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STScI | SPACE TELESCOPE SCIENCE INSTITUTE

Education

2016 – 2021 ◇ **Ph.D. (Physics), University of South Carolina**
Dissertation title: *Expanding the Frontiers of Supernova Cosmology in Preparation for Next Generation Telescopes.*

2018 – 2020 ◇ **M.Sc. (Physics), University of South Carolina**.
Thesis title: *Projected Cosmological Constraints from Strongly Lensed Supernovae with the Roman Space Telescope*.

2010 – 2014 ◇ **B.A. (Mathematics), Bowdoin College**.

Experience

2023 – · · · · ◇ **NASA Einstein Fellow,** Transient Science Group, STScI.

2021 – 2023 ◇ **Postdoc,** Transient Science Group, STScI.

2019 – 2021 ◇ **NASA FINESST Fellow,** Physics & Astronomy, UofSC.

2018 – 2019 ◇ **SCSGC Graduate Fellow,** Physics & Astronomy, UofSC.

2016 – 2018 ◇ **Research Assistant,** Physics & Astronomy, UofSC.

2015 – 2016 ◇ **Research Assistant,** Planetary Systems Lab, NASA GSFC.

◇ **Instructor,** NASA ARSET, NASA GSFC.

2014 – 2015 ◇ **Geospatial Analyst,** NASA DEVELOP, NASA LaRC/GSFC.

Grant Awards as Principal Investigator (Total $>$ $5M)

2026 ◇ **121 hour *JWST* GO Program ($650k, 12146)**, Standard-ish Candles: Measuring SN Ia Luminosity Drift at $z > 3$.

◇ **7.1 hour *JWST* DD Program ($35k, 12503)**, Constraining the Hubble Constant with Nebular-Phase Spectroscopy of a 20× Magnified, Multiply-Imaged Supernova .

2025 ◇ **3.5 hour *JWST* DD Program (Co-PI, $35k, 9478)**, SN Ares: A Strongly Lensed, High-z Core-collapse supernova with remarkable time delays.

◇ **26 orbit *HST* GO Program ($∼ 70k, 18069)**, Requiem's Return: Precision cosmology from a decade-delayed, strongly-lensed supernova and its new sibling.

◇ **26 hour *JWST* GO Program ($∼ 300k, 9330)**, Requiem's Return: Precision cosmology from a decade-delayed, strongly-lensed supernova and its new sibling.

◇ **2.5 hour *JWST* GO Program (Co-PI, $75k 8799)**, SN Requiem and its Encore: Leveraging the first strongly lensed SN-Ia siblings for precision cosmology.

◇ ***Euclid* Science ROSES Program ($850k)**, Making a Difference (Image): Transforming Euclid into a Transient Discovery Machine Through Cross-Observatory Synergies.

2024 ◇ **76 hour *JWST* GO Program ($815k 5324)**, Do Pass z=2, Do Collect Type Ia Supernovae: Breaking Out of Redshift Jail with JWST.

◇ **9 hour *JWST* DD Program (Co-PI, $50k 6585)**, The High-z Menagerie: A Rare Chance to Study the Early and Exotic Transient Universe.

Grant Awards as Principal Investigator (Total > $5M) (continued)

- **4 hour *JWST* GO Program (Co-PI, $80k 4755)**, SN Hope: Doubling the Time Delay Precision of a z=1.78 Multiply-imaged Type Ia Supernova.

2023
- **7 hour *JWST* DD Program ($50k 6549)**, Lensed Supernova Encore at z=2! The First Galaxy to Host Two Multiply-Imaged Supernovae.
- **45 orbit *HST* GO Program ($70k 17474)**, Pioneering Precision: Advancing Cosmology with the First Statistical Sample of Gravitationally Lensed Supernovae.
- **8 hour *JWST* GO Program ($280k 4568)**, Pioneering Precision: Advancing Cosmology with the First Statistical Sample of Gravitationally Lensed Supernovae.
- ***Roman Space Telescope* ROSES WFS Program ($700k)** , Enhancing the Roman Cosmology Program with Lensed Supernovae.
- **NASA Einstein Fellowship ($390k)**, Leveraging the Hubble Space Telescope for a New Era of Precision Near-IR Type Ia Supernova Cosmology.

