

ANNA LORRAINE ROSEN, PH.D.

COMPUTATIONAL ASTROPHYSICIST

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Center for Astronomy & Space Sciences, University of California San Diego (UCSD), La Jolla CA 92093

EDUCATION

- Ph.D.**, Astronomy & Astrophysics, University of California, Santa Cruz 2017
Advisors: Mark Krumholz, Enrico Ramirez-Ruiz
- M.S.**, Astronomy & Astrophysics, University of California, Santa Cruz 2012
- B.A.**, Physics & Astrophysics, University of California, Berkeley 2009
Cumulative GPA: 3.81/4.0 , Major GPA: 3.82/4.0, Honors: Fall 2007-2009, General Distinction
- Community College Transfer Student**, Los Angeles Pierce College (LAPC) 2007
Cumulative GPA: 3.95/4.0 , Major GPA: 4.0/4.0
Dean's Honors: 2003-2007, President's Honor: 2004-2007

AWARDS AND RESEARCH POSITIONS

- University of California Chancellor's Postdoctoral Fellowship, UCSD 2022-
- National Science Foundation Astronomy & Astrophysics Postdoctoral Fellowship, UCSD 2022-
- Institute for Theory and Computation (ITC) Postdoctoral Fellowship, Harvard University 2020-2022
- NASA Einstein Postdoctoral Fellowship, Harvard University 2017-2020
- NASA Hubble Postdoctoral Fellowship (declined) 2017
- Rodger Doxsey Dissertation Prize (American Astronomical Society) 2017
- ARCS (Achievement Rewards for College Scientists) Foundation Fellowship 2016
- American Association of University Women (AAUW) American Dissertation Year Fellowship 2016
- Excellence in Mentoring Award (UC Santa Cruz Astronomy & Astrophysics Department) 2015
- American Astronomical Society International Travel Grant 2014, 2016, 2017
- National Science Foundation Graduate Research Fellowship Program 2011
- Daniel Edward Wark Memorial Scholarship (UC Berkeley Astrophysics Department) 2009
- NASA Motivating Undergraduates in Science and Technology Scholarship 2007
- Alexander Frolich Award for excellence of achievement in Physics (LAPC) 2007
- NASA JPL Undergraduate Scholars Award for excellence of achievement in Physics 2007
- Thomas McCutcheon Award for excellence of achievement in Mathematics (LAPC) 2006

SUCCESSFUL PROPOSALS

Total of grants obtained as Principal Investigator: \$174,825

1. Co-I, Chandra Observation, Cycle 21 (awarded 100 ks) 2019
Title: *A Superstar Cluster is Born: Probing the X-ray Emission of H72.97-69.39 in LMC-N79*
2. PI, Chandra Theory, Cycle 16 2014
Title: *To Leak or Not to Leak: Where are the Missing X-ray Photons from Massive Star Clusters?*
3. PI, Hubble Archival, Cycle 21 2013
Title: *Simulating the Birth of Massive Star Clusters: Is Destruction Inevitable?*

TECHNICAL SKILLS

Computer Languages	C++, Fortran, IDL, Python, R, MPI, Mathematica
Simulation Codes	ORION2, GIZMO
Analysis Codes	<i>yt</i> , RADMC-3D, GLUE

ADVISING EXPERIENCE

Graduate Students:

Grace Olivier (grad student at OSU), <i>Evolution of Stellar Feedback in H II Regions and X-ray Emission from the Massive Binary WR 20a</i>	2020-present*
Michael Foley (grad student at Harvard), <i>Bubbles around Intermediate and High-mass Stars due to Wind Feedback</i>	2018-2019*
Hope Chen (grad student at Harvard), <i>Effects of an Embedded B-Star Wind in Ophiuchus</i>	2018-2019

Undergraduate Students:

Mikayla Wilson (physics & astronomy undergrad at TCU), Banneker Intern at Harvard <i>Tracing the Evolution of Molecular Outflows in Massive Star Formation</i>	2020
Monica Gallegos-Garcia (now astro grad at Northwestern), Banneker Intern at Harvard <i>Winds in Star Clusters Drive Kolmogorov Turbulence</i>	2018-2020*
Courtney Bishop (physics undergrad at College of William & Mary), SAO NSF REU program <i>Comparing Molecular Line Tracers in Outflows Generated by Massive Star Formation</i>	2018
Evan Carter (physics undergrad at UCSC, then astro masters student at Wesleyan), <i>Synthetic Observations of Low-Mass Star Formation: Implications for Current SED-Fitting Methods</i>	2014-2016

