

# Anna Ho

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## EDUCATION

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### California Institute of Technology (Caltech), Pasadena CA

- Ph.D., Astrophysics, Advisor: Prof. Shrinivas Kulkarni expected *June 2020*
- M.S., Astrophysics *June 2017*

### Massachusetts Institute of Technology (MIT), Cambridge MA

- B.S., Physics *June 2014*

## FELLOWSHIPS AND AWARDS

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- NSF Graduate Research Fellowship *2014-19*
- Affiliate, Keck Institute for Space Sciences (Division Award) *2019*
- Garmire Prize, Caltech (Division Award) *2017*
- Fulbright Scholarship *2014-15*
- Ida M. Green Fellowship, MIT (Departmental Award) *2014*
- Ford Foundation Fellowship, Honorable Mention *2014*
- Karl Taylor Compton Prize, MIT (University Award) *2014*
- Chambliss Astronomy Achievement Student Awards, Honorable Mention *2014*
- First Place, Dewitt Wallace Prize for Science Writing for the Public, MIT *2013*

## INVITED AND CONTRIBUTED TALKS

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### “SMA Observations of AT2018cow: A Prototype for Millimeter Time-Domain Astronomy”

- (Contributed) SMA Seminar, Harvard-Smithsonian CfA, Cambridge, MA *April 2019*

### “The Death Throes of a Stripped Massive Star”

- (Contributed) UC Berkeley Department Lunch Talk, Berkeley, CA *April 2019*
- (Contributed) Stars and Planets Seminar, Harvard-Smithsonian CfA, Cambridge, MA *April 2019*
- (Invited) Brown Bag Lunch, MIT, Cambridge, MA *April 2019*
- (Contributed) STScI Spring Symposium, Baltimore, MD *April 2019*

### “Watching The Cow Shock Its Environment: The Millimeter-Wavelength Perspective”

- (Invited) Talk (Press Panel) at the AAS Winter Meeting, Seattle, WA *January 2019*

### “ZTF18abukavn (AT2018gep): a luminous, rapidly rising, high-velocity Ic-BL supernova”

- (Contributed) ZTF-Theory Network Meeting, KITP, Santa Barbara, CA *December 2018*

### “AT2018cow: a luminous millimeter transient”

- (Contributed) ZTF-Theory Network Meeting, KITP, Santa Barbara, CA *July 2018*

### “Dirty Fireballs and Orphan Afterglows: A Broader Landscape of Relativistic Explosions with ZTF”

- (Contributed) GROWTH Annual Meeting, Milwaukee, WI *October 2017*
- “*The Cannon*: Data-Driven Spectral Modeling in the Era of Large Stellar Surveys”
- (Contributed) National Radio Astronomy Observatory Lunch Seminar *June 2016*  
National Radio Astronomy Observatory, Socorro, NM
- (Invited) Gemini Observatory Workshop, La Serena, Chile *March 2016*
- “Using *The Cannon* to Exploit the Overlap Between Kepler & APOGEE”
- (Contributed) Boutiques & Experiments Conference, Caltech, Pasadena, CA *August 2015*
- “Survey Cross-Calibration Using The Cannon: APOGEE Labels from LAMOST Spectra”
- (Contributed) SDSS-IV Collaboration Meeting *July 2015*  
Instituto de Física Teórica IFT UAM-CSIC, Madrid, Spain
- (Contributed) The Local Group Astrostatistics Conference *June 2015*  
University of Michigan, Ann Arbor, USA
- “The Cannon: A New Data-Driven Method for Retrieving Stellar Parameters and Abundances”
- (Contributed) MPIA-AIP Milky Way & Local Volume Meeting *November 2014*  
Institute for Astrophysics Potsdam (AIP), Potsdam, Germany
- “Rotation Measures of Globular Cluster Pulsars as a Unique Probe of the Galactic Magnetic Field”
- (Contributed) Max Planck Institute for Astronomy, Heidelberg, Germany *October 2014*
- (Contributed) National Radio Astronomy Observatory, Charlottesville, VA *August 2013*
- “Studies of Millisecond Pulsars in the Globular Cluster Terzan 5”
- (Contributed) National Radio Astronomy Observatory, Charlottesville, VA *August 2012*

## POSTERS

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- “AT2018cow: A Luminous Millimeter Transient”
- American Astronomical Society 233rd Winter Meeting, Seattle, WA *January 2019*
- “Rotation Measures of Globular Cluster Pulsars as a Unique Probe of the Galactic Magnetic Field”
- American Astronomical Society 223rd Meeting, National Harbor, MD *January 2014*
- Conference of Research Experiences for Undergraduates, *October 2013*  
Council on Undergraduate Research, Arlington, VA
- “Survey Cross-Calibration Using *The Cannon*: LAMOST Labels on the APOGEE scale”
- Frontiers of Stellar Spectroscopy in the Local Group and Beyond, *April 2015*  
Max Planck Institute for Astronomy, Heidelberg, Germany
- “Rotation Measures of Globular Cluster Pulsars as a Unique Probe of the Galactic Magnetic Field”
- American Astronomical Society 223rd Meeting, National Harbor, MD *January 2014*
- Conference of Research Experiences for Undergraduates, *October 2013*  
Council on Undergraduate Research, Arlington, VA
- “A New Method for Measuring the Rotation Measures of Millisecond Pulsars in the Globular Cluster Terzan 5”