2022
- **6 hour *JWST* DD Program ($50k 2754)**, Unique Constraints on Early Dust Growth in Core-Collapse Supernovae.
- ***HST* AR Program ($175k; 17024)**, Feeling Blue: Creating an Industry Standard SALT3 Model that is Robust at UV Wavelengths.

2020
- **22 orbit *HST* GO Program ($85k, 16264)**, LensWatch: Time Delay Measurement of a Multiply-Imaged Supernova.

2019
- **NASA FINESST Award ($110k)**, Optimizing WFIRST Surveys: Precision Cosmology with Gravitationally Lensed Supernovae.
- ***HST* AR Program ($90k; 15808)**, SALT3: Taking the Type Ia Supernova Cosmology Workhorse to Longer Wavelengths.

2018
- **Department Graduate Research & Service Awards ($2k)**.

First-Author Publications

1. J. D. R. Pierel et al. "Supernovae Observed with the James Webb Space Telescope". In: *Submitted to European Physical Journal Plus* (Nov. 2025).
2. J. D. R. Pierel et al. "SIRAH: II. Near-infrared Hubble Space Telescope Observations of Type Ia Supernovae". In: *Submitted to* ApJ (Nov. 2025).
3. J. D. R. Pierel et al. "Cosmology with supernova Encore in the strong lensing cluster MACS J0138-2155: Time delays & Hubble constant measurement". In: *Accepted in* ApJ (Sept. 2025). arXiv: 2509.12301 [astro-ph.CO].
4. J. D. R. Pierel et al. "Testing for Intrinsic Type Ia Supernova Luminosity Evolution at z > 2 with JWST". In: ApJ 981.1, L9 (Mar. 2025), p. L9. DOI: 10.3847/2041-8213/adb1d9. arXiv: 2411.11953 [astro-ph.CO].
5. J. D. R. Pierel et al. "Discovery of an Apparent Red, High-velocity Type Ia Supernova at z = 2.9 with JWST". In: ApJ 971.2, L32 (Aug. 2024), p. L32. DOI: 10.3847/2041-8213/ad6908. arXiv: 2406.05089 [astro-ph.GA].
6. J. D. R. Pierel et al. "Lensed Type Ia Supernova "Encore" at z = 2: The First Instance of Two Multiply Imaged Supernovae in the Same Host Galaxy". In: ApJ 967.2, L37 (June 2024), p. L37. DOI: 10.3847/2041-8213/ad4648. arXiv: 2404.02139 [astro-ph.CO].
7. J. D. R. Pierel et al. "JWST Photometric Time-delay and Magnification Measurements for the Triply Imaged Type Ia "SN Hope" at z = 1.78". In: ApJ 967.1, 50 (May 2024), p. 50. DOI: 10.3847/1538-4357/ad3c43. arXiv: 2403.18954 [astro-ph.CO].

