

David A. Rubin

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RESEARCH INTERESTS Supernova Cosmology * Survey Planning and Optimization * Astronomical Observing and Survey Execution * Statistical Analyses and Data Science

APPOINTMENTS **University of Hawai'i at Mānoa**
Fall 2019–Present: Assistant Professor

PRIOR APPOINTMENTS **Space Telescope Science Institute**
Winter 2015–Summer 2019: Postdoctoral Researcher

Florida State University
Fall 2013–Summer 2015: Research Faculty, Physics Department

Université Pierre et Marie Curie/Laboratoire de Physique Nuclaire et de Hautes Energies
June 10th–24th 2014: Invited Researcher to plan future cosmology efforts.

Lawrence Berkeley National Laboratory
July 1st–31st 2014: Invited Researcher to launch HST GO-13677.
Summer 2013: Postdoctoral Researcher with Saul Perlmutter completing HST GO/DD-12360.

EDUCATION **University of California, Berkeley**
Ph.D., Physics, May 2013; Advisor: Saul Perlmutter
“E Pluribus Unum: Cosmological Analysis of Heterogenous Supernova Ia Datasets”
M.A., Physics, May 2006

Reed College
B.A., Physics, May 2004
“Image Deblurring Algorithms and Computational Optical Sectioning Microscopy”

PRIMARY AUTHOR PUBLICATIONS *h*-index: 21, 4600 citations, *Student author
Rubin, D. [“Evaluating K bands for Nancy Grace Roman Space Telescope Rest-Frame NIR SN Ia Distances”](#) Submitted for publication to PASP
Currie, M., **Rubin, D.** et al. [“Improving the Calibration of the SN Ia Anchor Datasets with a Bayesian Hierarchical Model”](#) Submitted for publication to ApJ
Fox, O. D., Khandrika, H., **Rubin, D.** et al. [“A Spitzer Survey for Dust-Obscured Supernovae”](#)
Accepted for publication in MNRAS

- Rubin**, D. and Cikota, A. et al. [“Going Forward with the Nancy Grace Roman Space Telescope Transient Survey: Validation of Precision Forward-Modeling Photometry for Undersampled Imaging”](#) Accepted for publication in PASP
- Hayden, B., **Rubin**, D., Boone, K. et al. 2021 [“The HST See Change Program: I. Survey Design, Pipeline, and Supernova Discoveries.”](#) *The Astrophysical Journal*, Volume 912, Issue 2, id.87
- Rose, B. M., **Rubin**, D., Strolger, L., Garnavich, P., 2021 [Host Galaxy Mass Combined with Local Stellar Age Improve Type Ia Supernovae Distances](#) *The Astrophysical Journal*, Volume 909, Issue 1, id.28
- Rubin**, D. 2020 [“Constraining the Dimensionality of SN Ia Spectral Variation with Twins.”](#) *The Astrophysical Journal*, Volume 897, Issue 1, id.40
- Rose, B. M., **Rubin**, D., et al. 2020 [“Evidence for Cosmic Acceleration Is Robust to Observed Correlations between Type Ia Supernova Luminosity and Stellar Age.”](#) *The Astrophysical Journal Letters*, Volume 896, Issue 1, id.L4
- Rubin**, D. and Heitlauf, J.* 2020 [“Is the expansion of the universe accelerating? All signs still point to yes: a local dipole anisotropy cannot explain dark energy.”](#) *The Astrophysical Journal*, Volume 894, Issue 1, id.68
- Rose, B. M., Dixon, S., **Rubin**, D., Hounsell, R., Saunders, C., et al. 2020. [“Initial Evaluation of SNEMO2 and SNEMO7 Standardization Derived from Current Light Curves of Type Ia Supernovae.”](#) *The Astrophysical Journal*, Volume 890, Issue 1, id.60
- Rubin**, D., Szapudi, I., Shappee, B. J., Anand, G. S.* 2020. [“Does Gravity Fall Down? Evidence for Gravitational-wave Deflection along the Line of Sight to GW170817.”](#) *The Astrophysical Journal Letters*, Volume 890, Issue 1, id.L6
- Hayden, B., **Rubin**, D., Strovink, M. 2019 [“SN Ia Standardization on the Rise: Evidence for the Cosmological Importance of Pre-Maximum Measurements.”](#) *The Astrophysical Journal*, Volume 871, Issue 2, article id. 219, 13 pp.
- Rodríguez, M.*, Murphy, J., **Rubin**, D., Dolphin, A., Williams, B., and Dalcanton, J. [“Progenitor Mass Distribution for Core-Collapse Supernova Remnants in M31 & M33.”](#) *The Astrophysical Journal* Volume 861, Issue 2, article id. 92, 13 pp.
- Rubin**, D., Hayden, B. (co-first author) and Huang, X., et al. 2018 [“The Discovery of a Gravitationally Lensed Supernova Ia at Redshift 2.22.”](#) *The Astrophysical Journal* Volume 866, Issue 1, article id. 65, 16 pp.
- Rubin**, D., and Hayden, B. 2016. [“Is the expansion of the universe accelerating? All signs point to yes.”](#) *The Astrophysical Journal Letters*, Volume 833, Number 2
- Rubin**, D., et al. 2015. [“UNITY: Confronting Supernova Cosmology’s Statistical and Systematic Uncertainties in a Unified Bayesian Framework.”](#) *The Astrophysical Journal*, Volume 813, Issue 2, article id. 137. [21 ADS Citations]
- Rubin**, D., et al 2015. [“A Calibration of NICMOS Camera 2 for Low Count Rates.”](#) *The Astronomical Journal*, Volume 149, Issue 5, article id. 159.
- Nordin, J., **Rubin**, D., Richard, J., Rykoff, E., et al 2014. [“Lensed Type Ia Supernovae as Probes of Cluster Mass Models.”](#) *Monthly Notices of the Royal Astronomical Society*, Volume 440, Issue 3. [18 ADS Citations]
- Rubin**, D., Knop, R., Rykoff, E. et al. 2013. [“Precision Measurement of the Most Distant Spectroscopically Confirmed Supernova Ia with the Hubble Space Telescope.”](#) *The Astrophysical Journal*, Volume 763, Issue 1, article id. 35. [23 ADS Citations]

