
OR GRAUR

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POSITIONS AND PROFESSIONAL EXPERIENCE

04/2020 – present: *Senior Lecturer*, Institute of Cosmology and Gravitation, University of Portsmouth
10/2016 – 03/2020: *NSF Astronomy & Astrophysics Postdoctoral Fellow*, Harvard University
10/2016 – 03/2020: *Founder & Director*, Harvard Science Research Mentoring Program
07/2014 – 09/2016: *Assistant Research Scientist*, New York University
09/2013 – 06/2014: *Assistant Research Scientist*, The Johns Hopkins University

COURTESY APPOINTMENTS

05/2020 – present: *Associate*, Darwin College, University of Cambridge
10/2019 – present: *Visiting Scholar*, University of Cambridge Institute of Astronomy
09/2019 – 03/2020: *Visiting Senior Lecturer*, University of Portsmouth
09/2013 – 06/2014: *Visiting Scholar*, New York University
07/2013 – present: *Research Associate*, American Museum of Natural History

EDUCATION

Tel Aviv University, Tel Aviv, Israel
American Museum of Natural History, New York, NY, USA
2008 – 2013: Ph.D., Physics and Astronomy, awarded on Nov. 21, 2013
Advisor: Prof. Dan Maoz (Tel Aviv University)
Co-Advisor: Prof. Michael Shara (American Museum of Natural History)
Thesis title: *The Type Ia Supernova Rate and Delay-Time Distribution*

My thesis was awarded a Rodger Doxsey Travel Prize and presented at the 221st AAS meeting. It was also turned into a “PhD Comics” animated video that has been viewed > 79,000 times on YouTube.¹

Tel-Aviv University, Tel Aviv, Israel
2003 – 2007: B.Sc., Physics and Astronomy, *Magna cum Laude*

RESEARCH AND TEACHING INTERESTS

Transients, time-domain, and data science: I am interested in understanding the nature of the different stellar systems that give rise to explosive transients, such as supernovae and tidal disruption events. In my work, I also use these transients to learn about diverse areas of physics, from nucleosynthesis to cosmology. I conduct ground- and space-based observations of transients, mostly with the *Hubble Space Telescope* or large imaging and spectroscopic surveys. I am also interested in advanced data-science techniques and how they can be used to mine the vast amount of data that will be accumulated on transients in the coming decades. Through my education and outreach endeavours, I am committed to making science and academia more accessible and diverse, and to preparing students for the next steps in their careers.

Mentoring as a vocation: At the American Museum of Natural History, I mentored 17 high-school students and supervised their work on independent, undergraduate-level research projects. At Harvard, I

¹The Secret Lives (and Deaths) of Stars: <https://youtu.be/TeIgVe1LcRk>

founded and directed my own science research mentoring program (Harvard SRMP²). The goals of this program are to: (1) expose high-school students to modern, front-line research; (2) provide them with living scientists as mentors and role models; and (3) teach early-career scientists how to advise students. I have raised > \$60,000 for this program, which has now gone through three cohorts. Harvard SRMP is a founding partner of the Global SPHERE Network,³ an online database that helps high-school students around the world find local mentoring programs, and program directors to share best practices.

STUDENTS AND POSTDOCS

- 2020 – present: Dr. Peter Clark, postdoctoral fellow, University of Portsmouth (supervisor).
- 2020 – 2021: Dr. Chris Frohmaier, postdoctoral fellow, University of Portsmouth (advisor).
- 2020 – present: Maria Vincenzi, PhD student, University of Portsmouth (joint supervision).
- 2020: Elizabeth Swann, PhD student, University of Portsmouth (joint supervision).
- 2018 – 2020: V. Tiwari, graduate student, University of Massachusetts, Dartmouth, supervisor: R. Fisher: *Theoretical implications of late-time Type Ia supernova light curve analysis.*
- 2012: M. Mirmelstein, undergraduate student, Tel-Aviv University, supervisor: D. Maoz: *Amateur astronomer supernova detection efficiency in CLASH. Student was a co-author on Graur et al. (2014).*
- 2011 – 2016: 17 high-school students advised in five distinct projects. **Results presented by the students of the 2013–2014 cohort at the 225th AAS meeting (Murray et al. 2015).**

GRANTS AND FELLOWSHIPS

To date, I have brought in > \$550,000 in grants and fellowships, as itemized below.