8. J. D. R. Pierel et al. “LensWatch. I. Resolved HST Observations and Constraints on the Strongly Lensed Type Ia Supernova 2022qmx (“SN Zwicky”)”. In: ApJ 948.2, 115 (May 2023), p. 115. DOI: 10.3847/1538-4357/acc7a6. arXiv: 2211.03772 [astro-ph.CO].
9. J. D. R. Pierel et al. “SALT3-NIR: Taking the Open-source Type Ia Supernova Model to Longer Wavelengths for Next-generation Cosmological Measurements”. In: ApJ 939.1, 11 (Nov. 2022), p. 11. DOI: 10.3847/1538-4357/ac93f9. arXiv: 2209.05594 [astro-ph.CO].
10. J. D. R. Pierel et al. “Understanding Type Ia Supernova Distance Biases by Simulating Spectral Variations”. In: ApJ 911.2, 96 (Apr. 2021), p. 96. DOI: 10.3847/1538-4357/abe867. arXiv: 2012.07811 [astro-ph.CO].
11. J. D. R. Pierel et al. “Projected Cosmological Constraints from Strongly Lensed Supernovae with the Roman Space Telescope”. In: ApJ 908.2, 190 (Feb. 2021), p. 190. DOI: 10.3847/1538-4357/abd8d3. arXiv: 2010.12399 [astro-ph.CO].
12. J. D. R. Pierel and S. Rodney. “Turning Gravitationally Lensed Supernovae into Cosmological Probes”. In: ApJ 876.2, 107 (May 2019), p. 107. DOI: 10.3847/1538-4357/ab164a. arXiv: 1902.01260 [astro-ph.CO].
13. J. D. R. Pierel et al. “Extending Supernova Spectral Templates for Next-generation Space Telescope Observations”. In: PASP 130.993 (Nov. 2018), p. 114504. DOI: 10.1088/1538-3873/aadb7a. arXiv: 1808.02534 [astro-ph.IM].
14. J. D. R. Pierel et al. “D/H Ratios on Saturn and Jupiter from Cassini CIRS”. In: AJ 154.5, 178 (Nov. 2017), p. 178. DOI: 10.3847/1538-3881/aa899d.

Selected Co-Authored Publications (Full List)

1. David A. Coulter et al. “A spectroscopically confirmed, strongly lensed, metal-poor Type II supernova at z = 5.13”. In: *arXiv e-prints*, arXiv:2601.04156 (Jan. 2026), arXiv:2601.04156. DOI: 10.48550/arXiv.2601.04156. arXiv: 2601.04156 [astro-ph.HE].
2. Ori D. Fox et al. “Expanding the High-z Supernova Frontier: “Wide-Area” JWST Discoveries from the First Two Years of COSMOS-Web”. In: *arXiv e-prints*, arXiv:2601.08931 (Jan. 2026), arXiv:2601.08931. arXiv: 2601.08931 [astro-ph.HE].
3. Stefan Taubenberger et al. “HOLISMOKES XIX: SN 2025wny at $z = 2$, the first strongly lensed superluminous supernova”. In: *arXiv e-prints* (Oct. 2025). arXiv: 2510.21694 [astro-ph.CO].
4. Aadya Agrawal et al. “Testing Lens Models of PLCK G165.7+67.0 Using Lensed SN Hope”. In: *arXiv e-prints* (Oct. 2025). arXiv: 2510.07637 [astro-ph.CO].
5. M. Grayling et al. “BayeSN-TD: Time Delay and H_0 Estimation for Lensed SN Hope”. In: *arXiv e-prints* (Oct. 2025). arXiv: 2510.11719 [astro-ph.CO].
6. Zachary Stone et al. “NEXUS: A Search for Nuclear Variability with the First Two JWST NIRCam Epochs”. In: *arXiv e-prints* (Sept. 2025). arXiv: 2509.19585.
7. S. H. Suyu et al. “Cosmology with supernova Encore in the strong lensing cluster MACS J0138-2155: Lens model comparison and Ho measurement”. In: *arXiv e-prints* (Sept. 2025). arXiv: 2509.12319.
8. Erin E. Hayes et al. “The Case for Space: Estimating Precise Time Delays from Ground- and Space-Based Observations of Lensed Supernovae with Glimpse”. In: *arXiv e-prints* (Sept. 2025). arXiv: 2509.25350.
9. Mitchell Karmen et al. “JWST Discovery of a High-redshift Tidal Disruption Event Candidate in COSMOS-Web”. In: ApJ 990.2, 149 (Sept. 2025), p. 149. DOI: 10.3847/1538-4357/adf216. arXiv: 2504.13248 [astro-ph.HE].

10 Takashi J. Moriya et al. "Properties of high-redshift Type II supernovae discovered by the JADES transient survey". In: PASJ 77.4 (Aug. 2025), pp. 851–862. DOI: 10.1093/pasj/psaf052. arXiv: 2501.08969 [astro-ph.HE].