- Suzuki, N., **Rubin**, D., Lidman, C., et al. 2012. [“The Hubble Space Telescope Cluster Supernova Survey: V. Improving the Dark Energy Constraints Above \$z > 1\$ and Building an Early-Type- Hosted Supernova Sample.”](#) *The Astrophysical Journal*, Volume 746, Issue 1, article id. 85. [828 ADS Citations]
- Amanullah, R., Lidman, C., **Rubin**, D., et al. 2010. [“Spectra and HST Light Curves of Six Type Ia Supernovae at \$0.511 < z < 1.12\$ and the Union2 Compilation.”](#) *The Astrophysical Journal*, Vol. 716, pp. 712-738. [923 ADS Citations]
- Rubin**, D., Linder, E. V., M. Kowalski, et al. 2009. [“Looking Beyond Lambda with the Union Supernova Compilation.”](#) *The Astrophysical Journal*. Vol. 695, pp. 391-403. [57 ADS Citations]
- Kowalski, M., **Rubin**, D., et al. 2008. [“The SCP Union Compilation: Improved Cosmological Constraints from New, Old, and Combined Supernova Datasets.”](#) *The Astrophysical Journal*, Vol. 686, No. 2., pp. 749-778. [1064 ADS Citations]
- Boone, K. et al. 2021 [“The Twins Embedding of Type Ia Supernovae. I. The Diversity of Spectra at Maximum Light”](#) *The Astrophysical Journal*, Volume 912, Issue 1, id.70
- Boone, K. et al. 2021 [“The Twins Embedding of Type Ia Supernovae. II. Improving Cosmological Distance Estimates”](#) *The Astrophysical Journal*, Volume 912, Issue 1, id.71
- Rigault, M. et al. [“Strong Dependence of Type Ia Supernova Standardization on the Local Specific Star Formation Rate.”](#) *Astronomy & Astrophysics*. Volume 644, id.A176
- Yao, Y. et al. [“SN2019dge: A Helium-rich Ultra-stripped Envelope Supernova”](#). *The Astrophysical Journal*. Volume 900, Issue 1, id.46
- Williams, S. C. et al. [“See Change: VLT spectroscopy of a sample of high-redshift Type Ia supernova host galaxies”](#) *Monthly Notices of the Royal Astronomical Society*, Volume 495, Issue 4
- Léget, P.-F., et al., [“SUGAR: An improved empirical model of Type Ia Supernovae based on spectral features.”](#) *Astronomy & Astrophysics*, Volume 636.
- Kim, J. et al. 2019. [“Precise Mass Determination of SPT-CL J2106-5844, the Most Massive Cluster at \$z > 1\$ ”](#), *The Astrophysical Journal*, Volume 887, Issue 1, article id. 76, 17 pp.
- Taubenberger, S. et al. 2019. [“SN 2012dn from early to late times: 09dc-like supernovae reassessed.”](#) *Monthly Notices of the Royal Astronomical Society*, Volume 488, Issue 4, p.5473-5488
- Jencson, J et al. 2019. [“Discovery of an Intermediate-luminosity Red Transient in M51 and Its Likely Dust-obscured, Infrared-variable Progenitor”](#) *The Astrophysical Journal Letters*, Volume 880, Issue 2, article id. L20, 13 pp.
- Yasuda, N. et al. 2019. [“The Hyper Suprime-Cam SSP transient survey in COSMOS: Overview.”](#) Publications of the Astronomical Society of Japan, Volume 71, Issue 4, id.74
- Saunders, C. et al. 2018. [“SNEMO: Improved Empirical Models for Type Ia Supernovae.”](#) *The Astrophysical Journal*, Volume 869, Issue 2, article id. 167, 25 pp.
- Léget, P.-F. et al. 2018. [“Correcting for peculiar velocities of Type Ia Supernovae in clusters of galaxies.”](#) *Astronomy & Astrophysics*, Volume 615, id.A162, 12 pp.
- Nordin, J. et al. 2018. [“Understanding Type Ia supernovae through their U-band spectra.”](#) *Astronomy & Astrophysics*, Volume 614, id.A71, 17 pp.
- Lombardo, S. et al. 2017. [“SCALA: In-situ calibration for Integral Field Spectrographs.”](#) *Astronomy & Astrophysics*, Volume 607, id.A113, 17 pp.

