

CURRICULUM VITAE

Gongjie Li

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CONTACT
INFORMATION

School of Physics
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EDUCATION

Harvard University

Ph.D. in Astrophysics, 2010 - 2015
Advisor: Abraham (Avi) Loeb
Thesis Topic: Long-term dynamics of high mass ratio multiples

California Institute of Technology

B.S. in Astrophysics, with honors, 2006 - 2010
Advisor: Nicholas Z. Scoville; Academic advisor: E. Sterl Phinney

POSITIONS

Harvard University

Junior Fellow at the Society of Fellows, July 2015 - Dec. 2017

Georgia Institute of Technology

Assistant Professor, School of Physics, Jan. 2018 -
Courtesy faculty, School of Earth and Atmospheric Sciences, Nov. 2018 -

HONORS AND
AWARDS

Thank a Teacher Certificate for excellence in teaching, Georgia Tech, 2018, 2019
William F. Milton Award, research grant for selected voting faculty members and Junior Fellows, Harvard University, 2016 - 2017
Eric R. Keto Prize for PhD Thesis in Theoretical Astrophysics, Harvard University, 2015
Raynor L. Duncombe Prize, AAS Division of Dynamical Astronomy Student Stipend Award, 2015
Philip Putnam Chase Memorial Fellowship, Harvard University, 2011 - 2012
Acknowledgment by the Council on Undergraduate Research in Recognition on Outstanding Achievement in Research, 2009
Upper Class Merit Award, Caltech, 2009
Carnation Merit Award, Caltech, 2008

ADVISING

Postdoc:

Billy Quarles, Georgia Tech, 2018 -

Ph.D. Students:

Nathan Moore, Georgia Tech, 2018 -
Renyi Chen (Joint with M. Tao), Georgia Tech, 2018 -
Hareesh Bhaskar, Georgia Tech, 2017 -
Yutong Shan (Joint with J. Yee), Harvard University, 2016 - 2017

Undergraduate Students:

Karthik Yadavalli, Georgia Tech, 2018 -
Laura Duffy, Georgia Tech, 2018 -
Ziqian Hong, USTC, spring 2018
Jennifer N. Stafford, Ohio State University, summer 2017

SERVICES

In the community:

Referee for *Astronomy & Astrophysics*; *Astrophysical Journal*; *Astrophysics and Space Science*; *Celestial Mechanics and Dynamical Astronomy*; *Icarus*; *Monthly Notices of the Royal Astronomical Society*; *Nature Astronomy*

Duncombe Prize Selection Committee, American Astronomical Society (AAS) Division on Dynamical Astronomy (2018 -)

Committee Member, American Astronomical Society (AAS) Division on Dynamical Astronomy (2019 -)

Scientific Organizing Committee, International Astronomical Union (IAU) “Planetary Systems and Bioastronomy” Division Meeting (2018)

NSF review panel and external reviewer (2017, 2018)

NASA review panel and external reviewer (2015, 2016, 2018)

At Georgia Tech:

Search Committee (2018 - 2019)

School of Physics Colloquium Committee (2018 - 2020)

Academic Advisor for the Freshman Class of 2018 (2018 -)

At Harvard:

Organizer of ITC Colloquium and Seminar (2016 - 2017)

Organizer of ITC Astrostatistics Pizza Lunch (2016)

Mentor, Harvard Astronomy Graduate Student Peer Mentorship Program (2013 - 2015)

Organizer of Avi Loeb’s Group Meetings (2011 - 2014)

SELECTED OUTREACH, DIVERSITY AND INCLUSION

- Invited talk at the Buckhead Public Library in Atlanta “*Interactions between stars and super-massive black holes*”, 2019
- Invited open house talk at the Bradley Observatory “*A Song of Ice and Fire — Dynamics of Planets Hot and Cold*”, 2018
- Panelist at the Dragon Conference (Atlanta Multigenre Convention) on “*Why on Earth? Searching for Origins and Life Here and Elsewhere*”, 2018
- Career development discussions at Agnes Scott College (women’s college), 2018
- Research advisor at Harvard Banneker Institute (summer program for students of color and other underrepresented groups), 2017
- Volunteer for Science Festival “*Cambridge Explores the Universe*” at CfA, 2012 and 2017
- Lecturer for event “*Mysteries of the Cosmos*” at Cambridge Citywide Senior Center, 2015
- Instructor for outreach event *Einstein in the Classroom* at Cambridge Rindge and Latin public high school, which is noted for diversity, 2015
- Volunteer for workshop *Astronomy for Everyone* for high school students with dyslexia, ADHD, and autism spectrum disorders at ITC, CfA, 2014