11 Melissa Shahbandeh et al. "JWST/MIRI Observations of Newly Formed Dust in the Cold, Dense Shell of the Type IIn SN 2005ip". In: ApJ 985.2, 262 (June 2025), p. 262. DOI: 10.3847/1538-4357/adce77. arXiv: 2410.09142 [astro-ph.HE].

12 Bryce Wedig et al. "The Roman View of Strong Gravitational Lenses". In: ApJ 986.1, 42 (June 2025), p. 42. DOI: 10.3847/1538-4357/adc24f. arXiv: 2506.03390 [astro-ph.CO].

13 M. Bronikowski et al. "Cluster-lensed supernova yields from the Vera C. Rubin Observatory and Nancy Grace Roman Space Telescope". In: A&A 697, A146 (May 2025), A146. DOI: 10.1051/0004-6361/202451457. arXiv: 2504.01068 [astro-ph.GA].

14 C. Larison et al. "LensWatch. II. Improved Photometry and Time-delay Constraints on the Strongly Lensed Type Ia Supernova 2022qmx ("SN Zwicky") with Hubble Space Telescope Template Observations". In: ApJ 980.2, 172 (Feb. 2025), p. 172. DOI: 10.3847/1538-4357/ada776. arXiv: 2409.17239 [astro-ph.HE].

15 Christa DeCoursey et al. "The JADES Transient Survey: Discovery and Classification of Supernovae in the JADES Deep Field". In: ApJ 979.2, 250 (Feb. 2025), p. 250. DOI: 10.3847/1538-4357/ad8fab. arXiv: 2406.05060 [astro-ph.HE].

16 Massimo Pascale et al. "SN Hope: The First Measurement of H_0 from a Multiply Imaged Type Ia Supernova, Discovered by JWST". In: ApJ 979.1, 13 (Jan. 2025), p. 13. DOI: 10.3847/1538-4357/ad9928. arXiv: 2403.18902 [astro-ph.CO].

17 S. Dhawan et al. "Spectroscopic analysis of the strongly lensed SN Encore: constraints on cosmic evolution of Type Ia supernovae". In: MNRAS 535.4 (Dec. 2024), pp. 2939–2947. DOI: 10.1093/mnras/stae2434. arXiv: 2407.16492 [astro-ph.HE].

18 Ana Sainz de Murieta et al. "Find the haystacks, then look for needles: the rate of strongly lensed supernovae in galaxy-galaxy strong gravitational lenses". In: MNRAS 535.3 (Dec. 2024), pp. 2523–2537. DOI: 10.1093/mnras/stae2486. arXiv: 2407.04080 [astro-ph.CO].

19 Sebastian Gomez et al. "The Type I superluminous supernova catalogue I: light-curve properties, models, and catalogue description". In: MNRAS 535.1 (Nov. 2024), pp. 471–515. DOI: 10.1093/mnras/stae2270. arXiv: 2407.07946 [astro-ph.HE].

20 M. R. Siebert et al. "Discovery of a Relativistic Stripped-envelope Type Ic-BL Supernova at z = 2.83 with JWST". In: ApJ 972.1, L13 (Sept. 2024), p. L13. DOI: 10.3847/2041-8213/ad6c32. arXiv: 2406.05076 [astro-ph.HE].

21 Wenlei Chen et al. "JWST Spectroscopy of SN Hope: Classification and Time Delays of a Triply Imaged Type Ia Supernova at z = 1.78". In: ApJ 970.2, 102 (Aug. 2024), p. 102. DOI: 10.3847/1538-4357/ad50a5. arXiv: 2403.19029 [astro-ph.GA].

22 Peter K. Blanchard et al. "JWST detection of a supernova associated with GRB 221009A without an r-process signature". In: *Nature Astronomy* 8 (June 2024), pp. 774–785. DOI: 10.1038/s41550-024-02237-4. arXiv: 2308.14197 [astro-ph.HE].