- Huang, X. et al. 2017. [“The Extinction Properties of and Distance to the Highly Reddened Type Ia Supernova 2012cu.”](#) *The Astrophysical Journal*, Volume 836, Issue 2, article id. 157, 18 pp.
- Fakhouri, H. et al. 2015. [“Improving Cosmological Distance Measurements Using Twin Type Ia Supernovae.”](#) *The Astrophysical Journal*, Volume 815, Issue 1, article id. 58.
- Rigault, M. et al. 2015. [“Confirmation of a Star Formation Bias in Type Ia Supernova Distances and its Effect on Measurement of the Hubble Constant.”](#) *The Astrophysical Journal*, Volume 802, Issue 1, article id. 20.
- Kim, A. et al. 2015. [“Distance Probes of Dark Energy.”](#) *Astroparticle Physics*, Volume 63, p. 2-22.
- Saunders et al. 2015. [“Type Ia Supernova Distance Modulus Bias and Dispersion from \$k\$ -Correction Errors.”](#) *The Astrophysical Journal*, Volume 800, Issue 1, article id. 57.
- Meyers, J., et al. 2012. [“The Hubble Space Telescope Cluster Supernova Survey: III. Correlated properties of Type Ia Supernovae and their Hosts at \$0.9 < z < 1.46\$.”](#) *The Astrophysical Journal*, Volume 750, Issue 1, article id. 1
- Thomas, R., et al. 2011. [“Type Ia Supernova Carbon Footprints.”](#) *The Astrophysical Journal*, Volume 743, Issue 1, article id. 27.
- Jee, M., et al. 2011. [“Scaling Relations and Overabundance of Massive Clusters at \$z > 1\$ from Weak-lensing Studies with the Hubble Space Telescope.”](#) *The Astrophysical Journal*, Volume 737, Issue 2, article id. 59.
- Barbary, K., et al. 2011. [“The Hubble Space Telescope Cluster Supernova Survey: VI. The Volumetric Type Ia Supernova Rate.”](#) *The Astrophysical Journal*, Volume 745, Issue 1, article id. 31
- Barbary, K., et al. 2011. [“The Hubble Space Telescope Cluster Supernova Survey: II. The Type Ia Supernova Rate in High-Redshift Galaxy Clusters.”](#) *The Astrophysical Journal*, Volume 745, Issue 1, article id. 32
- Morokuma, T., et al. 2010. [“Subaru FOCAS Spectroscopic Observations of High-Redshift Supernovae.”](#) *Publications of the Astronomical Society of Japan*, Vol.62, No.1
- Barbary, K., et al. 2009. [“Discovery of an Unusual Optical Transient with the Hubble Space Telescope.”](#) *The Astrophysical Journal*, Vol. 690, No. 2., pp. 1358-1362.
- Hilton, M., et al. 2009. [“The XMM Cluster Survey: Galaxy Morphologies and the Color-Magnitude Relation in XMMXCS J2215.9 - 1738 at \$z = 1.46\$.”](#) *The Astrophysical Journal*, Volume 697, Issue 1, pp. 436-451.
- Nobili, S., et al. 2009. [“Constraining Dust and Color Variations of High- \$z\$ SNe Using NICMOS on the Hubble Space Telescope.”](#) *The Astrophysical Journal*, Volume 700, Issue 2, pp. 1415-1427.
- Huang, et al. 2009. [“Hubble Space Telescope Discovery of a \$z = 3.9\$ Multiply Imaged Galaxy Behind the Complex Cluster Lens Warps J1415.1+36 at \$z = 1.026\$.”](#) *The Astrophysical Journal Letters*, Volume 707, Issue 1, pp. L12-L16.
- Dawson, K., et al. 2009. [“An Intensive HST Survey for \$z > 1\$ Type Ia Supernova by Targeting Galaxy Clusters.”](#) *The Astrophysical Journal*, Volume 138, Issue 5, pp. 1271-1283.
- Kuznetsova, N., et al. 2008. [“A New Determination of the High-Redshift Type Ia Supernova Rates with the Hubble Space Telescope Advanced Camera for Surveys.”](#) *The Astrophysical Journal*, Volume 673, Issue 2, pp. 981-998.
- Melbourne, J., et al. 2007. [“Rest-Frame R-band Light Curve of a \$z \sim 1.3\$ Supernova Obtained with Keck Laser Adaptive Optics.”](#) *The Astronomical Journal*, Volume 133, Issue 6, pp. 2709-2715.

