

JILLIAN CHIN RASTINEJAD
NORTHWESTERN PRESIDENTIAL FELLOW

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RESEARCH INTERESTS

- Time-domain astronomy
- Multi-messenger astrophysics
- Gamma-ray bursts
- *r*-Process Nucleosynthesis

EDUCATION

Ph.D. in Astronomy Northwestern University Advisor: Prof. Wen-fai Fong	expected May 2025
M.S. in Astronomy Northwestern University	2021
B.A. in Physics, Human Rights, <i>cum laude</i> Minors in Astrophysics, Mathematics University of Connecticut	2019

- *Honors Thesis in Physics:* “Black Hole Feedback at Cosmic High Noon Revealed by 3D-HST Spectroscopy”.
Advisor: Prof. Jonathan Trump
- *Honors Thesis in Human Rights:* “Forces Behind the Numbers: Explaining Gender Disparities in Human Rights and Physics Enrollment”.
Advisor: Prof. Shareen Hertel

HONORS & AWARDS

Northwestern University Presidential Fellowship 2024–2025
\$101,000 USD over two years
Northwestern University’s most prestigious fellowship awarded to graduate students. Awarded to promising graduate students who display outstanding intellectual or creative potential, and have the capacity to be a leader in their respective disciplines and beyond.

- Gemini Observatory Graduate Student Visitor** 2024
 Funded visit to Gemini-North
 One of five students selected from over 60 international applicants to visit a Gemini telescope.
- National Science Foundation Graduate Research Fellowship** 2021
 Honorable Mention
- Northwestern University Data Science Initiative Fellowship** 2019–2021
 \$12,500 USD over two years
 Fellowship supporting graduate students who are dedicated to the exploration of fundamental and applied advancement in data science.
- University of Connecticut Honors Scholar** 2015–2019
 Fulfilled the requirements to graduate with honors, including meeting minimum GPA requirements each semester and writing a thesis in each major.

TELESCOPE TIME AWARDED AS PRINCIPAL INVESTIGATOR	<p>★ I have been awarded over 20 observing nights and support funding of <u>\$81,455</u> across 16 proposals as Principal Investigator.</p> <p>16. MMT Observatory - 1 night 2025A “Rapid Observations of Gamma-Ray Bursts and Gravitational Wave Events”</p> <p>15. W. M. Keck Observatory - 3 hours 2025A “Follow up of Explosive Transients with Keck Target-of-Opportunity Observations”</p> <p>14. MMT Observatory - 1 night 2024B “Rapid Observations of Gamma-Ray Bursts and Gravitational Wave Events”</p> <p>13. W. M. Keck Observatory - 3 hours 2024B “Follow up of Explosive Transients with Keck Target-of-Opportunity Observations”</p> <p>12. Gemini Observatory - 20 hours 2024A–2024B “Investigating the Sites of R-Process Nucleosynthesis with Strategic Follow-Up of a Nearby Long Gamma-Ray Burst”</p> <p>11. Hubble Space Telescope - 12 orbits Cycle 31-32 “Identifying a New Source of r-Process Nucleosynthesis with HST” Granted long-term status through Oct. 31, 2025 <i>Support Funding: \$56,869 USD (awarded when program is triggered)</i></p> <p>10. MMT Observatory - 2 nights 2024A “Rapid Observations of Gamma-Ray Bursts and Gravitational Wave Events”</p>
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9. **MMT Observatory** - 2 nights 2023B
 “Rapid Observations of Gamma-Ray Bursts and Gravitational Wave Events”
8. **Gemini Observatory** - 10 hours 2023A
 “Investigating the Sites of R-Process Nucleosynthesis with Strategic Follow-Up of a Nearby Long Gamma-Ray Burst”
7. **MMT Observatory** - 2 nights 2023A
 “Rapid Observations of Gamma-Ray Bursts and Gravitational Wave Events”
6. **Gemini Observatory Director’s Discretionary Time** - 4 hours 2022B
 “Observing a Once-in-a-Millennium Gamma-ray Burst with Gemini”
5. **Gemini Observatory** - 3 hours 2022B
 “Probing the Properties of Neutron Star Mergers: Rapid Observations of Short Gamma-ray Bursts”
4. **MMT Observatory** - 2 nights 2022B
 “Rapid Observations of Gamma-Ray Bursts and Gravitational Wave Events”
3. **Hubble Space Telescope** - 2 orbits Cycle 29
 “Solidifying the Origin of a Possible Kilonova at 350 Mpc”
Support Funding: \$24,586 USD
2. **MMT Observatory** - 1.5 nights 2022A
 “Rapid Observations of Gamma-Ray Bursts and Gravitational Wave Events”
1. **MMT Observatory** - 1.5 nights 2021B
 “Rapid Observations of Gamma-Ray Bursts and Gravitational Wave Events”

