. Co-supervised with Dmitry Semenov, MPIA.</i> | |
| SCHOOL PARTICIPATION | 45th Saas-Fee Course | 2015 |
| | <i>From Protoplanetary Disks to Planet Formation</i> | |
| | Heidelberg Graduate School on Fundamental Physics | 2015 |
| | DIANA Protoplanetary Disk School | 2014 |
| OBSERVING EXPERIENCE | MPG/ESO 2.2m | 2016 |
| | <i>14 nights</i> | |
| TEACHING | Wavefront Analysis Laboratory Instructor | 2014 |
| PUBLICATIONS (FIRST AUTHOR) | Teague, R. , Bae, J., Huang, J., Bergin, E. 2019, ApJL, 884 | |
| | <i>Spiral Structure in the Gas Disk of TW Hya</i> | |
| | Teague, R. , Bae, J., Bergin, E. 2019, Nature, 574 | |
| | <i>Meridional Flows in the Disk Around a Young Star</i> | |
| | Teague, R. , 2019, Journal of Open Source Software, 4 | |
| | <i>Statistical Uncertainties in Moment Maps of Line Emission</i> | |

Teague, R., 2019, RNAAS, 3
Statistical Uncertainties in Moment Maps of Line Emission

Teague, R., 2019, Journal of Open Source Software, 4
eddy: Extracting Protoplanetary Disk Dynamics with Python

Teague, R., Bae, J., Birnstiel, T. & Bergin, E., 2018, ApJ, 868
Evidence For A Vertical Dependence on the Pressure Structure in AS 209

Teague, R. & Foreman-Mackey, D., 2018, RNAAS, 2
A Robust Method to Measure Centroids of Spectral Lines

Teague, R., Henning, T., Guilloteau, S., et al., 2018, ApJ, 864
Temperature, Mass, and Turbulence: A Spatially Resolved Multiband Non-LTE Analysis of CS in TW Hya

Teague, R., Bae, J., Bergin, E. A., et al., 2018, ApJL, 860
A Kinematical Detection of Two Embedded Jupiter-mass Planets in HD 163296

Teague, R., Semenov, D., Gorti, U., et al., 2017, ApJ, 835
A Surface Density Perturbation in the TW Hydrae Disk at 95 au Traced by Molecular Emission

Teague, R., Guilloteau, S., Semenov, D., et al., 2016, A&A, 592
Measuring turbulence in TW Hya with ALMA: methods and limitations

Teague, R., Semenov, D., Guilloteau, S., et al., 2015, A&A, 574
Chemistry in disks. IX. Observations and modelling of HCO^+ and DCO^+ in DM Tauri

(CO-AUTHOR) Bae, J., Zhu, Z., Baruteau, C., et al., 2019, MNRAS, in press.
An Ideal Testbed for Planet-disk Interaction: Two Giant Protoplanets in Resonance Shaping the PDS 70 Protoplanetary Disk

Isella, A., Benisty, M., **Teague, R.**, et al., 2019, ApJL, 879
Detection of Continuum Submillimeter Emission Associated with Candidate Protoplanets

Gallo, E., **Teague, R.**, Plotkin, R. M., et al., 2019, MNRAS, 488
ALMA observations of A0620-00: fresh clues on the nature of quiescent black hole X-ray binary jets

Schwarz, K., **Teague, R.**, Bergin, E., et al., 2019, ApJL, 876.
Line Ratios Reveal N_2H^+ Emission Originates above the Midplane in TW Hydrae

Keppler, M., **Teague, R.**, Bae, J., et al., 2019, A&A, in press.
Highly structured disk around the planet host PDS 70 revealed by high-angular resolution observations with ALMA

Semenov, D., Favre, C., Fedele, D., et al., 2018, A&A, 617
Chemistry in disks. XI. Sulfur-bearing species as tracers of protoplanetary disk physics and chemistry: the DM Tau case

Flaherty, K. M., Hughes, A. M., **Teague, R.**, et al., 2018, ApJ, 856
Turbulence in the TW Hya Disk

Fedele, D., Tazzari, M., Booth, R., et al., 2018, A&A, 610

ALMA continuum observations of the protoplanetary disk AS 209. Evidence of multiple gaps opened by a single planet

Flock, M., Nelson, R. P., Turner, N. J., et al., 2017, ApJ, 850
Radiation Hydrodynamical Turbulence in Protoplanetary Disks: Numerical Models and Observational Constraints

Dutrey, A., Guilloteau, S., Piétu, V., et al., 2017, A&A, 607
The Flying Saucer: Tomography of the thermal and density gas structure of an edge-on protoplanetary disk

Beuther, H., Linz, H., Henning, T., et al., 2017, A&A, 605
Multiplicity and disks within the high-mass core NGC 7538IRS1. Resolving cm line and continuum emission at 0.06×0.05 resolution

Parfenov, S. Y., Semenov, D. A., Henning, T., et al., 2017, MNRAS, 468
On the methanol emission detection in the TW Hya disc: the role of grain surface chemistry and non-LTE excitation

van Boekel, R., Henning, T., Menu, J., et al., 2017, ApJ, 837
Three Radial Gaps in the Disk of TW Hydrae Imaged with SPHERE

Haworth, T. J., Ilee, J. D., Forgan, D. H., et al., 2016, PASA, 33
Grand Challenges in Protoplanetary Disc Modelling

Feng, S., Beuther, H., Semenov, D., et al., 2016, A&A, 593
Inferring the evolutionary stages of the internal structures of NGC 7538 S and IRS1 with chemistry

| | | |
|---|--|------|
| SUCCESSFUL TELESCOPE PROPOSALS (AS PI) | ALMA PI: Teague, R. , 13.8 hours, 2019.1.01357.S, A ranked | 2019 |
| | <i>Constraining the H₂ Surface Density Profile in IM Lup</i> | |
| | ALMA PI: Teague, R. , 3.0 hours, 2019.1.00794.S, B ranked | 2019 |
| | <i>Detecting the Photoevaporative Wind in IM Lup</i> | |
| | ALMA PI: Teague, R. , 33.2 hours, 2019.1.00419.S, B ranked | 2019 |
| | <i>Mapping the 3D Kinematic Structure of Planet Formation</i> | |
| | ALMA PI: Teague, R. , 20.2 hours, 2018.A.00021.S, DDT | 2019 |
| | <i>Confirmation of an Embedded Planet in the Disk of TW Hya</i> | |
| | Magellan/MagAO PI: Teague, R. , 6 hours | 2018 |
| | <i>Searching for Wide Separation Planets in AS 209</i> | |
| | ALMA PI: Teague, R. , 6.7 hours, 2018.1.00980.S, A ranked | 2018 |
| | <i>An Unambiguous Detection of a Magnetic Field in a Protoplanetary Disk</i> | |
| | ALMA PI: Teague, R. , 5.3 hours, 2016.1.00440.S, A ranked | 2016 |
| | <i>Model Independent Study of Turbulence and Temperature in TW Hya</i> | |
| | IRAM PdBI PI: Teague, R. , 19.9 hours, W14BI, C ranked | 2014 |
| | <i>Disk Diagnostics with Deuteration</i> | |

(AS CO-I) Over 200 hours (ALMA), 150 hours (IRAM), 7 hours (ESO).