OTHER
PUBLICATIONS

Currie, M.* and **Rubin**, D. “[Characterization of Unstable Pixels Using a Mixture Model: Application to HST WFC3 IR](#)” Accepted for publication in *Research Notes of the AAS*.

Law, D., **Rubin**, D., and Pontoppidan, K. “[WFIRST Integral Field Channel Simulation Baselines](#).” Technical report WFIRST-STSci-TR1701.

“Science-Driven Optimization of the LSST Observing Strategy.” White paper available at <https://github.com/LSSTScienceCollaborations/ObservingStrategy>.

Hsiao, E., Suzuki, N., Ripoche, P. et al. 2011. “The Detection and Removal of Large-scale Detector Background Structures in NICMOS Observations.” 2010 Space Telescope Science Institute Calibration Workshop - Hubble after SM4. Preparing JWST

SUCCESSFUL
FUNDED
PROPOSALS

HST Program “Perfect Blackbody Spectra for JWST and Next Generation UV-Opt-IR Standard Star Network” (2018-2019, PI: Nao Suzuki)

HST Program “Subaru Supernovae with Hubble Infrared (SUSHI),” (2017-2019, co-PI: David Rubin, PI: Nao Suzuki) (~ \$500,000, awaiting second-cycle budget for exact total)

NASA WFIRST Science Investigation Team “Investigating the Nature of Dark Energy using Type Ia Supernovae with WFIRST-AFTA Space Mission,” (\$1.5M, 2016-2020, PI: Saul Perlmutter; I am the Project Scientist)

Faculty supervisor for the Mentored Research and Creative Endeavor Award for Miles Currie (Summer 2015, \$1,000)

NASA WFIRST Preparatory Science “Preparatory studies for the WFIRST supernova cosmology measurements,” (\$200,000, 2014-2016, PI: Saul Perlmutter; Co-I: David Rubin)

HST SNAP-14163, “Honing Type Ia Supernovae as Distance Indicators, Exploiting Environmental Bias for H_0 and w ,” (PI: Mickael Rigault, Co-I: David Rubin)

HST CAL/WFC3-14022, “WFC3 IR Observations of Red CALSPEC Stars” (2015 in progress, with collaborators Susana Deustua, Varun Bajaj, Ariel Bowers)

HST GO-13677, “See Change: Testing time-varying dark energy with $z > 1$ supernovae and their massive cluster hosts” (\$900,000, 2014-2016, PI: Saul Perlmutter; Co-I: David Rubin)