SELECTED
 TELESCOPE TIME
 AWARDED AS
 CO-
 INVESTIGATOR

6. **Gemini Observatory** - 28 hours 2023B-2024B
 Principal Investigator: W. Fong
 “Diversifying the Population of Short Gamma-ray Burst Afterglows with Gemini”
5. **James Webb Space Telescope** - 23 hours Cycle 2
 Principal Investigator: R. Chornock
 “Infrared Spectroscopy of a Neutron Star Merger with JWST”
4. **James Webb Space Telescope** - 5 hours Cycle 1
 Principal Investigator: A. Levan, Director’s Discretionary Time
 “Revealing the nature of the exceptional GRB 230307A: nearby nucleosynthesis or a primordial explosion?”

3. **James Webb Space Telescope** - 5 hours Cycle 1
 Principal Investigator: A. Levan, Director's Discretionary Time
 "The late time spectrum of a kilonova in the exceptionally bright GRB 230307A"

2. **James Webb Space Telescope** - 12 hours Cycle 1
 Principal Investigator: E. Berger
 "Fine-Tuned Search for Kilonova Emission in a Short Gamma-Ray Burst: Implications for Gravitational Wave Sources and r- Process Nucleosynthesis"

1. **James Webb Space Telescope** - 2 hours Cycle 1
 Principal Investigator: A. Levan, Director's Discretionary Time
 "Heavy element formation in the brightest gamma-ray burst of all time"

INVITED PRESENTATIONS	<p>★ I have been invited to give 12 talks at national and international venues, including 2 conference review talks and 2 colloquia.</p> <p>Seminar, Berkeley Theoretical Astrophysics Center, <i>Berkeley, CA</i> Sep 2024</p> <p>Talk, Harvard Inst. for Theory and Computation, <i>Cambridge, MA</i> Sep 2024</p> <p>Review Talk, Fast-Evolving Extragalactic Transients, <i>Bormio, Italy</i> Feb 2024</p> <p>Colloquium, University of Maryland, <i>College Park, MD</i> Nov 2023</p> <p>Review Talk, 50 years of GRBs Conference, <i>Warrenton, VA</i> Aug 2023</p> <p>Colloquium, Illinois State University, <i>Normal, IL</i> Mar 2023</p> <p>Seminar, CfA/Harvard High Energy Astrophysics, <i>Cambridge, MA</i> Feb 2023</p> <p>Talk, 241st AAS, Roman Observatory Transient Session, <i>Seattle, WA</i> Jan 2023</p> <p>Talk, 241st AAS, Gemini Observatory Science Session, <i>Seattle, WA</i> Jan 2023</p> <p>Talk, Explosive Astronomy Seminar Series, U. C. Berkeley May 2022</p> <p>Talk, Astronomy Journal Club, University of Chicago May 2022</p> <p>Talk, SPIMAX Seminar Series, Oxford University Nov 2021</p>
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CONTRIBUTED PRESENTATIONS	<p>Thesis Talk, 245th AAS, <i>National Harbor, MD</i> Jan 2025 (exp.)</p> <p>Talk, Monday Afternoon Talk Series, MIT, <i>Cambridge, MA</i> Sep 2024</p> <p>Talk, Rise_Time Conference, <i>West Lafayette, IN</i> Aug 2024</p> <p>Talk, Gemini-North Observatory, <i>Hilo, HI</i> May 2024</p> <p>Talk, TASTY Talk Series, University of Toronto, <i>Toronto, Canada</i> Apr 2024</p> <p>Talk, 243rd AAS, <i>New Orleans, LA</i> Jan 2024</p> <p>Talk, Transient Science at Space Telescope, STScI, <i>Baltimore, MD</i> Nov 2023</p> <p>Talk, Windows on the Universe Conference, <i>Tucson, AZ</i> Oct 2023</p>
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Talk, The Transient & Variable Universe 2023, <i>Urbana, IL</i>	Jun 2023
Talk, Radboud University, <i>Nijmegen, Netherlands</i>	May 2023
Talk, Theory Group Seminar, Northwestern University, <i>Evanston, IL</i>	Mar 2023
Talk, GWPAW 2022, <i>Melbourne, Australia</i>	Dec 2022
Talk, SuperVirtual 2022	Nov 2022
Talk, Las Cumbres Observatory Seminar, <i>Goleta, CA</i>	Oct 2022
Talk, Gemini Observatory Science Meeting 2022, <i>Seoul, South Korea</i>	Jul 2022
Talk, Big Boom Seminar Series, University of Arizona, <i>Tucson, AZ</i>	Apr 2022
Talk, Exploring the Transient Universe with <i>Roman</i>	Feb 2022
Talk, Gravitational Wave Physics & Astronomy Workshop (GWPAW)	Dec 2021
Talk, European Astronomical Society Meeting 2021	Jun 2021
Talk, 238th AAS	Jun 2021
Talk, AAS HEAD Frontier Seminar Series	May 2021
Colloquium (co-speaker), University of Connecticut, <i>Storrs, CT</i>	Apr 2019
Poster, University of Connecticut Physics Department, <i>Storrs, CT</i>	Apr 2019
Poster, C.U.W.i.P., <i>Amherst, MA</i>	Jan 2019
Poster, 233rd AAS, <i>Seattle, WA</i>	Jan 2019