TEACHING

Instructor for PHYS-3201 (Classical Mechanics) at Georgia Tech, 2018, 2019

Teaching Assistant for SPU30 (Life as a Planetary Phenomenon) at Harvard, 2014

Teaching Assistant for Ay151 (Astrophysical Fluid Dynamics) at Harvard, 2012

Teaching Assistant for Ay1 (The Evolving Universe) at Caltech, 2008, 2010

PUBLICATIONS

*: my students or
postdocs

Total of 30 journal articles, 19 led by Li/Li’s group

1. **Li, G.**, Dai, F. & Becker, J. *USP Mutual Inclination Excitation due to Stellar Oblateness*, submitted
2. Arca-Sedda, M., **Li, G.** & Kocsis, B. *Ordering the Chaos: Stellar Black Hole Mergers from Non-hierarchical Triples*, submitted, arXiv:1805.06458
3. Yang, H., Bonga, B., Peng, Z. & **Li, G.** *Relativistic Mean Motion Resonance*, submitted, arXiv:1910.07337

4. Quarles, B.*, **Li, G.**, Kostov, V. & Haghighipour, N. *Orbital Stability of Circumstellar Planets in Binary Stars*, The Astronomical Journal, accepted
5. Quarles, B.*, **Li, G.** & Lissauer, J. *Obliquity Evolution of Circumstellar Planets in Sun-like Stellar Binaries*, The Astrophysical Journal, 886, 56, 2019
6. Hong, Z.*, Quarles, B.*, **Li, G.** & Orosz J. A. *Could there be an undetected inner planet near the stability limit in Kepler-1647?* The Astronomical Journal, 158, 8, 2019
7. Zeng, L., Jacobsen, S. B., Sasselov, D. D., Petaev, M. I., Vanderburg, A., Lopez-Morales, M., Perez-Mercader, J., Mattsson, T. R., **Li, G.**, Heising, M. Z., Bonomo, A. S., Damasso, M., Berger, T. A., Cao, H., Levi, A., & Wordsworth, R.D. *Growth Model Interpretation of Planet Size Distribution*, Proceedings of the National Academy of Sciences of the United States of America, 116 (20) 9723-9728, 2019
8. Gohil, R., Ballantyne, D. R., & **Li, G.** *The stellar remnants of high redshift nuclear starburst discs: a potential origin for nuclear star clusters?* Monthly Notices of the Royal Astronomical Society, 485, 2935, 2019
9. **Li, G.**, Hadden, S., Payne, M. J. & Holman, M. J. *The Secular Dynamics of TNOs and Planet Nine Interactions*, The Astronomical Journal, 156, 263, 2018
10. Hadden, S., **Li, G.**, Payne, M. J. & Holman, M. J. *Chaotic Dynamics of Trans-Neptunian Objects Perturbed by Planet Nine*, The Astronomical Journal, 155, 249, 2018
11. Shan, Y.* & **Li, G.** *Obliquity Variations of Habitable Zone Planets Kepler 62-f and Kepler 186-f*, The Astronomical Journal, 155, 6, 2018
12. **Li, G.**, Ginsburg, I., Naoz, S. & Loeb, A. *Eclipsing Stellar Binaries in the Galactic Center*, The Astrophysical Journal, 851, 131, 2017
13. Naoz, S., **Li, G.**, Zanardi, M., De Elía, G. C. & Di Sisto, R. P. *The Eccentric Kozai-Lidov Mechanism for Outer Test Particle*, The Astronomical Journal, 154, 18, 2017
14. Zanardi, M., De Elía, G. C. Di Sisto, R. P., Naoz, S., **Li, G.**, Guilera, O. M., & Brunini, A. *Planetary Scattering Around Low-mass Stars: Formation and Evolution of Icy Body Reservoirs*, Astronomy & Astrophysics, 30411, 17, 2017
15. Sekhar, A., Asher, D., Werner, S., Vaubaillon, J., & **Li, G.** *Change in General Relativistic Precession Rates due to Lidov-Kozai oscillations in Solar System*, Monthly Notices of the Royal Astronomical Society, 468, 1405, 2017
16. **Li, G.**, Holman, M. & Tao, M. *Uncovering Circumbinary Planetary Architectural Properties from Selection Biases*, The Astrophysical Journal, 831, 1, 2016
17. **Li, G.** & Adams, F. *Interaction Cross Sections and Survival Rates for Proposed Solar System Member Planet Nine*, The Astrophysical Journal Letters, 823, 3, 2016
18. **Li, G.** & Winn, J. *Are Tidal Effects Responsible for Exoplanetary Spin-Orbit Alignment?* The Astrophysical Journal, 818, 5, 2016
19. Steffen, J. & **Li, G.** *Dynamical considerations for life in multihabitable planetary systems*, The Astrophysical Journal, 816, 97, 2016
20. **Li, G.**, Naoz, S., Kocsis, B. & Loeb, A. *Tidal Disruption Rate in Black Hole Binaries*, Monthly Notices of the Royal Astronomical Society, 451, 1341, 2015
21. Scoville, N., Faisst, A., Capak, P., Kakazu, Y., **Li, G.** & Steinhardt C. *Dust Attenuation in High Redshift Galaxies ‘Diamonds in the Sky’*, The Astrophysical Journal, 800, 108, 2015
22. **Li, G.** & Adams, F. *Cross Sections for Planetary Systems Interacting with Passing Stars and Binaries*, Monthly Notices of the Royal Astronomical Society, 448, 344, 2015
23. **Li, G.** & Batygin, K. *Pre-LHB Evolution of the Earth’s Obliquity*, The Astrophysical Journal, 795, 67, 2014
24. **Li, G.**, Naoz, S., Valsecchi, F., Johnson, J. & Rasio, F. *The Dynamics of the Multi-planet System Orbiting Kepler-56*, The Astrophysical Journal, 794, 131, 2014
25. **Li, G.**, Naoz, S., Holman, M. & Loeb, A. *Chaos in the Test Particle Eccentric Kozai-Lidov Mechanism*, The Astrophysical Journal, 791, 86, 2014

