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

"Signatures of inflowing gas in red geyser galaxies hosting radio-AGN" , **Roy, N.**, Bundy, K. [and 11 others]. **2021 (In Review)**

"Evidence of wind signatures in the gas velocity profiles of red geysers" , **Roy, N.**, Bundy, K. [and 10 others]. **2021 (In press, arXiv:2103.14928v1)**

"Detecting Radio-AGN signatures in red geysers", **Roy, N.**, Bundy, K., Cheung, E., Rujopakarn, W., Cappellari, M., Belfiore, F., Yan, R., Heckman, T., Bershady, 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, arXiv preprint arXiv:2008.11210**

Presentations

November 2020	*"Galaxies with AGN-winds"* **CCA galaxy formation group, Flatiron**
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**
April 2014	*"Distance Measurement in Astrophysics"* **Astro-particle tea, Presidency University, Kolkata, 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*