- 2021 – 2024: *Hubble Space Telescope* GO-16497 (PI: ~\$80,000): *The Near-Infrared Plateau of Type Ia Supernovae*
- 2019 – 2022: *Hubble Space Telescope* GO-15693 (PI: \$45,377): *The late-time NIR light curve of SN 2018gv*
- 2019 – 2022: *Hubble Space Telescope* GO-15686 (PI): *A near-IR spectrum of the old Type Ia SN 2017erp*
- 2018 – 2020: Science Research Mentoring Program (Director: \$59,000)
- 2018 – 2021: *Hubble Space Telescope* GO-15415 (PI: \$27,809): *One last peek at SN 2015F*
- 2016 – 2020: NSF Astronomy and Astrophysics Postdoctoral Fellowship (PI: \$289,000): *Spectral Mining: Transforming Spectroscopic Galaxy Surveys into Transient Surveys*
- 2016 – 2019: *Hubble Space Telescope* GO-14611 (PI: \$118,309): *Going gently into the night: constraining Type Ia supernova nucleosynthesis using late-time photometry*
- 2016 – 2019: *Hubble Space Telescope* GO-14618 (CoI: \$15,888): *Ultraviolet Flashers in M87: Rapidly Recurring Novae as SNIa Progenitors*
- 2016 – 2019: *Hubble Space Telescope* GO-14208 (CoI: \$6,785): *Frontier Fields Supernova Search*
- 2014 – 2017: *Hubble Space Telescope* GO-13799 (PI: \$24,850): *Constraining Type Ia Supernova Nucleosynthesis and Explosion Models Using Late-Time Photometry of SN2011fe and SN2012cg*
- 2014 – 2017: *Hubble Space Telescope* GO-13386 (CoI: \$6,646): *Frontier Field Supernova Search*

TALKS AT CONFERENCES AND SEMINARS

I have presented my work in > 50 contributed and invited talks at > 30 institutions and conferences worldwide. In 17-18 January 2016, I organized a workshop at Harvard called “The Transient Universe with the James Webb Space Telescope.”⁴ I invited experts to describe the telescope’s capabilities through the lens of transient studies, and led brainstorming sessions to come up with ideas for proposals for Cycle 1. A complete list of talks is available upon request. Below, I note the ten most recent invited talks.

²Harvard Science Research Mentoring Program: <https://projects.iq.harvard.edu/shrimp>

³The Global SPHERE Network: <http://www.globalspherenetwork.org>

⁴The Transient Universe with JWST: <http://transientjwst.weebly.com/videos.html>

- 2021, Apr. 14: Colloquium, University of Sheffield.
- 2021, Jan. 29: Colloquium, University of Sussex.
- 2020, Feb. 15: Co-Organizer, “STEM Research Experiences for High School Students” panel at 2020 AAAS meeting.
- 2020, Jan. 29: University of Birmingham.
- 2019, May 1: Colloquium, Space Telescope Science Institute.
- 2019, Feb. 14: Colloquium, Carnegie Mellon University.
- 2018, Nov. 14: Colloquium, Institute for Astronomy, University of Hawaii.
- 2017, Sep. 12: Yale Center for Astronomy and Astrophysics, Yale University.
- 2017, Mar. 17: Department of Astronomy and Astrophysics, University of Toronto.
- 2016, Aug. 9–13: Supernovae Through the Ages (Invited conference talk, Easter Island, Chile).

OBSERVATIONAL EXPERIENCE

I am an experienced user of the *Hubble Space Telescope*, both as a PI (GO–13799, 14611, 15415, 15686, 15693, 16497) and as an active CoI (GO–12065, 13386, 14208, 14618, 15117). On the ground, I have used the Gemini, Magellan, MMT, and South African Large Telescope observatories, all as a PI. I am a member of the LCO Global Supernova Project, and I also make extensive use of archival data, such as SDSS.

