

# Vivek Kumar Jha

Senior Research Fellow (SRF)



## About me

Born: 03 March 1995  
Place: Darbhanga, Bihar  
Gender: Male  
Nationality: Indian

## Current address

Aryabhata Research Institute of observational sciencES (ARIES).  
Department of Astronomy,  
Manora Peak,  
Nainital, Uttarakhand,  
India, 263002.

## Research Interests

- Active galactic nuclei
- Quasar accretion disks
- Reverberation Mapping
- Supermassive Black Holes
- Computational astrophysics

## Programming Skills

Fluent in Python language.  
Usage of Git version control  
Data reduction: astropy packages  
including ccdproc, photutils etc.  
OS: Linux (preferred)

## Other Interests

Classical music, Offbeat travel,  
Trekking, Reading, Amateur  
astronomy, Scientific outreach,  
Writing

## Languages

English • Hindi • Maithili

## Contact

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Website

## EDUCATION

Present	<b>Deen Dayal Upadhyaya Gorakhpur University</b> GORAKHPUR, UTTAR PRADESH · India Pursuing Ph.D in astrophysics. Thesis title: <i>Investigating the Nature and Structure of the Broad Line Region in Active Galactic Nuclei</i> . Supervised by: Dr. Hum Chand and co-supervised by Prof. Shantanu Rastogi.	
2017	<b>Banaras Hindu University</b> VARANASI, UTTAR PRADESH · India Master of Science (M Sc.) in Physics with specialization in Space physics.	
2014	<b>University of Delhi</b> NEW DELHI · India Bachelor of Science (B Sc.) with Honors in Physics.	

## RESEARCH EXPERIENCE

Present	<b>Aryabhata Research Institute of observational sciencES (ARIES)</b> NAINITAL, UTTARAKHAND · India Research fellow, pursuing research at this institute leading to the Ph.D degree at DDU Gorakhpur.	
2017	<b>Indian Institute of Astrophysics</b> KODAIKANAL, TAMIL NADU · India 6 month internship project as part of Visiting Student Research program (VSRP). Project titled- <i>Estimation of Solar magnetic fields using Spectropolarimetric data obtained from Kodaikanal Tunnel telescope</i> . Supervised by: Dr. K Nagaraju	
2016	<b>Banaras Hindu University</b> VARANASI, UTTAR PRADESH · India Dissertation titled- <i>Study of properties of Csl as a photo cathode for UV astronomy purposes</i> . as part of M Sc. Physics degree. Supervised by: Prof. B.K. Singh	

## AWARDS/FELLOWSHIPS

<b>2018</b>	Junior Research Fellowship (JRF) from Department of Science and Technology (DST) Government of India for 3 years.
<b>2017</b>	Qualified Graduate Aptitude in Engineering (GATE): Physics.
<b>2017</b>	Qualified Joint Entrance Screening Test (JEST): Physics.
<b>2016</b>	ISRO Space Science Promotion Scheme (SSPS) Fellowship for 1 year.

## COMPETITIVE TELESCOPE TIME AWARDS:

- 1 3.6m Devasthal Optical Telescope (DOT). In search of luminous Quasars at the cosmic dawn, cycle: 2020-C2 (Oct-2020-Jan-2021), as PI.
- 2 Thai Robotic Telescope (TRT). Photometric reverberation mapping of the accretion disk in AGN, cycles: 8A (Oct-Dec:2020), 7D (Jul-Sep:2020) and 7C (Apr-Jun:2020) as PI.
- 3 1.3m Devasthal Fast Optical telescope (DFOT). Photometric Reverberation Mapping of central region of AGN using H-beta emission line, cycles: 2019 (A), 2019 (B) and 2020 (A), as PI
- 4 1.04m Sampurnanand telescope (ST). Multi-wavelength photometric observations of a few Low Red-Shift Broad Line Seyfert 1 Galaxies, cycles: 2018 (B), 2019 (A) and 2020 (A), as PI
- 5 VLT-ESO. Dissecting baryon cycle in overdense environments, cycle: P106 as Co-I. PI: Ravi Joshi

## CONFERENCES/MEETINGS/WORKSHOPS

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- 1** Presented a **poster** titled: *Devasthal Optical Telescope-AGN Reverberation Monitoring(DOT-ARM): Project strategy and initial results* at the international conference titled "Mapping Central Regions of Active Galactic Nuclei" held in Guilin, Guanxi Province; China (19-24 September, 2019). [link]
- 2** Attended I-TMT (India- TMT) Science and Instruments Workshop held in ARIES, Nainital, India (17 - 19 October, 2019). [link]
- 3** Attended one day Indo Thai Workshop held in ARIES, Nainital, India (02 March 2020). [link]
- 4** Attended international ILMT workshop held online by ARIES, Nainital, India (29 June - 01 July, 2020). [link]
- 5** Presented a **talk** titled: *A comparative study of Narrow and Broad line Seyfert galaxies using SDSS* at an international symposium titled "Astronomical Surveys and Big Data 2 (ASBD-2)" held online by the Byurakan Astrophysical Observatory (BAO), Armenia (14-18 September, 2020) [link]
- 6** Attended the Virtual Annual Meeting of the German Astronomical Society 2020, held online between September 21-25, 2020. [link]
- 7** Attended workshop titled: *Less travelled path of dark matter: Axions and primordial black holes* , held online by ICTS-TIFR between November 9-13, 2020. [link]

## JOURNAL PUBLICATIONS

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- 1** Nabeel Jammal, R. Rai, Triloki, **V. Jha** , B.K. Singh: The impact of humidity and film thickness on photoemission, optical and morphological properties of CsI thin film photocathodes. Thin Solid Films 02/2019; 674.,[DOI:10.1016/j.tsf.2019.01.027]

## CONFERENCE PROCEEDINGS

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- 2** Properties of Broad and Narrow Line Seyfert galaxies selected from SDSS. **Vivek Kumar Jha**, Hum Chand, and Vineet Ojha. Communications of the Byurakan Astrophysical Observatory (ComBAO), Volume 67, Issue 2, December 2020.
- 1** Optical properties of "as-deposited" CsI photocathode in the VUV-UV spectral range. **V Jha**, Nabeel Jammal, Tiloki, B K Singh; Proceedings of the DAE Symp. on Nucl. Phys. 62, 2017

## MENTORING/TEACHING EXPERIENCE

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- 2019** Mentored a group of 7 students selected from various universities during ARIES Training School on Observational Astronomy (ATSOA) in March 2019.

## REFERENCES

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- 1** **Dr. Hum Chand**, Professor of Physics, CUHP, Dharamshala. Email: hum (at) aries.res.in
- 2** **Dr. Abhay Kumar Singh**, Professor of Physics, BHU, Varanasi. Email: singhak (at) bhu.ac.in
- 3** **Dr. Shantanu Rastogi**, Professor of Physics, DDU, Gorakhpur. Email: shantanur (at) hotmail.com