26. **Li, G.** & Batygin, K. *On the Spin-axis Dynamics of a Moonless Earth*, The Astrophysical Journal, 790, 69, 2014
27. **Li, G.**, Naoz, S., Kocsis, B. & Loeb, A. *Eccentricity Growth and Orbit Flip in Near-coplanar Hierarchical Three-body Systems*, The Astrophysical Journal, 785, 116, 2014
28. Psaltis, D., **Li, G.** & Loeb, A. *Deviation of Stellar Orbits from Test Particle Trajectories Around Sgr A* Due to Tides and Winds*, The Astrophysical Journal, 777, 57, 2013
29. **Li, G.** & Loeb, A. *Accumulated Tidal Heating of Stars Over Multiple Pericenter Passages Near Sgr A**, Monthly Notices of the Royal Astronomical Society, 429, 3040, 2013
30. **Li, G.**, Kocsis, B & Loeb, A. *Gravitational Wave Heating of Stars and Accretion Disks*, Monthly Notices of the Royal Astronomical Society, 425, 2407, 2012

SELECTED
COLLOQUIA,
SEMINARS AND
INVITED
CONFERENCE
TALKS

- Astrophysical and Planetary Sciences Colloquium, University of Colorado Boulder, Nov. 2019
- Physics and Astronomy Colloquium, University of Georgia, Jan. 2019
- Astronomy Colloquium, University of California, Los Angeles, Nov. 2018
- Strong Gravity Seminar, Perimeter Institute, Oct. 2018
- Earth and Atmospheric Sciences Seminar, Georgia Tech, Oct. 2018
- Triple Evolution and Dynamics Trendy-2 Workshop, Leiden University, Sept. 2018
- Planet Nine Workshop, California Institute of Technology, May 2018
- Astronomy Colloquium, Agnes Scott College, April 2018
- Exoplanets and Planet Formation Conference, Shanghai, Dec. 2017
- Stellar Dynamics in Galactic Nuclei, Princeton IAS, Nov. 2017
- LUVVOIR Seminar, Goddard Space Flight Center, Oct. 2017
- Astronomy Colloquium, California Institute of Technology, May 2017
- Colloquium, Center of Math Sciences and Applications, Harvard University, April 2017
- Astronomy Colloquium, University of Arizona, April 2017
- Seminar, University of Hawaii, Feb. 2017
- Astronomy Colloquium, University of Hawaii, Feb. 2017
- Seminar, Cornell University, Feb. 2017
- Astronomy Colloquium, Cornell University, Feb. 2017
- Physics Colloquium, Georgia Institute of Technology, Jan. 2017
- Physics Colloquium, Massachusetts Institute of Technology, Dec. 2016
- Center for Theory and Computation Lunch Talk, University of Maryland, Dec. 2016
- Dynamics and Chaos in Astronomy and Physics Lecture, Luchon, Sept. 2016
- Fellows at the Frontiers Conference, Northwestern, Sept. 2016
- APCosPA-Planet2 RESCEU Summer School Lecture, University of Tokyo, Aug. 2016
- RESCEU Colloquium, University of Tokyo, Aug. 2016
- CITA Seminar, University of Toronto, June 2016
- Thunch Talk, Princeton University, April 2016
- Astronomy Colloquium, University of Illinois at Urbana Champaign, March 2016
- Dynamics and Accretion at the Galactic Center Conference, Aspen winter conference, Feb. 2016
- KIAA Seminar, Peking University, Jan. 2016
- IAU XXIX General Assembly, Aug. 2015
- CRA Seminar, Georgia Tech, April 2015

IN THE MEDIA
(SELECTED)

- “More clues that Earth-like exoplanets are indeed Earth-like” (2018)
Links: Gatech press release, popular science, phys.org, Newsweek, International Business Times, Daily Mail, Forbes
- “Planet Nine: A world that shouldn’t exist” (2016)
Links: CfA press release, Boston Globe, space.com, gizmodo.com
- “Coupling Up May Make Life Possible on Other Planets” (2015)

Links: UNLV press release, cnn.com, space.com, gizmodo.com, newscientist.com

“Orbit Flips in Exoplanet Systems” (2014)

Links: CFA press release, scitechdaily.com

“Kepler 56: The Death of Two Exoplanets”, press conference at the 224th AAS conference meeting (2014)

Links: CFA press release, space.com, huffingtonpost.com, sciencesetavenir.fr, o.canada.com, abc.es, cnbeta.com

Video: AAS press release

REFERENCES

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