

Yasha Kaushal

PhD Candidate V year

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Education

- 2018–present **Doctor of Philosophy (PhD) in Astrophysics**
University of Pittsburgh, Pittsburgh, USA
- 2018–2020 **Master of Science (Msc) in Physics**
University of Pittsburgh, Pittsburgh, USA - GPA- 3.6
- 2011–2015 **Bachelor of Technology (B.Tech) in Electronics and Communication Engineering**
National Institute of Technology (NIT), Bhopal, India
GGPA- 8.24

Talks and Conferences

- July 2023 **Summer Research Experience (SRE-2023) for under-represented groups - Career Talk, Northeastern University, Invited Speaker**
- May 2023 **AstroPGH Data Science Bootcamp Instructor, Invited Speaker**
- May 2023 **Young Researchers Conference (YRC-2023) Texas A&M : Star-Formation Histories of Massive Galaxies in 6 billion-year-old Universe , Poster presentation**
- Nov 2022 **Bridgewater State University, Boston MA : Star-Formation Histories of Massive Galaxies in 6 billion-year-old (!) Universe, Invited Speaker**
- August 2022 **APS Advancing Graduate Leadership Conference 2022, Washington DC**
Selected from competitive pool of women and minorities nationwide and awarded \$2000 to attend conference focused on professional development, networking, and leadership training.
- June 2022 **Collaboration Meeting in Belgium: A Census of Star-Formation Histories of Galaxies at $0.6 < z < 1$ from LEGA-C, Bagpipes and Prospector, Invited Speaker**
- March 2022 **STScI-Large Volume Spectroscopy Conference: A Census of Star-Formation Histories of Star-Forming and Quiescent Galaxies at $0.6 < z < 1$ using LEGA-C and Bagpipes, Invited Speaker**
- May 2021 **AstroPGH Data Science Bootcamp Instructor, Invited Speaker**
- May 2021 **STScI : Statistical Recovery of Stellar Population Properties and Star Formation Histories of $0.6 < z < 1$ Galaxies using LEGA-C and BAGPIPES, Conference Lightning Talk**
- April 2021 **University of California, Santa Cruz : No Jargon Talk 2021, Invited seminar speaker**
- April 2021 **3-Minute-Thesis Competition, University of Pittsburgh, Finalist in University of Pittsburgh annual 3MT Competition**
- April 2021 **Advanced Research through Computing Conference 2021, Pitt Centre for Research and Computing Conference Talk**
- March 2021 **University of Iowa: Stellar Population Properties and Star formation Histories of Galaxies in 6 billion years old Universe, Invited seminar speaker**

Scholarships, Awards and Grants

- 2023 **PITT-PACC Fellowship 2023**
Graduate Research Fellowship appointment for 2023-2024 academic year

- 2023 **APS Women in Physics Group Grant 2023**
\$1000 awarded to Women and Minorities in Physics (WMP) group at Pitt. [\[link\]](#)
- 2023 **A&S PBC Travel Grant 2023**
\$600 awarded to students presenting at conferences towards travel and lodging expenses.
- 2022 **GPSG Leadership and Service Award 2022**
Recognized for leading various inter-departmental initiatives to help, support and hone skills of graduate students across Dietrich School of Arts and Sciences. [\[link\]](#)
- 2021 **Whittington Leadership and Innovation Challenge Winner 2021**
Build the missing feedback loop between graduate student alumni and current graduate students by catalyzing communication through leading informal talk series PHDUh: What's Next?. [\[link\]](#)
- 2021 **Centre for Research and Computing Proposal-II**
Proposal approved and awarded with 1.08 million CPU hours on Pitt CRC Supercomputing Cluster [\[link\]](#)
- 2020 **Thomas-Lain Scholarship Award**
Essay topic- *The Measurement Problem in Quantum Mechanics and its Interpretations*
- 2020 **SSS-PG International Essay Competition 2020 Winner**
Essay topic- *'Space Safety and Sustainability'* [\[link\]](#)
- 2020 **Centre for Research and Computing Proposal-I**
Proposal approved and awarded with 3.7 million CPU hours on Pitt CRC Supercomputing Cluster [\[link\]](#)