High School Students:

Shreya Karri <i>Census of Stellar Feedback in the Milky Way</i>	2019
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* Denotes students whose project or contribution led to or will soon lead to a refereed publication

SERVICE EXPERIENCE

NASA JWST Cycle 1 Panelist	2021
Member, Harvard Astronomy Diversity, Equity, and Inclusion (DEI) Committee	2021-2022
Member, CfA Inclusion, Diversity, and Equity in Astronomy (CfA-IDEA) Committee	2020-2021
Referee for A&A, ApJ, MNRAS, & RAA	
CfA Galaxies & Cosmology Seminar Organizer	2019-2021
NASA Theory Astrophysics Program Panelist	2019
NASA Earth and Space Science Fellowship (NESSF) Reviewer	2019
Organizer, Equity & Inclusion Journal Club, Harvard-Smithsonian CfA	2018-2019
Proposal Reviewer for the Czech Science Foundation	2018
ITC Post-doctoral Fellowship Committee Member, Harvard-Smithsonian CfA	1 year
SOC/LOC Member for Harvard-Heidelberg Star Formation meeting, Harvard-Smithsonian CfA	2017, 2019 (Chair)
Organizer, Diverse Topics in Astronomy Lecture Series, Lamat REU Program, UCSC	2015, 2016
Organizer, Space Telescope Proposal Writing Workshop, UCSC Astronomy & Astrophysics Department	2015
Member of the LAMAT Research Internship Admissions Committee	2014
Undergraduate Student Mentor, UCSC Women in Physics Group	2013-2017
Graduate Student Mentor, UCSC Astronomy & Astrophysics Department	2012-2013, 2016-2017
Astronomy Graduate Student Representative, UCSC Graduate Student Association	2012-2013
Organizer, Applying to the NSF GRFP Workshop, UCSC Astronomy & Astrophysics Department	2012-2016

TEACHING EXPERIENCE

Guest Lecture, UT Austin Computational Astrophysics Course, “Modeling Radiative Feedback in (Massive) Star Formation Simulations	2022
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Co-Instructor, Python Programming Bootcamp, Lamat Program, UCSC	2015
Activity Designer/Facilitator, Institute for Science & Engineering Educators Professional Development Program (PDP), Hartnell College	2011
Teaching Assistant, “Astronomy 2: Overview of the Universe”, UCSC	2010
Grader, “Astronomy C161: Relativistic Astrophysics & Cosmology”, UC Berkeley	2010
Undergraduate Student Instructor, “Astronomy C10: Introduction to Astronomy”, UC Berkeley	2009

PROFESSIONAL DEVELOPMENT

Diversity & Inclusion Certificate Program, UCSC Office for Diversity, Equity, and Inclusion	2017
Institute for Science & Engineering Educators, PDP for Inquiry-based Education, UCSC	2011
Astronomy 300: Instruction Techniques in General Astronomy (course), UC Berkeley	2009

REFEREED PUBLICATIONS (9 1ST-AUTHORED PUBLICATIONS)