PROFESSIONAL SERVICE

- 2021 – present: *Affiliate PI*, Legacy Survey of Space and Time (LSST). Member of DESC and TVSCC science collaborations since 2017.
- 2020 – present: *Member*, Gravitational-wave Optical Transient Observer (GOTO).
- 2020 – present: *Member*, Dark Energy Survey (DES).
- 2020 – present: *Member*, La Silla Schmidt Southern Survey (LS4).
- 2019 – present: *Member*, SIRAH *Hubble Space Telescope* supernova survey.
- 2018 – present: *Member*, Las Cumbres Observatory Global Supernova Project.
- 2017 – 2019: *Co-chair*, Dark Energy Spectroscopic Instrument (DESI) time-domain working group.
- 2016 – present: *Member*, Dark Energy Spectroscopic Instrument (DESI).
- 2016 – present: *Member*, BUFFALO *Hubble Space Telescope* supernova survey.
- 2015 – 2017: *Member*, RELICS *Hubble Space Telescope* supernova survey.
- 2014 – present: *Panelist*, NASA, NSF, and STScI grant/TAC review panels.
- 2014 – 2016: *Scientific advisor*, Science Bulletins,⁵ American Museum of Natural History.
- 2013 – 2016: *Member*, Frontier Fields *Hubble Space Telescope* supernova survey.
- 2013: *Advisor*, *Dark Universe*,⁶ planetarium show, American Museum of Natural History.
- 2012 – 2014: *Organizer*, Astrophysics seminar, American Museum of Natural History.
- 2010 – 2013: *Member*, CLASH *Hubble Space Telescope* supernova survey.

BEYOND ASTROPHYSICS

I am a published writer. *Supernova*, a general introduction to my field, will be published by The MIT Press in Feb. 2022 as part of the Essential Knowledge Series. My first collection of short fiction (*The War Painter*, Toby Press, Jerusalem 2009) was published in Israel to critical acclaim. My writing has been translated into English and Spanish and collected in several anthologies. Besides writing, I am an avid birder and amateur ornithologist, as well as a couch scholar of Roman history.

⁵AMNH Science Bulletins: <https://www.youtube.com/playlist?list=PL03468DEB0456E448>

⁶*Dark Universe*: <https://www.amnh.org/exhibitions/space-show/dark-universe>

SUMMARY

As of June 2021, a total of 55 peer-reviewed papers, of which 15 are first-author papers, and a book in production. The following citation data for these papers were gathered from NASA ADS:

Total citations (refereed papers): 2905 Citations excluding self-citations: 2658
Citations/paper: ≈ 50 h-index: 33 i10-index: 45

Hyperlinks to the papers are highlighted in blue.

FIRST- AND SECOND-AUTHOR REFEREED PUBLICATIONS

21. **Graur, O.**, 2022, *Supernova* (The MIT Press, Cambridge, MA), slated for Feb. 2022.
20. **Graur, O.** et al., 2020, *A year-long plateau in the late-time near-infrared light curves of Type Ia supernovae*, *Nature Astronomy*, 4, 188
19. **Graur, O.** & Woods, Tyrone E., 2019, *Progenitor constraints on the Type Ia supernova SN 2014J from Hubble Space Telescope H β and [O III] observations*, *Monthly Notices of the Royal Astronomical Society Letters*, 484, L79; Erratum: *MNRAS*, 2019, 486, L89
18. **Graur, O.**, 2019, *Late-time Observations of the Type Ia Supernova SN 2014J with the Hubble Space Telescope Wide Field Camera 3*, *The Astrophysical Journal*, 870, 14
17. **Graur, O.**, 2018, *The Harvard Science Research Mentoring Program*, [arXiv:1809.08078](https://arxiv.org/abs/1809.08078)
16. **Graur, O.**, 2018, *Education and public outreach as an integral part of a scientist's career*, invited guest editorial for *American Journal of Physics*, 86(10), 725
15. **Graur, O.** et al., 2018, *Late-time observations of ASASSN-14lp strengthen the case for a correlation between the peak luminosity of Type Ia supernovae and the shape of their late-time light curves*, *The Astrophysical Journal*, 866, 10
14. **Graur, O.** et al., 2018, *Observations of SN 2015F suggest a correlation between the intrinsic luminosity of Type Ia supernovae and the shape of their light curves > 900 days after explosion*, *The Astrophysical Journal*, 859, 79
13. **Graur, O.** et al., 2018, *A dependence of the tidal disruption event rate on stellar surface mass density and stellar velocity dispersion*, *The Astrophysical Journal*, 853, 39
12. Maoz, D. & **Graur, O.**, 2017, *Star formation, supernovae, iron, and α : consistent cosmic and Galactic histories*, *The Astrophysical Journal*, 848, 25
11. **Graur, O.** et al., 2017, *LOSS Revisited — II: The relative rates of different types of supernovae vary between low- and high-mass galaxies*, *The Astrophysical Journal*, 837, 121
10. **Graur, O.** et al., 2017, *LOSS Revisited — I: Unravelling correlations between supernova rates and galaxy properties, as measured in a reanalysis of the Lick Observatory Supernova Search*, *The Astrophysical Journal*, 837, 120
9. Leigh, N. W. C. & **Graur, O.**, 2016, *A novel mechanism for the distance-redshift relation*, *Classical and Quantum Gravity*, 34, 035014.
8. **Graur, O.** et al., 2016, *Late-Time Photometry of Type Ia Supernova SN 2012cg Reveals the Radioactive Decay of ^{57}Co* , *The Astrophysical Journal*, 819, 31