HST GO/DD-12360, (2011, PI: Saul Perlmutter, Co-I: David Rubin)

HST GO/DD-12051 (2010, PI: Saul Perlmutter, Co-I: David Rubin)

HST GO/DD-11799 (2008, PI: Saul Perlmutter, Co-I: David Rubin)

OBSERVING
EXPERIENCE

Classical Observing

- *Keck* optical and NIR multi-object spectroscopy (LRIS, MOSFIRE)

Queue-Mode Observing

- *Gemini* optical multi-object spectroscopy (GMOS)
- *Hubble Space Telescope* optical/NIR imaging (ACS, NICMOS, WFC3)
- *Hubble Space Telescope* NIR multi-object spectroscopy (WFC3)

Data Reduction Experience

- *Hubble Space Telescope* optical/NIR imaging, including writing forward modeling code (WFPC2, ACS, NICMOS, WFC3)
- *Hubble Space Telescope* optical/NIR multi-object spectroscopy (ACS, WFC3)
- *Subaru* optical imaging (Suprime Cam)

INVITED TALKS

- “From Supernovae to Dark Energy: Current Results and a Recipe for Cosmological Progress.” Physics Colloquium at Duke University. February 2018.
- “The Discovery of a Gravitationally Lensed Supernova Ia at Redshift 2.22.” Science Coffee at STScI. December 2017.
- “Survey Simulations and Cosmological Forecasts: how do we derive reliable SN cosmological constraints (that we will believe if $w \neq -1$)?” *WFIRST* workshop at STScI. July 2017.
- “Confronting Supernova Cosmology’s Statistical and Systematic Uncertainties with Hamiltonian Monte Carlo.” Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing at Stanford, August 2016.
- “SN Survey Simulation Tools for Evaluating WFI Requirements.” *WFIRST* Wide Field Instrument workshop at Princeton, April 2016.
- “Supernovae from Space! (SN cosmological measurements with *HST*, *JWST*, and *WFIRST*).” Post-doc workshop at STScI, February 2016.
- “UNITY: Unified Inference for Type Ia cosmology” Talk at the Berkeley Center for Cosmological Physics “Statistical sampling and non-sampling methods in cosmology” workshop, January 2016.
- “Supernovae from Space: Past and Future Supernova Cosmological Measurements with Space Telescopes.” Seminar at NASA Goddard Space Flight Center, July 2015.
- “From Pixels to Physics: The Accelerated Expansion of Supernova Cosmology.” Astrophysics Seminar at Florida State University, February 2015.
- “What’s New in the Union3 Supernova Ia Compilation?” Invited talk at Cook’s Branch Astronomy Workshop, October 2014.
- “SNfactory Standard Star Recalibration.” Invited talk at Laboratoire de Physique Nuclaire et de Hautes Energies, June 2014.
- “NICMOS 2/ WFC3 IR Cross-Calibration.” Invited talk at Laboratoire de Physique Nuclaire et de Hautes Energies, June 2014.
- “Union3: Two Flavors.” Invited talk at Laboratoire de Physique Nuclaire et de Hautes Energies, June 2014.
- “Calibration and Type Ia Supernovae.” Journal Club talk at University of Pennsylvania, October 2013.
- “How I Learned to Stop Worrying and Love the Supernova.” Talk for High School Students and Educators at the “Physics in and Through Cosmology Workshop” at Lawrence Berkeley National Laboratory, July 2013.
- “An Exciting Time in Supernova Cosmology.” Astrophysics colloquium at Stanford University, July, 2012.

CONFERENCE PRESENTATIONS

- “*WFIRST*: A Convergence of Parallels. Simultaneous NIR Imaging and Integral-Field Channel (IFC) Spectrophotometry of LSST SNe.” Poster, Astronomy in the 2020s: Synergies with *WFIRST* Workshop, July 2017.
- “Analyses in Support of the *WFIRST* Supernova Survey.” Poster, Meeting of the American Astronomical Society, Grapevine, TX, January 2017.
- “Analyses in Support of the *WFIRST* Supernova Survey.” Poster, Community Astrophysics with *WFIRST*: Guest Observer and Archival Science, February 2016.
- “The Union3 Supernova Ia Compilation.” Poster, Meeting of the American Astronomical Society, Orlando, January 2016.

