

AARON T. LEE

CURRICULUM VITAE

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PERSONAL DATA

EMAIL: aaronlee@umass.edu

WEBSITE: astroalee.com

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

EDUCATION

- 2017 Ph.D. Astronomy,
Department of Astronomy, The University of California Berkeley
Dissertation Title: "Star and Planet Formation Through Cosmic Time"
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

PROFESSIONAL APPOINTMENTS

- since 2017 Postdoctoral Scholar, University of Texas Austin
- 2016 – 2017 Researcher, 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

PUBLICATIONS

REFEREED JOURNAL ARTICLES

- K. Burleigh, C. F. McKee, R. I Klein, **A. T. Lee**, A. J. Cunningham . Bondi-Hoyle Accretion in Magnetized Supersonic Turbulence. *MNRAS*, 468, 717 (2017).
- A.L. Rosen, M.R. Krumholz, J.S. Oishi, **A. T. Lee**, R.I. Klein. Hybrid Adaptive Ray-Moment Method (HARM²): A Highly Parallel Method for Radiation Hydrodynamics on Adaptive Grids. *Journal of Computational Physics*. 330, 924 (2016).
- A. Stacy, V. Bromm, **A. T. Lee**. Building up the Population III initial mass function from cosmological initial conditions. *MNRAS*, 462, 1307 (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).

TEACHING EXPERIENCE

UMASS AMHERST

Introduction to Numerical Computing (undergraduate independent study)

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

- 2016 “Adopt a Physicist” online program, Sigma Pi Sigma
- 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

- 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

- 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

- 2016 Exploring the origins of stellar multiplicity in young star systems. XSEDE Computing Proposal (PI), National Science Foundation (1 million hours)
- 2010–2016 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)

INVITED TALKS & CONFERENCES

TALKS

- 2017 “Numerical Studies in Star Formation.” UMass Amherst Astronomy Department Colloquium Series, UMass Amherst
- 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

- Zachary Sun** (2017), with Stella Offner. Participate in the 10-week UMass Astronomy undergraduate research internship.
- 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
2010 –2016 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
Stella Offner, assistant professor at UT Austin
soffner@astro.umass.edu
Alex Filippenko, professor at UC Berkeley
alex@astro.berkeley.edu, +1 510 642-5275 (teaching reference)