- “Effects of the environment on the multiplicity properties of stars in the STARFORGE simulations”
Guszejnov, D., Raju, A.N., Offner, S.S.R., Grudić, M.Y, Faucher-Giguère, C., Hopkins, P.F., **Rosen, A.L.**, submitted to *Monthly Notices of the Royal Astronomical Society*
- “Effects of the environment and feedback physics on the initial mass function of stars in the STARFORGE simulations”
Guszejnov, D., Grudić, M.Y, Offner, S.S.R., Faucher-Giguère, C., Hopkins, P.F., **Rosen, A.L.**; 2022, *Monthly Notices of the Royal Astronomical Society*, 515, 4929, [NASA ADS](#)
- “A Massive Star is Born: How Feedback from Stellar Winds, Radiation Pressure, and Collimated Outflows Limits Accretion onto Massive Stars”
Rosen, A.L.; submitted to *The Astrophysical Journal* , [NASA ADS](#)
- “Cluster assembly and the origin of mass segregation in the STARFORGE simulations”
Guszejnov, D., Markey, C., Offner, S.S.R., Grudić, M.Y, Faucher-Giguère, C., **Rosen, A.L.**, Hopkins, P.F.; 2022, *Monthly Notices of the Royal Astronomical Society*, 515, 167, [NASA ADS](#)
- “Dust in the Wind with Resonant Drag Instabilities: I. The Dynamics of Dust-Driven Outflows in GMCs and H II Regions”
Hopkins, P.F., **Rosen, A.L.**, Squire, J., Panopoulou, G.V., Soliman, N.H., Seligman, D., Steinwandel, U.P.; accepted, *Monthly Notices of the Royal Astronomical Society*, [NASA ADS](#)
- “The dynamics and outcome of star formation with jets, radiation, winds, and supernovae in concert”
Grudić, M.Y, Guszejnov, D., Offner, S.S.R., **Rosen, A.L.**, Raju, A.N., Faucher-Giguère, C., Hopkins, P.F.; 2022, *Monthly Notices of the Royal Astronomical Society*, 512, 216, [NASA ADS](#)
- “Less wrong: a more realistic initial condition for simulations of turbulent molecular clouds”
Lane, H.B., Grudić, M.Y, Guszejnov, D., Offner, S.S.R., Faucher-Giguère, C., **Rosen, A.L.**; 2022, *Monthly Notices of the Royal Astronomical Society*, 510, 4767, [NASA ADS](#)
- “ORION2: A magnetohydrodynamics code for star formation”
Li, P.S., Cunningham, A.J., Gaches, B.L., Klein, R.I., Krumholz, M.R., Lee, A.T, McKee, C.F., Offner, S.S.R., **Rosen, A.L.**, Skinner, M.A., *Journal of Open Source Software*, [JOSS](#)
- “The Effects of Magnetic Fields and Outflow Feedback on the Shape and Evolution of the Density PDF in Turbulent Star-Forming Clouds”
Appel, S.M., Burkhart, B., Semenov, V.A., Federrath, C., **Rosen, A.L.**; 2022, *The Astrophysical Journal*, 927, 75, [NASA ADS](#)
- “Blowing Bubbles around Intermediate-Mass Stars: Feedback from Main-sequence Winds is not Enough”
Rosen, A.L., Offner, S.S.R., Foley, M.M., Lopez, L.A., submitted to *The Astrophysical Journal*, [NASA ADS](#)

