# Aaron T. Lee

## Curriculum Vitae

August 28, 2016

## Personal Data


email: aaronlee@umass.edu
Website: astroalee.com

Languages: American English (native), French (conversational)

## Education

2016 Ph.D. Astronomy
Department of Astronomy, The University of California Berkeley
Dissertation Title: "Star and Planet Formation Throughout Cosmic History"
Advisers: Christopher McKee & Richard Klein

2010 M.A. Astronomy
Department of Astronomy, The University of California Berkeley

2008 Master of Advanced Study (*awarded with honors*)
Department of Applied Mathematics and Theoretical Physics,
Cambridge University

2007 B.A. Physics (*Summa Cum Laude*)
Department of Physics, Northwestern University

2007 B.A. Mathematics (*Summa Cum Laude*)
Department of Mathematics, Northwestern University

## Publications

### Refereed Journal Articles

A. Stacy, V. Bromm, **A. T. Lee**. Building up the Population III initial mass function from cosmological initial conditions. MNRAS. *Volume and page numbers not yet assigned* (2016).

**A. T. Lee**, A. J. Cunningham, C. F. McKee, R. I Klein. Bondi-Hoyle Accretion in a Magnetized Plasma, ApJ, 783, 50 (2014).

**A. T. Lee**, S. W. Stahler. Dynamical Friction in a Gas: The Supersonic Case, A&A, 561, 84 (2014).

**A. T. Lee**, S. W. Stahler. Dynamical Friction in a Gas: The Subsonic Case, MNRAS, 416, 3177 (2011).

**A. T. Lee**, E. Chiang, X. Asay-Davis, J. Barranco. Forming Planetesimals by Gravitational Instability. II. How Dust Settles to its Marginally Stable State, ApJ, 725, 1938 (2010).

**A. T. Lee**, E. Chiang, X. Asay-Davis, J. Barranco. Forming Planetesimals by Gravitational Instability. I. The Role of the Richardson Number in Triggering the Kelvin-Helmholtz Instability, ApJ, 725, 1938 (2010).

**A. T. Lee**, E. W. Thommes, F. E. Rasio. Resonance Trapping in Protoplanetary Disks. I. Coplanar Systems, ApJ, 691, 1684 (2009).

### Journal Articles In Preparation

A.L. Rosen, M.R. Krumholz, J.S. Oishi, **A. T. Lee**, R.I. Klein. Hybrid Adaptive Ray-Moment Method (HARM$^2$): A Highly Parallel Method for Radiation Hydrodynamics on Adaptive Grids. Journal of Computational Physics. *In peer-review process* (2016).

K. Burleigh, C. F. McKee, R. I Klein, **A. T. Lee**, A. J. Cunningham . Bondi-Hoyle Accretion in Magnetized Supersonic Turbulence. *In prep* (2016).

## Professional Appointments

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|---|---|
| since 2016 | Postdoctoral Scholar, University of Massachusetts Amherst |
| 2015 – 2016 | Berkeley Dissertation Fellow, University of California Berkeley |
| 2012 – 2015 | Graduate Student, University of California Berkeley |
| 2009 – 2012 | National Science Foundation Graduate Fellow, University of California Berkeley |
| 2008 – 2009 | Graduate Student, University of California Berkeley |

## Teaching Experience

### UC Berkeley

Introduction to Astronomy (undergraduate course)
- Instructor on Record: 2015
- Teaching Assistant: 2015, 2014, 2011, 2009, 2008.

Pedagogy and Instructional Methods in Astronomy (graduate course)
- Instructor on Record: 2014, 2013, 2011, 2010.

## Select Public Education & Outreach

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| 2015 | "Ending the Dark Ages: Forming the Universe's First Stars," San Francisco Amateur Astronomy Society, San Francisco, California |
| 2014 | "The Formation of Stars," Eastbay Astronomical Society Talk, Chabot Space and Science Center, Oakland, California |
| 2013 | "Comets and Conic Sections," popular science article written for *Girls' Angle Magazine*, a magazine for high school girls interested in math. |
| 2012–2015 | Undergraduate Mentor, The Berkeley COMPASS Project, UC Berkeley |
| 2011–2012 | Project ASTRO participant, Coronado Elementary School, Richmond, California |
| since 2008 | Cal Day department organizer and participant, UC Berkeley |

## Awards & Honors

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| 2015 | Certificate in Teaching and Learning in Higher Education, UC Berkeley |
| 2010 | Award for Teaching Effectiveness, UC Berkeley |
| 2010 | Outstanding Teaching Assistant Award, UC Berkeley |
| 2008 | Alex Mischenko Poster Prize, Cambridge University |
| 2007 | Lee Corbin Prize for Arts & Sciences, Northwestern University |
| 2007 | Department award for best thesis in physics, Northwestern University |
| 2007 | USA Today All-USA College Academic Team, USA Today News |

## Grants & Fellowships

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|---|---|
| 2015 | Final-Year Dissertation Fellowship, UC Berkeley |
| 2014 | Course Improvement Grant, PI, UC Berkeley |
| 2009 | NSF Graduate Research Fellowship, National Science Foundation |
| 2008 | Cambridge Overseas Trust Scholarship, Cambridge University |

## Computing Proposals

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| since 2010 | Progress towards a comprehensive theory of star formation – from Brown Dwarfs to high mass stars, clusters, and on to giant molecular clouds. XSEDE Computing Proposal (group member), National Science Foundation (+10 million hours / year) |
| 2009 | Understanding the role of the Richardson Number in protoplanetary disks. Aaron Lee & Eugene Chiang, Teragrid Starter Computing Proposal, National Science Foundation (50,000 hours) |

## Conferences & Schools

### Talks

2011 "Bondi and Bondi-Hoyle Accretion in a Magnetized Plasma." Star Formation through Spectroimaging at High Angular Resolution, ASIAA, Taipei, Taiwan

### Posters

2016 "Professional Development: Practice Makes Perfect." AAPT Conference, New Orleans, Louisiana

2012 "Bondi and Bondi-Hoyle Accretion in a Magnetized Plasma." Star Formation and the Interstellar Medium, Thirty-Five Years Later, UC Berkeley, Berkeley, California

### Workshops & Schools

2015 Using Javascript in the classroom, Astronomical inquiry in Astro101. AAPT, San Diego, California

2014 Science Communication Summer School, University of Chicago and Alan Alda Center for Science Communication, Chicago, Illinois

## Students (co-) supervised

Undergraduate Students

**Doris Lee** (2013–2016), with Steven Stahler. Now a graduate student in computer science at the University of Illinois.

## Department & University Service

2016 Panelist for "Teaching and the Academic Job Market," UC Berkeley

since 2010 Workshop leader for "Pedagogy and Instruction in Physical Sciences" (workshop runs every Fall and Spring semester), UC Berkeley

2008 – 2015 Public liaison for the astronomy department, UC Berkeley

## Professional Memberships

American Astronomical Society (AAS)
American Association of Physics Teachers (AAPT)
Phi Beta Kappa, Sigma Pi Sigma, Pi Mu Epsilon

## References

Christopher McKee, professor at UC Berkeley
cmckee@astro.berkeley.edu, +1 510 642-5275

Steven Stahler, research astronomer at UC Berkeley
stahler@astro.berkeley.edu, +1 510 642-5275

Alex Filippenko, professor at UC Berkeley
alex@astro.berkeley.edu, +1 510 642-5275 (teaching reference)