PRESS

★ **My work has been highlighted in three distinct press releases. I was also spotlighted in a [NASA Universe Twitter takeover post](#) with >125,000 views.**

Selected articles featuring [Rastinejad et al. 2022b](#):

- Quanta, [“Extra-Long Blasts Challenge Our Theories of Cosmic Cataclysms”](#)
- NASA, [“NASA Missions Probe Game-Changing Cosmic Explosion”](#)
- CNN, [“Rare cosmic collision acted like one of the ‘factories of gold’ in the universe”](#)
- BBC, [“Remarkable space blast identified as black hole collision”](#)

94 total mentions, total reach of 13.9 million.

Selected press on our optical follow-up of the “Brightest Of All Time” GRB:

- NOIRLab Science Release, [“Record-Breaking Gamma-Ray Burst Possibly Most Powerful Explosion Ever Recorded”](#)
- NSF Science Now Video, [“Star Collapses into NEW Black Hole”](#)

126 total mentions, total reach of 20.7 million.

Selected articles on [Fong, Laskar, Rastinejad et al. 2021](#):

- National Science Foundation News, [“Birth of magnetar from colossal collision potentially spotted for first time”](#)
- Pop Science, [“This ‘kilonova’ shines so bright, it defies the odds”](#)

JILLIAN RASTINEJAD — CURRICULUM VITAE

TEACHING	Teaching Assistant , <i>Dept. of Physics & Astronomy, Northwestern University</i>	
	Physics 135: General Physics, Electricity & Magnetism	Fall 2020
	Astronomy 120: Highlights of Astronomy	Fall 2021
MENTORING	Jake M. , High school student	Summer 2023
	“Comparing Afterglow and Supernova Properties of Four GRB Events”	
	León García , High school student	Fall 2021 - Spring 2022
	“Simulating Off-Axis Short GRB Afterglows to Inform GW Follow-Up” Finalist, International Science and Engineering Fair 2022	
	Sophie L. , High school student	Summer 2021
	“Estimating the Ejecta Masses of Short GRB Kilonova Candidates”	
LEADERSHIP, OUTREACH & SERVICE	Short GRB Topical Coordinator for <i>Swift</i> 's NASA Senior Review	2024
	Referee for <i>The Astrophysical Journal Letters</i>	2022-2024
	CIERA High School Mentoring Program (REACH) [Website]	2020-2023
	Mentor of 3 high schoolers on astronomy projects. Lead organizer for 1-on-1 mentoring in 2022, leading weekly group meetings with 12 students.	
	CIERA Data Science for Public Good Conference [Website]	2020-2021
	Created and led the organization of a virtual conference for high schoolers held July 2021. Developed approachable demonstrations of using data science techniques to further public good (e.g., using machine learning to model past women’s health decisions and predict future needs in public health).	
OTHER OUTREACH & COMMUNITY ENGAGEMENT	Astronomy on Tap Talks:	
	Feb. 2023, Chicago: “The Dramatic Inspirals of Cosmic Couples”	
	Oct. 2022, Santa Barbara, “Things That Go Bump in the Night”	
	SPARK Stargazing Nights , <i>Storrs, CT</i> , Summer 2019:	
	Co-led weekly stargazing nights for STEM summer camp girls ages 10-13.	
	Community Legal Services and Counseling Center (now De Novo Center for Justice and Healing), <i>Cambridge, MA</i> , Summer 2018 (20 hours/week):	
Performed research and analysis of news articles, NGO publications, data from human rights organizations, and government reports to create summaries that would be submitted with asylum applications.		
Windham High School Tutoring , <i>Windham, CT</i> , 2016–2017:		
Weekly tutor of a ninth-grade science class in an under-served area.		