23 Brenda L. Frye et al. "The JWST Discovery of the Triply Imaged Type Ia "Supernova Hope" and Observations of the Galaxy Cluster PLCK G165.7+67.0". In: ApJ 961.2, 171 (Feb. 2024), p. 171. DOI: 10.3847/1538-4357/ad1034. arXiv: 2309.07326 [astro-ph.GA].

24 S. Tinyanont et al. "Keck Infrared Transient Survey. I. Survey Description and Data Release 1". In: PASP 136.1, 014201 (Jan. 2024), p. 014201. DOI: 10.1088/1538-3873/ad1b39. arXiv: 2309.07102 [astro-ph.SR].

25 Danial Langeroodi et al. "Evolution of the Mass-Metallicity Relation from Redshift $z \approx 8$ to the Local Universe". In: ApJ 957.1, 39 (Nov. 2023), p. 39. DOI: 10.3847/1538-4357/acdbc1. arXiv: 2212.02491 [astro-ph.GA].

26 Melissa Shahbandeh et al. "JWST observations of dust reservoirs in type IIP supernovae 2004et and 2017eaw". In: MNRAS 523.4 (Aug. 2023), pp. 6048–6060. DOI: 10.1093/mnras/stad1681. arXiv: 2301.10778 [astro-ph.HE].

27 Ariel Goobar et al. "Uncovering a population of gravitational lens galaxies with magnified standard candle SN Zwicky". In: *Nature Astronomy* 7 (June 2023), pp. 1098–1107. DOI: 10.1038/s41550-023-01981-3. arXiv: 2211.00656 [astro-ph.CO].

28 Patrick L. Kelly et al. "Constraints on the Hubble constant from supernova Refsdal's reappearance". In: *Science* 380.6649, abh1322 (June 2023), abh1322. DOI: 10.1126/science.abh1322. arXiv: 2305.06367 [astro-ph.CO].

29 Patrick L. Kelly et al. "The Magnificent Five Images of Supernova Refsdal: Time Delay and Magnification Measurements". In: ApJ 948.2, 93 (May 2023), p. 93. DOI: 10.3847/1538-4357/ac4ccb. arXiv: 2305.06377 [astro-ph.CO].

30 Steven L. Finkelstein et al. "CEERS Key Paper. I. An Early Look into the First 500 Myr of Galaxy Formation with JWST". In: ApJ 946.1, L13 (Mar. 2023), p. L13. DOI: 10.3847/2041-8213/acade4. arXiv: 2211.05792 [astro-ph.GA].

31 Lindsey A. Kwok et al. "A JWST Near- and Mid-infrared Nebular Spectrum of the Type Ia Supernova 2021aefx". In: ApJ 944.1, L3 (Feb. 2023), p. L3. DOI: 10.3847/2041-8213/acb4ec. arXiv: 2211.00038 [astro-ph.HE].

32 Rogier A. Windhorst et al. "JWST PEARLS. Prime Extragalactic Areas for Reionization and Lensing Science: Project Overview and First Results". In: AJ 165.1, 13 (Jan. 2023), p. 13. DOI: 10.3847/1538-3881/aca163. arXiv: 2209.04119 [astro-ph.CO].

33 W. D. Kenworthy et al. "SALT3: An Improved Type Ia Supernova Model for Measuring Cosmic Distances". In: ApJ 923.2, 265 (Dec. 2021), p. 265. DOI: 10.3847/1538-4357/ac30d8. arXiv: 2104.07795 [astro-ph.CO].

34 Steven A. Rodney et al. "A gravitationally lensed supernova with an observable two-decade time delay". In: *Nature Astronomy* 5 (Nov. 2021), pp. 1118–1125. DOI: 10.1038/s41550-021-01450-9. arXiv: 2106.08935 [astro-ph.CO].

35 R. Kessler et al. "Models and Simulations for the Photometric LSST Astronomical Time Series Classification Challenge (PLAsTiCC)". In: PASP 131.1003 (Sept. 2019), p. 094501. DOI: 10.1088/1538-3873/ab26f1. arXiv: 1903.11756 [astro-ph.HE].