- “Updates to the Union SN Ia Compilation.” Poster, Meeting of the American Astronomical Society, Seattle, January 2015.
- “Updates to the Union SN Ia Compilation.” Poster, Cosmic Distance Scale Workshop, Baltimore, MD, April 2014.
- “Updates to the Union SN Ia Compilation.” Poster, Meeting of the American Astronomical Society, Washington, D.C., January 2014.
- “Updates to the High-Redshift Supernovae in the SCP Union Compilation.” Poster, Meeting of the American Astronomical Society, Long Beach, CA, January 2013.
- “New High-Redshift Supernovae Ia for the Union Compilation of Type Ia Supernovae.” Poster, Meeting of the American Astronomical Society, Austin, TX, January 2012.
- “The Next Union Compilation of Type Ia Supernovae.” Poster, Meeting of the American Astronomical Society, Seattle, WA, January 2011.
- “The Union2 Supernova Compilation.” Talk, Cosmology in Northern California, UC Berkeley, October 2010.
- “The Union2 Supernova Compilation: Construction and Cosmology.” Poster, Meeting of the American Astronomical Society, Washington, D.C., January 2010.
- “Cosmological Constraints from the Union Supernova Compilation.” Talk, Cosmology in Northern California, Stanford University, April 2008.
- “Cosmological Constraints from the Union Supernova Compilation.” Talk, Meeting of the American Astronomical Society, Austin, TX, January 2008.
- “Combining Supernova Datasets for Cosmological Measurements.” Poster, Meeting of the American Astronomical Society, Seattle, WA, January 2007.

TEACHING AND
MENTORSHIP

University of Hawai‘i at Mānoa

Dissertation Committee/Thesis Examiner

- Sam Hinton, 2020 (Outside Member)

Supervisor

- Jessica Heitlauf (Fall 2019 to Present)

Teaching

- General Physics II (Physics 272) Spring 2020

Space Telescope Science Institute

Supervisor

- Miles Currie (Fall 2017 to Summer 2018)
- Jesse Han (Summer 2018)

Florida State University

Supervisor, Directed Individual Study

- Miles Currie (Fall 2014 to Summer 2015)

Major Professor

- Greta Chappell (Fall 2014 to Spring 2015)

Group Leader, “Statistics Working Group” for graduate students (Fall 2014 to Spring 2015)

Guest Lecturer, AST 4210: Introduction to Astrophysics (Professor Peter Hoefflich)

- Stellar Atmospheres and Radiation Transport (September 25, 2013)
- Stellar Structure: Constructing Models of Stars (October 4, 2013)
- Astronomical Instruments, Part I (September 17, 2014)
- Astronomical Instruments, Part II (September 19, 2014)

University of California, Berkeley

Project Supervisor, Undergraduate Research Apprenticeship Program (URAP)

- Dark Energy Cosmology Studies with Type Ia Supernovae (Professor Saul Perlmutter)
Fall 2011 to Spring 2012
(supervising two undergraduates, resulting in one paper)

Graduate Student Instructor, Physics

- Physics 7A: Physics for Scientists and Engineers (Professor Raymond Chiao)
Fall 2004, Spring 2005
(teaching two weekly “sections” of 20-30 students each, conducting a lab for each section, and grading)

SERVICE

Review Panels

- NASA EPSCoR Reviewer, 2017
- NASA *Swift* Review Panel, 2015 (Cycle 12)

FSU Physics Department

- Colloquium Committee, Fall 2014 to Spring 2015

Referee

- *Journal of Cosmology and Astroparticle Physics* since 2016
- *Monthly Notices of the Royal Astronomical Society* since 2015
- *Science* since 2014
- *The Astrophysical Journal* since 2011
- *Physical Review Letters* since 2010
- *Physical Review D* since 2009

PROFESSIONAL AFFILIATIONS

American Astronomical Society
Supernova Cosmology Project
The Nearby Supernova Factory (Associate Member)

UNDERGRADUATE EXPERIENCES

Reed College

- Senior Reactor Operator, Reed Reactor Facility, 2002–2004
- Letter of Commendation on Qualifying Exam (earned by $\sim 1/20$ physics students), 2003
- Commended for Excellence in Scholarship 2002-2003
- Commended for Excellence in Scholarship 2001-2002
- Reactor Operator, Reed Reactor Facility, 2001–2002

NASA Ames Research Center

- NSF Research Experiences for Undergraduates (REU) program with Natalie Batalha (through San José State University), Summer 2002 and Summer 2003

Last updated June 20, 2021