11. “Observations of the Ag(3x1) Phase on Ge(111)”
Mullet, C.H., **Rosen, A.L.**, Chiang, S., 2021, *Journal of Vacuum Science & Technology A*, 39, Issue 5, [NASA ADS](#)
12. “Evolution of Stellar Feedback in H II Regions”
Olivier, G.M., Lopez, L.A., **Rosen, A. L.**, Nayak, O., Reiter, M., Krumholz, M. R., Bolatto, A.D., *Astrophysical Journal*, 2021, 908, 68, [NASA ADS](#)
13. “Continuity of Accretion from Clumps to Class 0 High-Mass Protostars”
Avison, A., Fuller, G.A., N. Peretto, N., Duarte-Cabral, A., **Rosen, A.L.**, Traficante, A., Pineda, J.E., Güsten, R., & Cunningham, N., 2021, *Astronomy & Astrophysics*, 645, A142, [NASA ADS](#)
14. “Winds in Star Clusters Drive Kolmogorov Turbulence”
Gallegos-Garcia, M., Burkhardt, B., **Rosen, A.L.**, Naiman, J.P., Ramirez-Ruiz, E., 2020, *Astrophysical Journal Letters*, 899, 30, [NASA ADS](#)
15. “The Role of Outflows, Radiation Pressure, and Magnetic Fields in Massive Star Formation”
Rosen, A. L., Krumholz, M. R., 2020, *Astronomical Journal*, 160, 78, [NASA ADS](#)
16. “Zooming in on Individual Star Formation: Low- and High-mass Stars”
Rosen, A.L., Offner, S.S.R., Sadavoy, S.I., Bhandare, A., Vázquez-Semadeni, Ginsburg, A., 2020, *Space Science Reviews*, 216, 62, [NASA ADS](#)
17. “Formation and Evolution of Disks Around Young Stellar Objects”
Zhao, B, Tomida, K, Hennebelle, P., Tobin, J.J., Maury, A., Hirota, T., Sánchez-Monge, Á., Kuiper, R., **Rosen, A.**, Bhandare, A., Padovani, M., Lee, Y., 2020, *Space Science Reviews*, 216, 43, [NASA ADS](#)
18. “Circumbinary Disks: Accretion and Torque as a Function of Mass Ratio and Disk”
Duffell, P.C., D’Orazio, D., Derdzinski, A., Haiman, Z., MacFayden, A., **Rosen, A.L.**, & Zrake, J., 2020, *Astrophysical Journal*, 901, 25, [NASA ADS](#)
19. “Massive Star Formation via the Collapse of Subvirial and Virialized Turbulent Massive Cores”
Rosen, A.L., Li, P.S., Zhang, Q., Burkhardt, B., 2019, *Astrophysical Journal*, 887, 108, [NASA ADS](#)
20. “unyt: Handle, manipulate, and convert data with units in Python”
Goldbaum, N.J., ZuHone, J.A., Turk, M.J., Kowalik, K., & **Rosen, A.L.**, 2018, *Journal of Open Source Software*, 3, 28, 809; [NASA ADS](#)
21. “Hybrid Adaptive Ray-Moment Method (HARM²): A Highly Parallel Method for Radiation Hydrodynamics on Adaptive Grids”
Rosen, A. L., Krumholz, M. R., Oishi, J.S., Lee, A.T., & Klein, R.I., 2017, *Journal of Computational Physics*, 330, 924; [NASA ADS](#)
22. “An Unstable Truth: How Massive Stars get their Mass”
Rosen, A. L., Krumholz, M. R., McKee, C.F., & Klein, R.I., 2016, *Monthly Notices of the Royal Astronomical Society*, 463, 2553; [NASA ADS](#)
23. “Gone with the Wind: Where is the Missing Stellar Wind Energy from Massive Star Clusters?”
Rosen, A. L., Lopez, L.A., Krumholz, M. R., & Ramirez-Ruiz, E.; 2014, *Monthly Notices of the Royal Astronomical Society*, 442, 2701; [NASA ADS](#)
24. “What Sets the Initial Rotation Rates of Massive Stars?”
Rosen, A. L., Krumholz, M. R., & Ramirez-Ruiz, E.; 2012, *Astrophysical Journal*, 748, 97; [NASA ADS](#)

SCIENTIFIC PRESENTATIONS

Given **37** invited talks and **34** contributed talks to date, including

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| 1. Talk, A Holistic View of Stellar Feedback and Galaxy Evolution; Ascona, Switzerland | 2022 |
| 2. Talk, IAUS 361 Massive Stars: Near and Far; Balleyconnell, Co. Caven, Ireland | 2022 |
| 3. Invited Seminar, CITA; Toronto, Canada | 2022 |
| 4. Invited Colloquium, Durham University; Durham, UK | 2022 |
| 5. Talk, Ringberg Virtual Seminar Series | 2021 |