Selected Grants as Co-I (Full List)

1 D. A. Coulter et al. *SN Eos: A Multiply-Imaged, 30x Magnified SN Near the Epoch of Reionization*. JWST Proposal. Cycle 4, ID. #9493. Sept. 2025.

2 E. Padilla-Gonzalez et al. *A Luminous, Red Transient at z = 3: An Extreme Test Bed for Supernova Evolution*. JWST Proposal. Cycle 4, ID. #9372. Apr. 2025.

3 Seiji Fujimoto et al. *Vast Exploration for Nascent, Unexplored Sources (VENUS)*. JWST Proposal. Cycle 4, ID. #6882. Mar. 2025.

4 Eiichi Egami et al. *JWST Multi-Cycle Deep Transient Survey in GOODS-S*. JWST Proposal. Cycle 4, ID. #8060. Mar. 2025.

5 Lindsey Kwok et al. *Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae*. JWST Proposal. Cycle 4, ID. #9255. Mar. 2025.

6. Brenda Frye et al. *SN Hope: Doubling the Time Delay Precision of a z=1.78 Multiply-imaged Type Ia Supernova*. JWST Proposal. Cycle 3, ID. #4744. Feb. 2024.
7. Lindsey Kwok et al. *Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae*. JWST Proposal. Cycle 3, ID. #5232. Feb. 2024.
8. Melissa Shahbandeh et al. *Probing Early Dust Formation in the Universe via Stripped-Envelope Supernovae*. JWST Proposal. Cycle 3, ID. #6583. Feb. 2024.
9. D. Scolnic et al. *Roman Space Telescope ROSES PIT Program*. ROSES Proposal. 2023.
10. Eiichi Egami et al. *JWST NIRSpec/NIRCam Follow-Up of the High-Redshift Transients Discovered in the GOODS-S JADES-Deep Field*. JWST Proposal. Cycle 2, ID. #6541. Nov. 2023.
11. Melissa Shahbandeh et al. *Near- and Mid-IR Observations to Probe Dust Formation in the Remarkably Nearby Stripped-Envelope Supernova 2023dbc*. JWST Proposal. Cycle 2, ID. #4520. May 2023.
12. Melissa Shahbandeh et al. *Probing Early Dust Formation in the Universe via Stripped-Envelope Supernovae*. JWST Proposal. Cycle 2, ID. #4217. May 2023.
13. Brenda Louise Frye et al. *SN Hope: Independent Measurement of Ho by the Time Delay of a Multiply-imaged Supernova*. JWST Proposal. Cycle 1, ID. #4446. Apr. 2023.
14. Melissa Shahbandeh et al. *Near- and Mid-IR Observations to Probe Dust Formation in the Remarkably Nearby Stripped-Envelope Supernova 2023dbc*. JWST Proposal. Cycle 1, ID. #4436. Apr. 2023.
15. Patrick Kelly et al. *Imaging and Spectroscopy of Three Highly Magnified Images of a Supernova at z=1.5*. JWST Proposal. Cycle 1, ID. #2767. Sept. 2022.
16. Wenlei Chen et al. *Imaging and Spectroscopic Follow-up of a Supernova at Redshift z=3.47*. JWST Proposal. Cycle 1, ID. #2756. Aug. 2022.
17. Ryan Foley et al. *Reducing Type Ia Supernova Distance Biases by Separating Reddening and Intrinsic Color*. HST Proposal. Cycle 29, ID. #17128. Aug. 2022.
18. Saurabh Jha et al. *Reducing Type Ia Supernova Distance Biases by Separating Reddening and Intrinsic Color*. HST Proposal. Cycle 27, ID. #15889. Aug. 2019.

Professional Development & Service

2025 **STScI JWST Summer School Instructor**.

LSST DESC Strong Lensing Topical Team Co-Convener (Ongoing).

STScI Public Outreach: Deep Space Dialogues, Opening a New Frontier in Transient Science with the *James Webb Space Telescope*.

Chandra Panel Member.

2024 **NASA ADAP Panel Member**.

Astronomy Mentorship Program (AMP-UP), Leadership Team (Ongoing).