- American Astronomical Society 221st Meeting, Long Beach, CA

*January 2013*

## WORKSHOPS

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- *Attendee*, LSST Winter School: Machine Learning, Data Visualization, Model Fitting  
Caltech, Pasadena CA January 2017
- *Attendee*, NRAO Summer School, Socorro, NM June 2016
- *Invited Instructor*, Gemini Observatory Workshop:  
Data Driven Modeling of Spectra using *The Cannon*, Gemini Observatory, La Serena, Chile March 2016

## ACCEPTED PROPOSALS, TELESCOPE TIME

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### ALMA

- PI: “AT2018cow: the poster-child relativistic explosion  
for high-frequency time-domain astronomy”  
2.6 hours at highest priority *June 2018*

### SMA

- PI: “SMA Monitoring of the Rare Relativistic Supernova AT2018cow”  
80 hours *June 2018*

### VLBA

- PI: “Confirmation of superluminal motion for  
rare relativistic supernova AT2018cow”  
12 hours at Priority A *June 2018*

### EVLA

- PI: “MAXI 170808A, A Short Soft X-ray Transient”  
3 hours of DDT time at Priority C *August 2017*
- PI: “A Short Soft Transient from MAXI: Detection of a Dirty Fireball?”  
3 hours of DDT time at Priority C *May 2017*
- PI: “Monitoring the Pulsed and Continuum Fluxes of Eclipsing Binary Pulsar Terzan 5A”  
4 hours Priority B *February 2014*

## SCIENCE COMMUNICATION

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### Public Talks

Fall 2015-present

*Speaker*

*Los Angeles, CA*

- Since the beginning of graduate school, I have given several public talks per year for amateur astronomy societies and local observatories.

### Science Policy Committee, Graduate Student Council

Fall 2018-present

*Chair*

*Pasadena, CA*

- I founded the committee and serve as the chair. We organize career panels and host speakers on topics in science policy.

### Caltech Letters

Spring 2018-present

*Contributing Writer*

*Pasadena, CA*

- I write articles on my research for the public

- Science and Engineering Policy At Caltech** Fall 2017-present  
*Vice President Pasadena, CA*
- Organize events and trips, lead lunch discussions on current events in science policy
- Caltech Astronomy Outreach** Feb 2015-present  
*Volunteer Pasadena, CA*
- Run outreach evenings, give public talks, answer visitors' questions, facilitate telescope viewing
- International Summer Symposium on Science and World Affairs** Summer 2017  
*Participant and Speaker Darmstadt, Germany*
- Selected to attend this annual international symposium
  - Gave a talk entitled "Towards a Framework for Space Traffic Control"
- TA for Undergraduate Course, The Evolving Universe** Spring 2016
- Recognized as an "outstanding TA" by the Caltech registrar: "Students described Anna as caring, considerate, and committed . . . as well as being extremely effective at explaining and summarizing the course material. The sentiments in this quote were echoed by several other students: "She was consistently well-prepared for section, gave really good notes, and did a really good job of explaining potentially confusing material and clarifying misunderstandings. She was very in-tune with the difficulties students were having and did a very good job of resolving those difficulties."
- TA for Graduate Course, Radio Astronomy** Winter Term 2015-16
- Graded problem sets, held office hours
- TA for Undergraduate Course, Basic Astronomy and the Galaxy** Fall 2015
- Graded problem sets, held office hours
- Teacher, Institute for Educational Advancement** Fall 2016
- Designed and taught a nine-week course on multiwavelength astronomy for gifted 7-12 year olds
- Haus der Astronomie: Center for Astronomy Education and Outreach** Sept 2014-July 2015
- Organized and taught a cosmology workshop for high school students
  - Wrote a press release for the Max Planck Institute for Astronomy
  - Wrote a blog post for the UniverseToday news site
- Congressional Visits Day** March 2014
- Attended briefings about the federal budget process
  - Set up and led meetings with Congressional Staff to advocate for federal funding for scientific research
- AAS Astronomy Ambassadors Workshop** January 2014  
*American Astronomical Society 223rd Meeting National Harbor, MD*
- Selected for a two-day workshop on doing effective public outreach
- MIT Educational Studies Program** Fall 2010-Spring 2014  
*Teacher Cambridge, MA*
- Designed and taught 12 different science classes for over 500 middle- and high-school students

**MIT Admissions Blogger***MIT Admissions Office*

Fall 2010-Spring 2014

*Cambridge, MA*

- Wrote weekly entries about MIT life, read by over 7,000 people daily
- Corresponded with prospective students through e-mail and webcasts

**Course Assistant***MIT Physics Department*

Spring 2013

*Cambridge, MA*

- Wrote lecture notes in LaTeX for the undergraduate Quantum I and Quantum II courses
- Graded weekly problem sets for the undergraduate Quantum I course

**McCormick Public Observatory***Public speaker and volunteer*

Summer 2012, Summer 2013

*Charlottesville, VA*

- Organized a volunteering program for National Radio Astronomy Observatory summer students
- Gave regular public talks at the observatory