7. **Graur, O.**, Bianco, F. B., & Modjaz, M., 2015, *A unified explanation for the supernova rate-galaxy mass dependence based on supernovae discovered in Sloan galaxy spectra*, *Monthly Notices of the Royal Astronomical Society*, 450, 905
6. **Graur, O.**, Maoz, D., & Shara, M. M., 2014, *Progenitor constraints on the Type-Ia supernova SN2011fe from pre-explosion Hubble Space Telescope He II narrow-band observations*, *Monthly Notices of the Royal Astronomical Society Letters*, 442, L28
5. Frederiksen, T. F., **Graur, O.**, et al., 2014, *Spectroscopic identification of a redshift 1.55 supernova host galaxy from the Subaru Deep Field Supernova Survey*, *Astronomy & Astrophysics*, 563, 140
4. **Graur, O.** et al., 2014, *Type-Ia Supernova Rates to Redshift 2.4 from CLASH: the Cluster Lensing And Supernova survey with Hubble* *The Astrophysical Journal*, 783, 28
3. **Graur, O.** & Maoz, D., 2013, *Discovery of 90 Type-Ia supernovae among 700,000 Sloan spectra: the Type-Ia supernova rate versus galaxy mass and star-formation rate at redshift ~ 0.1* , *Monthly Notices of the Royal Astronomical Society*, 430, 1746
2. **Graur, O.** et al., 2011, *Supernovae in the Subaru Deep Field: the rate and delay-time distribution of Type Ia supernovae out to redshift 2*, *Monthly Notices of the Royal Astronomical Society*, 417, 916
1. Finkelman, I., **Graur, O.** & Brosch, N., 2011, *A candidate polar-ring galaxy in the Subaru Deep Field*, *Monthly Notices of the Royal Astronomical Society*, 412, 208

RESEARCH GROUP PUBLICATIONS

(Students' and postdocs' names are underlined)

1. Vincenzi, M. et al. (**Graur, O.**: 3/82), 2020, *The Dark Energy Survey Supernova Program: Modelling selection efficiency and observed core collapse supernova contamination*, accepted by *Monthly Notices of the Royal Astronomical Society*, [arXiv:2012.07180](https://arxiv.org/abs/2012.07180).

SCIENCE RESEARCH MENTORING PROGRAM (SRMP) PUBLICATIONS

(SRMP student names are underlined)

3. Ravi, V., Dykaar, H., Codd, J., Zaccagnini, G., et al., 2021, *FIRST J153350.8+272729: the radio afterglow of a decades-old tidal disruption event*, submitted to *ApJ*, [arXiv:2102.05795](https://arxiv.org/abs/2102.05795)
2. Daylan, T., Pinglé, K., Wright, J., et al., 2021, *TESS discovery of a super-Earth and three sub-Neptunes hosted by the bright, Sun-like star HD 108236*, *The Astronomical Journal*, 161, 85
1. Baker, L., Green, S., & Villar, A., 2019, *SNIF: The SuperNova Interactive Fitter*, *Research Notes of the American Astronomical Society*, 3, 135

OTHER REFEREED PUBLICATIONS

34. Wiseman, P. et al. (**Graur, O.**: 6/90), 2021, *Rates and delay times of type Ia supernovae in the Dark Energy Survey*, submitted to *Monthly Notices of the Royal Astronomical Society*, [arXiv:2105.11954](https://arxiv.org/abs/2105.11954)