Assisting in preservation of Maine Dark Skies (Ongoing).

2023 **JWST Cycle 3 TAC Panel Support Scientist**.

Lensed SN Roman ROSES Wide Field Science (WFS) – PI (Ongoing).

SN Ia Roman ROSES Project Infrastructure Team (PIT), Simulations Working Group Lead.

HST Cycle 31 TAC Panel Support Scientist.

JWST Cycle 2 TAC Panel Support Scientist.

2021 **Head of the LensWatch Collaboration (> 100 members)**, www.lenswatch.org (Ongoing).

Professional Development & Service (continued)

Peer Reviewer for ApJ, ApJL, PASP, A&A, MNRAS, JOSS (Ongoing).

2019 **Preparing Young Scientists for a STEM Career**, developed & taught course: "Leveraging Python for STEM Research" to ~ 30 undergraduate/graduate students and faculty in 2019, ~ 70 in 2020.

ISEE Professional Development Program, Intensive development program to train graduate students for a career in STEM teaching at the college level.

2017 **WFIRST (Roman) SN Ia Cosmology SIT member**.

Open-Source Software

2023 **JHAT: *JWST*/*HST* Alignment Tool**: GitHub, ReadTheDocs.

`Space_Phot`: Simple photometry for space telescope data: GitHub, ReadTheDocs.

2021 **BYOSED: Flexible Software for Simulating Effects on SNIa Distance Measurements**: GitHub, ReadTheDocs, Publication.

SALT3: The next iteration of the SALT model: GitHub, ReadTheDocs, Publication.

2019 **Supernova Time Delays (SNTD): Software to measure time delays of multiply-imaged supernovae**: GitHub, ASCL, ReadTheDocs, Publication.

2018 **SNSEDExtend: Software to extend optical supernova spectral templates**: GitHub, ASCL, ReadTheDocs, Publication.

Recent Selected Presentations

2025 **Testing for Intrinsic Type Ia Supernova Luminosity Evolution at $z > 2$ with *JWST***, Cosmic Lighthouses – Cambridge,UK.

Measuring the Hubble Constant with Multiply-Imaged Supernova Encore at $z = 1.95$, EAS 2025 – Cork, Ireland.

Opening a New Era of High-z Supernova Discovery with *JWST*, Cosmic Lighthouses – Cambridge,UK.

Testing for Intrinsic Type Ia Supernova Luminosity Evolution at $z > 2$ with *JWST*, COSMOS Team Meeting – Marseille, France.

Opening a New Era of High-z Supernova Discovery with *JWST*, Transients from Space – STScI (Invited).

2024 **The Present and Future in a New Era of High-Redshift Supernova Discovery**, CalTech Colloquium (Invited).

The Present and Future in a New Era of High-Redshift Supernova Discovery, UIUC Colloquium (Invited).

***JWST* Photometric Time Delay and Magnification Measurements for the Multiply-Imaged Type Ia Supernova "Hope"**, AAS – New Orleans, LA.

2023 ***Roman*+Rubin for Improved Cosmology with SNe Ia**, Cosmic Streams – Puerto Varas, Chile.

Measuring the Hubble Constant with a Triply-Imaged Type Ia Supernova at z=1.78, IfA Manoa, Hawai'i (Invited).

Observations and Constraints with Hubble and JWST for Two New Gravitationally Lensed Supernovae, EAS – Krakow, Poland.

Leveraging *HST*+*JWST* for Precision Cosmology with Gravitationally Lensed Supernovae, University of Nova Gorica (Invited).

LensWatch: Hubble Observations and Constraints for Two New Graviationally Lensed Supernovae, Strong Gravitational Lensing in the Era of Big Data – Otranto, Italy.

First Results of the LensWatch Collaboration: *Hubble*+*JWST* Observations and Constraints for Two New Gravitationally Lensed Supernovae, JPL (Invited).

2022 ***Roman*-Rubin Synergies and the Current Prominence of Cluster-Lensed SNe**, LSSTC Boom! Workshop UIUC (Invited).