Outreach and Positions of Responsibility

- May '23– Present **Local-National Coordinator - Alliance for Diversity in Science and Engineering (National ADSE)**
Appointed in the National Organizing Board (NOB) of all ADSE chapters (total 13 across the US)
- Jun '22– '24 **President - Alliance for Diversity in Science and Engineering (ADSE@Pitt)**
Appointed as President of ADSE chapter at University of Pittsburgh. Organized high-school/community college outreach events and regular socials to combat mental health concerns in graduate students.
- Jun '21– '22 **Communications Manager - Alliance for Diversity in Science and Engineering (ADSE@Pitt)**
Spearheaded collaborations and communications for ADSE@Pitt chapter, empowering and increasing participation of diversity and underrepresented groups in all arts and sciences departments.
- April '21– present **Outreach Coordinator - Women and Minorities in Physics (WMP)**
Serving in organizing board for 3 years to create a safe space and foster a sense of community in aspiring physicists and astronomers. Spearheaded [No-Jargon Talk Series](#) to help women and minority graduate students hone their communication skills and become confident public speaker.
- April '21– Present **Pan-Survey SED forum board member (SED-Forum)**
Created online platform to bring researchers at all levels across the globe - students, postdocs and faculty who are interested in state-of-the-art techniques to improve their understanding of galaxy evolution.
- April '21– Jun '22 **WMP representative in SOCS (Students of Color in Solidarity) at Pitt**
Collaborative effort to involve multiple (grad + undergrad) student bodies and communities in solidarity at University level.
- August '22– July '23 **Graduate Global Ties (GGT) Peer Mentor**
Supporting incoming international graduate students get on board, adjust in a foreign country and foster a sense of belonging while guiding them through their academic journey. Mentor to Girish Kumbhar and Chung Wa Shum this year.
- Jul '21– Jul '22 **Graduate Student Mentor (Physics and Astronomy)**
Mentored three first year graduate students in the department - Maria Nowicki, Amelia Camino and Sayanwita Biswas
- Nov '20– 21 **Society of Physics Students (SPS) Mentor**
Career Mentored 3 undergraduate physics students Brandon Lee, Sofia Martinez and Madison Brewer.
- 6-7 Dec '13 **Space-Up India 2013**
Organised 2-day International Conference by Space Generation Advisory council (SGAC) in collaboration with IISER- Bhopal, DHRUVA Space and NIT-Bhopal, India

Publications

- 1* **A Census of Star Formation Histories of Massive Galaxies at $0.6 < z < 1$ from spectrophotometric Modeling using Bagpipes and Prospector** [\[submitted\]](#), Yasha Kaushal et al, *collaboration review*, to be submitted in a month
- 2* **Capturing complete fraction of rejuvenating galaxies at $z \sim 0.8$ - less massive systems more conducive of resurrection** [\[in prep\]](#), Yasha Kaushal et al
- 3* **Quenching timescales of massive quiescent systems at $0.6 < z < 1$ - a view from stellar mass and stellar velocity dispersion** [\[in prep\]](#), Yasha Kaushal et al
- 4 **Predicting spectra from photometry with Prospector** [\[submitted\]](#), 2023
Angelos Nersesian et al + Yasha Kaushal, *Astronomy & Astrophysics Journal*
- 5 **The Gas-Phase Mass–Metallicity Relation for Massive Galaxies at $z \sim 0.7$ with the LEGA-C Survey** [\[published\]](#), 2023, Zach Lewis et. al + Yasha Kaushal
- 6 **The Large Early Galaxy Astrophysics Census (LEGA-C) Data Release 3: 3000 High-quality Spectra of Ks-selected Galaxies at $z > 0.6$** [\[published\]](#), 2021
Arjen van der wel et. al + Yasha Kaushal - *The Astrophysical Journal*
- 7 **Mock recovery of rejuvenating systems using LEGA-C spectra and Prospector**, [\[in prep\]](#)
Junyu Zhang et al + Yasha Kaushal
- 8 **JWST/NIRCam observations of Abell 2744 reveal a diverse population of Quiescent Galaxies at Redshift 2 – 7 across three orders of magnitude in Stellar Mass**, [\[in prep\]](#)
Gourav Khullar et al + Yasha Kaushal
- 9 **The LEGA-C view on the age and stellar metallicity scaling relations at $z \sim 0.7$: dependence on SFR and evolution**, [\[in prep\]](#), Anna Gallazi et al + Yasha Kaushal
- 10 **The FENIKS Survey: Spectroscopic Confirmation of Massive Quiescent Galaxies at $z \sim 3-5$** , [\[in prep\]](#), Jacqueline Antwi-Danso et al + Yasha Kaushal
- 11 **Spectroscopic evidence of alpha-enhancement in massive quiescent galaxies at $z > 3$ from JWST NIRSpec MOS spectroscopy**, [\[in prep\]](#), Jacqueline Antwi-Danso et al + Yasha Kaushal
- 12 **Stellar population properties of Fast-Radio Burst host galaxy using Prospector**, [\[in prep\]](#)
Mohit Bhardwaj et al + Yasha Kaushal
- 13 **An Overview of the Astronomical Data Processing Software Systems in Twenty First Century** [\[published\]](#), 2018
- 14 **Zigbee Based Wireless Sensor Networks for Smart Campus** [\[published\]](#) , 2014

Guiding Undergraduate/Early Graduate research

- 1 **A Comparison of Star-Formation Histories Derived from UniverseMachine and LEGA-C**, [\[in prep\]](#), Cecilia Steel et al + Yasha Kaushal, to be submitted in July
- 2 **Delay time distributions (DTD) of type-2 supernovae using host galaxy SFHs**, [\[work in progress\]](#), Cullen Abelson, 2nd year grad student

Teaching Experience

Fall 2018 **ASTRON 0089: Stars, Galaxies and Cosmos**

Teaching Assistant (Astronomy)

Instructor- Prof. Sandhya Rao, University of Pittsburgh

Spring 2019 **PHYS 0110: Introduction to Physics - 1**

Teaching Assistant (Physics)

Instructor- Dr. Matteo Broccio and Brian Pardo, University of Pittsburgh