

Namrata Roy

PERSONAL DATA

PLACE OF BIRTH: Kolkata, India
DATE OF BIRTH: 24 July 1993
AFFILIATION: UC Santa Cruz, Dept. of Astronomy
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EDUCATION

2016 – Present Graduate Program in ASTROPHYSICS, **University of California Santa Cruz, USA**
Advisor: Kevin Bundy

JUNE 2016 Master of Science in PHYSICS, **Presidency University, India**
Advisor: Ritaban Chatterjee
GPA: 7.80/10

JUNE 2014 Bachelor of Science in PHYSICS, **Presidency University, India**
GPA: 8.15/10

HONORS AND AWARDS

2021 UC Dissertation Year Fellowship 2021

2019 – Present Osterbrock Fellowship

2018 Osterbrock trip to STSci, Baltimore

2015 Summer Research Fellowship, **Harish Chandra Research Institute, India**

2011 – 2016 INSPIRE Scholarship, **Dept. Of Science and Technology, India**

RESEARCH EXPERIENCE

- 2017 – Present **Department of Astronomy & Astrophysics, UC Santa Cruz**
Star formation suppression and feedback in quiescent galaxies
Advisor: Kevin Bundy
- AUG 2016 – FEB 2017 **Department of Astronomy & Astrophysics, UC Santa Cruz**
Study of Quasars and galaxies in the background of Andromeda
Advisor: Raja Guhathakurta
- JUNE 2014 – JULY 2016 **Department of Physics, Presidency University**
Studying the temporal symmetry of blazar light curves
Advisor: Ritaban Chatterjee
- JAN 2016 – MAY 2016 **Inter University Center of Astronomy & Astrophysics**
Characteristics of chromospheric spectral line in solar flares
Advisor: Durgesh Tripathi
- MAY 2015 – AUG 2015 **Department of Physics, Harish Chandra Research Institute**
Pseudo Schwarzschild accretion model of black holes
Advisor: Tapas Das

REFEREED PUBLICATIONS

- “Testing the effect of stellar feedback driven winds on the gas kinematics of dwarf galaxies using FIRE2 simulations”*, Roy, N et al. 2021 (In prep)
- “Radio morphology of red geysers”*, Roy, N., Moravec, E. [and 10 others]. 2021 In press (arXiv: 2109.02609)
- “Signatures of inflowing gas in red geyser galaxies hosting radio-AGN”*, Roy, N., Bundy, K. [and 11 others]. 2021 In Press (arXiv:2106.14901)
- “Evidence of wind signatures in the gas velocity profiles of red geysers”*, Roy, N., Bundy, K. [and 10 others]. 2021, *ApJ*, **913**, 33
- “Detecting Radio-AGN signatures in red geysers”*, Roy, N., Bundy, K., Cheung, E., Rujopakarn, W., Cappellari, M., Belfiore, F., Yan, R., Heckman, T., Bershad, M., Greene, J., Westfall, K., Drory, N., Rubin, K., Law, D., Zhang, K., Gelfand, J., Bizyaev, D., Wake, D., Masters, K., Thomas, D., Li, C., Riffel, R. 2018, *ApJ*, **869**, 117
- “Probing the jets of blazars using the temporal symmetry of light curves”*, Roy, N., Chatterjee, R., Joshi, M., Ghosh, A. 2018, *MNRAS*, **482**, 743
- “Precessing winds from the nucleus of the prototype Red Geyser?”*, Riffel, R., Nemmen, R., Ilha, G., Rembold, S., Roy, N.. [and 8 others]. 2019, *MNRAS*, **485**, 5590
- “SDSS IV MaNGA: Star-formation-driven Biconical Outflows in the Local Universe”*, Bizyaev, D., Chen, Y., Shi, Y., Riffel, R., Diamond-Stanic, A., Roy, N. 2019, *ApJ*, **882**, 145
- ‘A Catalog of 406 AGNs in MaNGA: A Connection between Radio-mode AGN and Star Formation Quenching’*, Comerford, J., Negus, J. [and 9 others including Roy, N.]. 2020, *ApJ*, **901**, 159