6. Invited Talk, Purdue University; Astrophysics Seminar; West Lafayette, IN *2021*
7. Invited Colloquium, Carnegie Observatories; Pasadena, CA *2021*
8. Invited NSF REU Colloquium, Center for Astrophysics | Harvard & Smithsonian
Cambridge, MA *2021*
9. Invited Talk, University of Wisconsin, Madison; Astronomy Lunch Talk; Madison, WI *2021*
10. Invited Talk, Los Alamos National Laboratory; Los Alamos, NM *2021*
11. Invited Colloquium, Caltech Astronomy Colloquium; Pasadena, CA *2021*
12. Invited Colloquium, Royal Observatory of Edinburgh; Edinburgh, Scotland *2021*
13. Invited Talk, JILA Astrophysics Friday Seminar; University of Colorado, Boulder,
Boulder, CO *2021*
14. Invited Colloquium, Rice University Physics & Astronomy Department; Houston, TX *2021*
15. Invited Colloquium, University of Chicago Astronomy & Astrophysics Department;
Chicago, IL *2021*
16. Invited Talk, Tuesday Lunch Seminar, UCLA Astronomy Department; Los Angeles, CA *2020*
17. Invited Review Talk, Radiation Hydrodynamics: Implementation and Application;
Royal Astronomical Society; London, UK *2019*
18. Talk, NASA Hubble Symposium; Washington, DC *2019*
19. Invited Talk, Astronomy Seminar, Rutgers University Physics & Astronomy Department;
Piscataway, NJ *2019*
20. Talk, Crete III Through Dark Lanes to New Stars: Celebrating the Career of
Prof. Charlie Lada; Crete, Greece *2019*
21. Talk, Zooming in on Star Formation; Nafplio, Greece *2019*
22. Invited Review Talk, International Space Science Institute, Star Formation Workshop;
Bern, Switzerland *2019*
23. Talk, UT Austin Astronomy Department, ISM & Planets Seminar; Austin, TX *2018*
24. Invited Talk, Gas Fueling of Galaxy Structures Across Cosmic Time, Astro 3D Workshop;
Barossa Valley, South Australia *2018*
25. Invited Colloquium, University of Florida Astronomy Department; Gainesville, FL *2018*
26. Talk, NASA Einstein Symposium, Harvard-Smithsonian CfA; Cambridge, MA *2018*
27. Invited Review Talk, Stars Birth & Death: GMT Community Science Meeting; Honolulu, HI *2018*
28. Talk, The Wonders of Star Formation; Edinburgh, UK *2018*
29. Talk, Tracing the Flow: Galactic Environments and the Formation of Massive Stars;
Lake Windermere, UK *2018*
30. Talk, Olympian Symposium 2018: Gas and stars from milli- to mega- parsecs;
Paralia Katerini, Greece *2018*
31. Talk, SESTAS at MPA, Max Planck Institute for Astronomy (MPA), Garching, Germany *2018*
32. Talk, Star and Planet Formation Seminar; European Southern Observatory (ESO),
Garching, Germany *2018*
33. Talk, Early Phase of Star Formation; Ringberg, Germany *2018*
34. Talk, ITC Luncheon, Harvard-Smithsonian CfA; Cambridge, MA *2018*
35. Invited Talk, Astrophysical Shocks Meeting, AIP Potsdam; Potsdam, Germany *2018*
36. Invited Talk, High Energy Seminar, Harvard-Smithsonian CfA; Cambridge, MA *2017*
37. Talk, NASA Einstein Symposium, Harvard-Smithsonian CfA; Cambridge, MA *2017*
38. Invited Talk, ITC Luncheon, Harvard-Smithsonian CfA; Cambridge, MA *2017*
39. Invited Talk, Astronomy Seminar, University of Massachusetts Lowell; Lowell, MA *2017*
40. Invited Talk, Astronomy Seminar, University of Connecticut; Storrs, CT *2017*
41. Invited Colloquium, Department of Astronomy, University of Massachusetts Amherst;
Amherst, MA *2017*
42. Talk, Multi-Scale Star Formation; Morelia, Michoacan, Mexico *2017*

43. Dissertation Talk, 229th AAS Meeting; Grapevine, TX 2017
44. Talk, Tuesday Seminar, University of Chicago; Chicago, IL 2016
45. Talk, CITA Seminar, Canadian Institute for Computational Astrophysics; Toronto, Canada 2016
46. Talk, Galaxy Journal Club, Space Telescope Science Institute; Baltimore, MD 2016
47. Talk, Thunch Seminar, Princeton; Princeton, NJ 2016
48. Invited Talk, Galaxies & Cosmology Seminar, Harvard-Smithsonian CfA; Cambridge, MA 2016
49. Talk, MIT Astrophysics Brown Bag Lunch Series, MIT Kavli Institute; Cambridge, MA 2016
50. Invited Talk, CCAPP Seminar, Ohio State University; Columbus, OH 2016
51. Talk, Columbia Astronomy Seminar, Columbia; Manhattan, NY 2016
52. Talk, Galaxy Lunch Seminar, Yale; New Haven, CT 2016
53. Invited Talk, TAPIR Seminar, Caltech; Pasadena, CA 2016
54. Talk, Thursday Theory Seminar, Carnegie Observatories; Pasadena, CA 2016
55. Talk, Star Formation in Different Environments; Quy Nhon, Vietnam 2016
56. Invited Talk, Cosmology Seminar, KIPAC/Stanford, Palo Alto, Ca 2016
57. Invited Talk, Cosmoclub, UCSC; Santa Cruz, CA 2016
58. Talk, From Stars to Massive Stars; Gainesville, Florida 2016
59. Invited Talk, Computational Astrophysics Meeting; ANU RSAA, Canberra, Australia 2016
60. Talk, XXIXth IAU General Assembly, IAUS 316: Formation, Evolution, and
Destruction of Massive Star Clusters; Honolulu, Hawaii 2015
61. Talk, Soul of High Mass Star Formation; Puerto Varas, Chile 2015
62. Invited Talk, Star & Planet Formation Day; Gainesville, Florida 2015
63. Invited Talk, Florida ASTROWIN Workshop: Star Formation Feedback; Gainesville, Florida 2015
64. Invited Talk, Formation of Massive Star Clusters Workshop; Prague, Czech Republic 2014
65. Invited Talk, Chemical Evolution Workshop; DARK Copenhagen, Denmark 2014
66. Talk, Summer FLASH, UCSC, Santa Cruz, CA 2014
67. Talk, Olympian Symposium on Star Formation; Paralia Katerinis, Mount Olympus, Greece 2014
68. Invited Talk, Geophysical & Astrophysical Fluid Dynamics Seminar; UCSC, Santa Cruz, CA 2012
69. Talk, XXVIIIth IAU General Assembly Meeting, JD 2: Very Massive Stars in the
Local Universe; Beijing, China 2012
70. Talk, Friday Lunch Astrophysics Seminar Hour (FLASH); UCSC, Santa Cruz, CA 2012
71. Poster, Four Decades of Research on Massive Stars: A Scientific Meeting in
Honour of Anthony F.J. Moffatt; Montreal, Canada 2011
72. Poster, 215th AAS Meeting; Washington, DC 2010