33. Kelly, P. L. et al. (**Graur, O.:** 24/30), 2021, *Constraints on the Hubble Constant from Supernova Refsdal's Reappearance Using Blind Lens Models*, submitted to *Science*.
32. Kelly, P. L. et al. (**Graur, O.:** 20/30), 2021, *The Magnificent Five Images of Supernova Refsdal: Time Delay and Magnification Measurements*, submitted to *The Astrophysical Journal*.
31. French, K. D. et al. (**Graur, O.:** 4/5), 2020, *The host galaxies of tidal disruption events*, *Space Science Reviews*, 216, 32
30. Steinhardt, C. L. et al. (**Graur, O.:** one of many), 2020, *The BUFFALO HST Survey*, *The Astrophysical Journal Supplement Series*, 247, 64
29. Strolger, L.-S. et al. (**Graur, O.:** 5/5), 2020, *Delay Time Distributions of Type Ia Supernovae From Galaxy and Star Formation Histories*, *The Astrophysical Journal*, 890, 140
28. Coe, D. et al. (**Graur, O.:** 31/57), 2019, *RELICS: Reionization Lensing Cluster Survey*, *The Astrophysical Journal*, 884, 85
27. Nicholl, M. et al. (**Graur, O.:** 18/27), 2019, *The tidal disruption event AT2017eqx: spectroscopic evolution from hydrogen rich to poor suggests an atmosphere and outflow*, *Monthly Notices of the Royal Astronomical Society*, 488, 1878
26. Chakrabarti, S. et al. (**Graur, O.:** 3/5), 2018, *The supernova rate beyond the optical radius*, *The Astrophysical Journal Letters*, 863, 1
25. Rodney, S. A. et al. (**Graur, O.:** 11/35), 2018, *Two peculiar fast transients in a strongly lensed host galaxy*, *Nature Astronomy*, 2, 324
24. Kelly, P. L. et al. (**Graur, O.:** 33/45), 2018, *Extreme magnification of an individual star at redshift 1.5 by a galaxy-cluster lens*, *Nature Astronomy*, 2, 334
23. Riess, A. G. et al. (**Graur, O.:** 8/34), 2018, *Type Ia Supernova Distances at $z > 1.5$ from the Hubble Space Telescope Multi-Cycle Treasury Programs: The Early Expansion Rate*, *The Astrophysical Journal*, 853, 126
22. Shen, K. J., Toonen, S., & **Graur, O.**, 2017, *The evolution of the Type Ia supernova luminosity function*, *The Astrophysical Journal Letters*, 851, 50
21. Molino, A. et al. (**Graur, O.:** 24/44), 2017, *CLASH: accurate photometric redshifts with 14 HST bands in massive galaxy cluster cores*, *Monthly Notices of the Royal Astronomical Society*, 470, 95
20. Shivvers, I. et al. (**Graur, O.:** 9/14), 2017, *Revisiting the Lick Observatory Supernova Search volume-limited sample: updated classifications and revised stripped-envelope supernova fractions*, *Publications of the Astronomical Society of the Pacific*, 129, 054201
19. Modjaz, M. et al. (**Graur, O.:** 4/4), 2016, *The Spectroscopic SN-GRB Connection: Systematic Spectral Comparisons Between Type Ic Supernovae and Broad-Lined Type Ic Supernovae with and without Gamma-Ray Bursts*, *The Astrophysical Journal*, 832, 108
18. Kelly, P. L. et al. (**Graur, O.:** 20/23), 2016, *SN Refsdal: Classification as a Luminous and Blue SN 1987A-like Type II Supernova*, *The Astrophysical Journal*, 831, 205