PRESENTATIONS

- AUGUST 2021 *"Feeding and feedback via large scale AGN-driven winds in neary elliptical galaxies"*
SDSS collaboration meeting, 2021
- NOVEMBER 2020 *"Galaxies with AGN-winds"*
CCA galaxy formation group, Flatiron, NY, USA
- OCTOBER 2020 *"Red Geysers: Searching for maintenance mode feedback in typical quiescent galaxies"*
Young Astronomers on Galactic Nuclei (yAGN), 2020
- OCTOBER 2020 *"Update on Red Geysers: feeding and feedback in quiescent galaxies with AGN-winds"*
MaNGA collaboration meeting, 2020
- SEPTEMBER 2020 *"Red Geysers: Searching for maintenance mode feedback in typical quiescent galaxies"*
Keck Science meeting, 2020
- AUGUST 2020 *"Gone with the wind: How do galaxies die?"*
Alumni Lecture Series, Presidency University, India
- JUNE 2020 *"Suppression of star formation in Early type galaxies via AGN-driven winds: Red Geysers"*
SDSS collaboration meeting, 2020
- APRIL 2020 *"Update on Red geysers: Radio-AGN detection, triggering and quenching"*
MaNGA Scicon Presentation, Telecon
- NOVEMBER 2019 *"Red Geysers: Evidence of Maintenance mode feedback in typical quiescent galaxies"*
CGM Seminar Talk, UC Berkeley, CA, USA
- APRIL 2019 *"Signatures of AGN-driven winds in Red Geysers"*
SDSS IV-MaNGA collaboration meeting, Oxford, UK
- AUG 2018 *"AGN signatures on Red Geysers based on Radio observations"*
Santa Cruz Galaxy Workshop, UC Santa Cruz, CA, USA
- AUG 2018 *"Detecting Radio-AGN signatures in Red geysers from SDSS IV-MaNGA"*
PhD Summer School: Supermassive Black Holes and their Host Galaxies, Asiago, Italy
- MAY 2018 *"Detecting Radio mode AGN signatures in Red geysers"*
Friday Lunch and Seminar Hour (FLASH), UC Santa Cruz, CA
- JAN 2018 *"Red Geyser: A New Class of Galaxy with Large-scale AGN-driven Winds"*
231st American Astronomical Society Meeting, DC, USA
- DEC 2017 *"Looking for AGN signatures in red geysers"*
SDSS IV-MaNGA collaboration meeting, Campeche, Mexico
- MAY 2016 *"Characteristics of Chromospheric spectral line in Solar Flares"*
Thesis Presentation, Presidency University, Kolkata, India
- JUNE 2016 *"Properties of Gamma-Ray and Optical Outbursts of Fermi Blazars"*
34th Meeting of the Astronomical Society of India (ASI), Srinagar, India

CONFERENCE PROCEEDINGS

“Red geyser: A new class of galaxy with large scale AGN driven winds”, Roy, N., Bundy, K., Cheung, E., MaNGA team. 2018, **American Astronomical Society Meeting Abstracts**, 231, 250.46

“A study of Galaxies and Quasars in the background of Andromeda Galaxy”, Dhara, A., McConnell, K., Guhathakurta, P., Roy, N., Waite, J. 2018, **American Astronomical Society Meeting Abstracts**, 231, 351.11

“WFOS instrument trade study: slicer vs. fiber instrument concept designs and results”, Bundy, K., Savage, M., Kupke, R. [and 19 others including Roy, N.], **Proc. SPIE 10702, Ground-based and Airborne Instrumentation for Astronomy VII**, 1070220 (9 July 2018)

OBSERVING EXPERIENCE

Keck Observatory, KCWI spectroscopy, 2 half nights

Keck Observatory, DEIMOS spectroscopy, 1 night

SUCCESSFUL PROPOSALS

“Red geysers and suppression of star formation”, NSF Proposal (co-PI:Roy), September 2018

“Towards the first measurement of gas-phase metallicity in early type LINER galaxies”, Keck Proposal (co-PI:Roy), June 2018

“Modeling Fiber Performance for Ultra-faint Spectroscopy”, UCO Mini-grant (co-PI:Roy), Jan 2018

“A Study of Radio Mode Feedback in Red Geysers from SDSS IV’s MaNGA Survey”, GMRT Proposal (co-PI: Roy), March 2019

“Cold gas on the red sequence: maintenance mode feedback in action”, APEX proposal (deputy-PI: Roy), December 2019

COMPUTER SKILLS

Programming language: Efficient in Fortran, Python and IDL.
Working knowledge of IRAF, C and Mathematica.

Operating system: Comfortable in Linux, windows and Mac-OS.

TEACHING AND MENTORING EXPERIENCE

- SPRING 2021 Mentor, UC Santa Cruz
Society of physics students and women in physics and astronomy.
- WINTER 2018 Teaching Assistant, UC Santa Cruz
ASTR 5 : Overview of the Universe (undergraduate course).
- WINTER 2017 Teaching Assistant, UC Santa Cruz
ASTR 2 : The formation and Evolution of the Universe (Undergraduate course).
- SUMMER 2017 Primary Research Mentor, UC Santa Cruz
Science Internship Program (for high school students)
- 2017 Co-advised undergraduate research of Marina Huang (UCSC)
An automated algorithm to identify MaNGA Red Geysers

OUTREACH, LEADERSHIP AND OTHER ACTIVITIES

1. Lead of **Ask-an-astronomer** czarship, *October 2016 - September 2017*
2. Coordinator of **Women in Physics & Astronomy (WIPA)**, *2016 - 2017*
3. Participated in **Osterbrock Leadership training trip**, *October 2018*
4. Organizer of various events as a part of **Osterbrock Leadership Program**, *2019 - Present*
5. Mentor at **Society of Physics Students and Women in Physics and Astronomy mentoring program**, *2021*
6. Instructor at **Lamat: Summer Tech training**, *2021*
7. Participant in **League of Underrepresented Minorized Astronomers (LUMA)**, *2020-Present*