PUBLIC OUTREACH

- American Association of University Women (AAUW) STEM Ambassador 2022
STEMEd for Girls program (panelist)
- Speaker, “How to Make Massive Stars on a (super)Computer,” Western Nevada College/NCCN 2022
Science Matter Expert, NASA Community College Network (NCCN) 2021-Present
- Panelist, Astronomy Career Panel, Girls Inc., Lynn, MA 2021
- Panelist, “Meet a Scientist” Panel for Women’s History Month, Marin Community College 2021
- Panelist, “Writing an Effective Proposal” presented to Harvard Graduate Students 2020
- Interviewee, “How to Make Stars on a (super)Computer,”
Astrochats Interview hosted by MicroObservatory, [Link to YouTube video](#) 2020
- Speaker, “How to Make Massive Stars on a (super)Computer,”
Astronomy on Tap Boston Event 2020
- Presenter, “Visualizing Numerical Simulations with *yt*”
Center for Astrophysics | Harvard & Smithsonian *Demofest* 2019
- Speaker, “How to Make Stars on a (super)Computer,”

Women in Science and Engineering (WiSE) Science on Tap Event	<i>2017</i>
Speaker, “An Unstable Truth: How Massive Stars get their Mass,” AAUW Monterey Peninsula Chapter Meeting	<i>2017</i>
Speaker, “How to Write an Effective Abstract,” Lamat REU Program, UCSC	<i>2016</i>
Organizer and Panelist, “Astronomy Grad Student and Post-doc Panel,” Lamat REU Program, UCSC	<i>2016</i>
Speaker, “Then and Now: From North Hills Prep to a Ph.D. in Astrophysics,” North Hills Prep School	<i>2016</i>
Astronomy Outreach Activity, Expanding Your Horizons Workshop for Young Girls, Hartnell College	<i>2015</i>
Speaker, “How to Make Stars on a (super)Computer,” UCSC, Monterey Astronomy Club, Scotts Valley High School	<i>2015</i>
Speaker, “Computational Astrophysics”, Stanford Pre-collegiate Summer Courses, Stanford	<i>2015</i>
Speaker, “Star Formation and Stellar Feedback”, Lamat Research Experience for Undergraduates (REU) Program, UCSC	<i>2015, 2016</i>
Speaker, “Reading Scientific Literature,” Lamat REU Program, UCSC	<i>2015</i>
Graduate Student Panelist, Advancement Via Individual Determination (AVID) Program, Soquel High School	<i>2015</i>
Women in Science & Engineering (WiSE) Astronomy Education Outreach Presentation, Seaside High School	<i>2014</i>
Panelist, STEM Diversity Professional Development Workshop Series, UCSC	<i>2014</i>
Author, www.astrobites.org , Link to my articles	<i>2011-2013</i>
WiSE Education Outreach Presentation, Santa Cruz High School	<i>2011</i>
Panelist, Girls Scouts “Girls Go Tech” Event, NASA Ames, Moffatt Field, CA	<i>2011</i>