17. Baldassare, V. et al. (**Graur, O.:** 5/9), 2016, *Follow-up spectroscopy of dwarf galaxies with AGN signatures: weeding out sources with transient broad H-alpha emission*, *The Astrophysical Journal*, 829, 57,
16. Liu, Y. et al. (**Graur, O.:** 4/4), 2016, *Analyzing the Largest Spectroscopic Dataset of Stripped Supernovae to Improve their Identifications and Constrain their Progenitors*, *The Astrophysical Journal*, 827, 90
15. Bianco, F. B. et al. (**Graur, O.:** 7/7), 2016, *Monte Carlo Method for Calculating Oxygen Abundances and Their Uncertainties from Strong-Line Flux Measurements*, *Astronomy & Computing*, 16, 54
14. Rodney, S.A. et al. (**Graur, O.:** 8/19), 2016, *SN Refsdal: Photometry and Time Delay Measurements of the First Einstein Cross Supernova*, *The Astrophysical Journal*, 820, 50
13. Kelly, P. L. et al. (**Graur, O.:** 11/22), 2016, *Déjà Vu All Over Again: the Reappearance of Supernova Refsdal*, *The Astrophysical Journal Letters*, 819, L8
12. Strolger, L.-G. et al. (**Graur, O.:** 4/9), 2015, *The Rate of Core Collapse Supernovae to Redshift 2.5 from the CANDELS and CLASH Supernova Surveys*, *The Astrophysical Journal*, 813, 93
11. Rodney, S. A. et al. (**Graur, O.:** 10/12), 2015, *Two Type Ia Supernovae at Redshift ~ 2 : Improved Classification and Redshift Determination with Medium-Band Infrared Imaging*, *The Astronomical Journal*, 150, 156
10. Rodney, S. A. et al. (**Graur, O.:** 12/30), 2015, *Illuminating a Dark Lens : A Type Ia Supernova Magnified by the Frontier Fields Galaxy Cluster Abell 2744*, *The Astrophysical Journal*, 811, 70
9. Kelly, P. L. et al. (**Graur, O.:** 10/31), 2015, *Multiple Images of a Highly Magnified Supernova Formed by an Early-Type Cluster Galaxy Lens*, *Science*, 347, 1123
8. Rodney, S. A. et al. (**Graur, O.:** 5/38), 2014, *Type Ia Supernova Rate Measurements to Redshift 2.5 from CANDELS: Searching for Prompt Explosions in the Early Universe*, *The Astronomical Journal*, 148, 13
7. Patel, B. et al. (**O. Graur:** 6/45), 2014, *Three Gravitationally Lensed Supernovae Behind CLASH Galaxy Clusters*, *The Astrophysical Journal*, 786, 9
6. Jones, D. O. et al. (**Graur, O.:** 15/25), 2013, *The Discovery of the Most Distant Known Type Ia Supernova at Redshift 1.914*, *The Astrophysical Journal*, 768, 166
5. Coe, D. et al. (**Graur, O.:** 35/46), 2012, *CLASH: Precise New Constraints on the Mass Profile of Abell 2261*, *The Astrophysical Journal*, 757, 22
4. Zitrin, A. et al. (**Graur, O.:** 25/48), 2012, *CLASH: New Multiple-Images Constraining the Inner Mass Profile of MACS J1206.2-0847*, *The Astrophysical Journal*, 749, 97
3. Rodney, S. A. et al. (**Graur, O.:** 16/26), 2012, *A Type-Ia Supernova at Redshift 1.55 in Hubble Space Telescope Infrared Observations from CANDELS*, *The Astrophysical Journal*, 746, 5

2. Postman, M. et al. (**Graur, O.:** 8/45), 2012, *The Cluster Lensing and Supernova Survey with Hubble: An Overview*, *The Astrophysical Journal Supplement Series*, 199, 25
1. Zitrin, A. et al. (**Graur, O.:** 25/41), 2011, *The Cluster Lensing and Supernova Survey with Hubble (CLASH): Strong Lensing Analysis of Abell 383 from 16-Band HST WFC3/ACS Imaging*, *The Astrophysical Journal*, 742, 117

NON-REFEREED PUBLICATIONS

9. Faherty, J. K. et al., (**Graur, O.:** one of many), 2019, *IDEAS: Immersive Dome Experiences for Accelerating Science*, Astro2020 APC White Paper, *Bulletin of the American Astronomical Society*, 51 (7), 212
8. Levi, M. E. et al., (**Graur, O.:** one of many), 2019, *The Dark Energy Spectroscopic Instrument (DESI)*, Astro2020 APC White paper, *Bulletin of the American Astronomical Society*, 51 (7), 57
7. Palmese, A., **Graur, O.**, et al., 2019, *Gravitational wave cosmology and astrophysics with large spectroscopic galaxy surveys*, Astro2020 Science White Paper, *Bulletin of the American Astronomical Society*, 51 (3), 310
6. Chornock, R. et al., (**Graur, O.:** one of many), 2019, *Multi-Messenger Astronomy with Extremely Large Telescopes*, Astro2020 Science White Paper, *Bulletin of the American Astronomical Society*, 51 (3), 237
5. Kim, A. G. et al., (**Graur, O.:** 11/32), 2019, *Testing Gravity Using Type Ia Supernovae Discovered by Next-Generation Wide-Field Imaging Surveys*, Astro2020 Science White Paper, *Bulletin of the American Astronomical Society*, 51 (3), 140
4. Bolton, A. S. et al., (**Graur, O.:** 8/20), 2018, *Maximizing the Joint Science Return of LSST and DESI*, LSST/DESI cadence white paper,
3. DESI Collaboration, 2016, *The DESI Experiment Part II: Instrument Design*, [arXiv:1611.00037](https://arxiv.org/abs/1611.00037)
2. DESI Collaboration, 2016, *The DESI Experiment Part I: Science, Targeting, and Survey Design*, [arXiv:1611.00036](https://arxiv.org/abs/1611.00036)
1. **Graur, O.** et al., 2015, *Stripped-envelope supernova rates and host-galaxy properties*, Astronomy in Focus, as presented at the IAU XXIX General Assembly, 2015. [Proceedings of the International Astronomical Union, Volume 29B, 2016, pp. 257-258](https://ui.adsabs.org/abs/2016IAUS...29B..257G)

