Suraj Poudel

University of South Carolina
Department of Physics & Astronomy
Columbia, SC 29208

Phone: (214) 718-8221
Email: spoudel@email.sc.edu
Website: https://suraj-poudel.github.io/

RESEARCH INTERESTS:

Galaxy formation and evolution, quasar spectroscopy, absorption line systems, chemical enrichment and physics of the intergalactic and circumgalactic medium, high-redshift galaxies, cosmic reionization

EDUCATION:

Ph.D. in Astronomy & Astrophysics 2013 - present
University of South Carolina
Thesis: "Cosmic metal evolution during the first $\sim$ 1 billion years after the big bang using DLAs/sub-DLAs absorbers."
Advisor: Dr. Varsha Kulkarni

M.Sc. in Physics 2007 - 2010
Tribhuvan University
Thesis: "Effect of kerr parameter on rotation curve of nearby galaxies."
Advisor: Dr. Udayraj Khanal

B.Sc. in Mathematics & Physics 2003 - 2007
Tribhuvan University

RESEARCH EXPERIENCE:

Following are some of my experiences as a research assistant at University of South Carolina.

- Reducing Magellan MIKE, Keck ESI and VLT X-Shooter data

- Targets selection, exposure time calculations, experiment design for observing proposals for Magellan MIKE, VLT X-Shooter, Gemini GRACES, LBT PEPSI and HST COS

- Spectroscopic measurements of absorption from quasar absorption systems

- Cloudy photoionization modelling

- MCMC simulations of nucleosynthesis models using EMCEE software

- Assisted in the supervision of high school, undergraduate and graduate research assistants, and provided technical support for the research group

TEACHING EXPERIENCE:

Teaching Assistant, University of South Carolina, Columbia 2013 - 2016
- Primary instructor for General Physics Laboratory courses, introducing students to the laboratory exercises, supervising lab sessions, grading lab reports, and assigning final grades.

Lecturer of Physics, Nepal College of Information Technology, Kathmandu 2010 - 2013
- Prepare and deliver lectures in college level general physics and laboratory courses.

Science Lab Instructor, Rato Bangala School, Kathmandu 2006 - 2007
- Laboratory setup and implementation for Cambridge A-Level Physics; equipment selection and purchasing.

OBSERVING EXPERIENCE:

Magellan Telescope (6.5 m), LCO, Chile (7 Nights) 2016 - 2017

SUCCESSFUL TELESCOPE PROPOSALS:

Following are the successful telescope proposals in which I was actively participating for target selection, experiment design and scientific justifications:

Co-Investigator: **LBT PEPSI**, 2018
Title: Element Abundances and Gas Kinematics in Gas-rich Galaxies at z > 4

Co-Investigator: **Magellan MIKE**, 2017
Title: Reaching back to the First Billion Years of Cosmic Chemical Evolution with Damped Lyman-alpha Absorbers at z> 4.5

Co-Investigator: **Magellan MIKE**, 2016
Title: The Rise of the Metals during the Cosmic Dawn: Element Abundances in Gas-rich Galaxies at z$\sim$ 5

TECHNICAL SKILLS:

Programming: Python, R, IDL, Matlab
Astronomy softwares: IRAF, DS9, Specp, VPFIT, EMCEE
Operating systems: OS X, Linux
Other: HTML, CSS, LaTeX, Machine Learning

PUBLICATIONS:

First authored papers published in peer-reviewed journals:

Metal-enriched Galaxies in the First One Billion Years: Evidence of a Smooth Metallicity Evolution at z$\sim$5, **Poudel et al. 2019**, submitted to *Monthly Notices of Royal Astronomical Society*.

Early Metal Enrichment of Gas-rich Galaxies at z$\sim$5, **Poudel et al. 2018**, *Monthly Notices of Royal Astronomical Society*, 473, 3559–3572.

TALK & POSTERS:

Abundance measurements of Damped Lyman-alpha Absorbers (DLAs) at z∼5, **Meeting of Astronomers in South Carolina**, Francis Marion University	March 2018
Element abundance measurements in gas-rich galaxies at z∼ 5, **American Astronomical Meeting Abstracts, 231**, Washington DC	January 2018
Early metal enrichment of gas-rich galaxies at z∼5, **Lifecycle of Metals Throughout the Universe: Celebrating 50 Years of UV Astronomy**, STScI, Baltimore	February 2017
Early metal enrichment of gas-rich galaxies at z∼5, **Meeting of Astronomers Conference**, Furman University	March 2017
Reaching back to the first 1 billion years of cosmic chemical evolution: Magellan Mike observations of high-redshift damped Lyman-alpha absorbers, **Meeting of Astronomers in South Carolina**, South Carolina State University (SCSU)	April 2016
Effect of Kerr parameter on the rotation curve of nearby galaxies, **Accretion and Outflow in Black Hole Systems**, Kathmandu, Nepal	October 2010

OUTREACH:

The following lists **some** of my contributions in volunteering and/or coordinating outreach and education activities.

STARLAB planetarium show at Forest Lake Elementary School during their NASA night.	January 2015
STARLAB planetarium show during Family Nights and STEAM fest at Forest Lake Elementary.	January 2017
Conducted eclipse viewing using celestron telescope during American Total Solar Eclipse day at University of South Carolina.	August 2017
Volunteered during South Carolina State Museum (SCSM) Astronomy day.	April 2018
Volunteered at "Distinguished Lecture Series in Physics and Astronomy" during different occasions at University of South Carolina.	2017 - 2018

PROFESSIONAL MEMBERSHIPS:

American Astronomical Society (AAS)