PUBLICATIONS IN PREPARATION

2. **Graur, O.** & Tacchella, S., *The effect of galaxy evolution on the the tidal disruption event rate as a function of redshift*, to be submitted to the AAS Journals in June 2019.
1. Tiwari, V., **Graur, O.**, & Fisher, R., *Implications of the late-time correlation between Type Ia supernova luminosity and light-curve shape on various explosion models.*

ASTRONOMICAL CIRCULARS AND BULLETINS

14. *RELICS Discovery of a Probable Lens-magnified SN behind Galaxy Cluster Abell 1763*
Rodney, S. A. et al. (**Graur, O.**: 27/52), July 2016, [ATel 9224](#)
13. *Hubble Space Telescope Discovery of a Probable Caustic-Crossing Event in the MACS1149 Galaxy Cluster Field*
Kelly, P. L. et al. (**Graur, O.**: 19/45), May 2016, [ATel 9097](#)
12. *Discovery and Classification of HFF15Cru, a Type Ia Supernova in Abell 370*
Graham, M. L. et al. (**Graur, O.**: 10/24), January 2016, [ATel 8545](#)
11. *Detection of a SN near the center of the galaxy cluster field MACS1149 consistent with predictions of a new image of Supernova Refsdal*
Kelly, P. L. et al. (**Graur, O.**: 13/21), December 2015, [ATel 8402](#)
10. *Spectroscopic classification of HFF14Jan as a Type Ia supernova*
Foley, R. J., **Graur, O.**, et al., December 2014, [ATel 6774](#)
9. *Supernova candidate HFF14Jan discovered in HST observations of a $z=0.24$ spiral galaxy in the foreground of the Abell 370 galaxy cluster*
Graur, O. et al., November 2014, [ATel 6758](#)
8. *Hubble Space Telescope discovery of a multiply imaged, gravitationally lensed supernova*
Kelly, P. L. et al. (**Graur, O.**: 10/33), November 2014, [ATel 6729](#)
7. *Probable Foreground SN at $z=0.39$ SN in MACS0744.9+392 galaxy cluster field*
Kelly, P. L. et al. (**Graur, O.**: 6/6), September 2014, [ATel 6499](#)
6. *Discovery of a Type Ia SN in MACSJ1423*
Rodney, S. A. et al. (**Graur, O.**: 4/5), February 2013, [ATel 4778](#)
5. *Type-Ia SN 2012fr: no progenitor detected in pre-explosion HST image to $M_V \sim -5.9$ mag*
Graur, O. & Maoz, D., November 2012, [ATel 4535](#)
4. *Type-Ia SN 2012cg: no progenitor detected in HST pre-explosion images to $M_V \sim -6.0$ mag and $M_I \sim -5.4$ mag*
Graur, O. & Maoz, D., June 2012, [ATel 4226](#)
3. *No progenitor detected to $M_V \sim -7$ mag for Type-Ic SN 2012cw*
Graur, O. & Maoz, D., June 2012, [ATel 4199](#)
2. *Type Ia Supernova at $z = 0.261$ Discovered in HST imaging from CLASH*
Frederiksen, T. F., **Graur, O.**, et al., November 2011, [ATel 3731](#)
1. *HST MCT SN Discovery*
Rodney, S. A., **Graur, O.**, & Frederiksen, T. F., June 2011, [ATel 3451](#)