

DR. LAXMI KANT

CONTACT INFORMATION

Center for Basic Sciences
Pt. Ravishankar Shukla University
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PERSONAL DETAILS

Date of Birth	20.10.1976
Nationality	Indian
Marital status	Unmarried

EDUCATION

Qualified: Chhattisgarh State Eligibility TEST (C.G. SET) 2013

Pt. Ravishankar Shukla University, Raipur (C.G.), India

Ph. D. (awarded), February, 2014

- Thesis title: Multiwavelength Study of Galaxies Using Deep Survey Fields
- Supervisor: Prof. S. K. Pandey, Vice-Chancellor, Pt. Ravishankar Shukla University, Raipur

Master of Science (in Physics), 1999

- specialization: Astronomy & Astrophysics

Bachelor of Science, 1997

- Major subjects: Physics, Chemistry, Mathematics

Jawahar Navodaya Vidyalaya, Mana Camp, Raipur (C.G.), India

All India Senior School Certificate Examination (CBSE), 1993

- Major subjects: Physics, Chemistry, Mathematics

All India Secondary School Examination (CBSE), 1991

- Major subjects: Mathematics, Science, English

TEACHING
EXPERIENCE

Post Held Teaching At	Assistant Professor Integrated M. Sc. Center for Basic Sciences, Pt. Ravishankar Shukla university, Raipur
Duration	17.02.2017 to till date (Permanent position) 06.09.2016 to 17.02.2017 (contract) 02.05.2016 to 31.08.2016 (Guest lecturer) 05.08.2015 to 30.04.2016 (contract)
Post Held Taught At	Guest lecturer M.Sc. SOS in physics and astrophysics, Pt. Ravishankar Shukla university, Raipur
Duration	12.09.2014 to 04.08.2015
Post Held Taught At	Guest lecturer MSc and BSc Govt. Nagarjuna Post Graduate College of Science, Raipur
Duration	21.08.2014 to 10.09.2014
Post Held Taught At	Guest lecturer BSC Govt. DB PG girls College
Duration	11.08.2014 to 19.08.2014
Post Held Taught At	Guest lecturer M.Sc. SOS in physics and astrophysics, Pt. Ravishankar Shukla university, Raipur
Duration	From 21.01.2014 to 30.04.2014
Taught At	M.Phil. SOS in physics and astrophysics, Pt. Ravishankar Shukla university, Raipur
Duration	From 01.08.2009 to 31.03.2010
Post Held Taught At	Asst. Professor (contract) B.Sc. <i>Ist</i> , <i>IInd</i> and <i>IIIrd</i> year Govt. G.N.A. College, Bhatapara, Raipur, Chhattisgarh
Duration	From 18.11.2002 to 05.02.2003 From 12.12.2000 to 09.03.2001 From 09.09.2000 to 06.12.2000

CURRENT
RESEARCH
PROJECT

CO-INVESTIGATOR in INDO-SOUTH AFRICAN FLAGSHIP PROGRAMME IN ASTRONOMY
Title: Galaxy Evolution: simulations, observations and data analysis.
Duration: 2016 - 2018

RESEARCH
INTERESTS

Isophotal shapes of galaxies at fainter surface brightness levels
Galaxy morphology
Low Surface Brightness galaxies
ISM in early type galaxies

GENERAL
RESEARCH
EXPERIENCE

Observations

- Spectroscopic observation of galaxies using multi-fiber spectroscope AAOmega on 4m **Anglo Australian Telescope (AAT)** in service mode
- Broad band optical, Near infrared and narrow band H-alpha imaging observations of galaxies using 2m **Himalayan Chandra Telescope** (Indian Astronomical Observatory, Hanle).
- Narrow band H-alpha imaging observations of galaxies from 2m telescope at **IUCAA Girawali Observatory**

Data reduction and Analysis

- Data reduction and analysis of images obtained using Large Format Camera (LFC) on 5m **Hale telescope (palomar)**, NIR images from **4m NTT (ESO)**, images from 2m telescope at **IUCAA Girawali Observatory**, images from 2m **HCT (Hanle)**
- Data reduction and analysis of Spectra obtained using multi-fiber spectroscope AAOmega on 4m **Anglo Australian Telescope**
- Surface photometry, image processing
- 2D bulge-disk decomposition
- Redshift determination
- Stellar population synthesis
- Automated generation of catalog of objects from deep/wide survey fields
- Detection and analysis of dust in early type galaxies
- Analysis of data from Sloan Digital Sky Survey (SDSS)

PARTICIPATION IN
CONFERENCES &
WORKSHOPS

Abroad

- participated in **JSPS-DST Seminar and 8th CPS International School** "Recent and Future Advances in Observational Astronomy" held at Kobe, Japan during September 26-30, 2011. Presented a poster entitled "Isophotal shapes of early-type galaxies to very faint levels" and delivered a **short talk** based on the poster.
- Visit to Kamioka Observatory, Japan on Oct 3, 2011
- participated in **9th COSPAR Capacity-Building workshop** on Space Optical and UV Astronomy held at Kuala Lumpur, Malaysia during June 1-14, 2008. **Orally presented** "Cooling flow rate for a sample of elliptical galaxies" in the conference.
- **Orally presented** "Redshift of galaxies in Palomar Large Format Camera Fields: Preliminary Results" and successfully Attended International School for Young Astronomers (**ISYA**) Kuala-Lumpur Malaysia during March 3-24, 2007

In India

- Participated and worked as a **resource person** in the "SITARE: Southampton IUCAA Training for Astronomical Research and Education Workshop" held at Pt. Ravishankar Shukla University, Raipur from 17-19 August, 2018.
- Attended "one week training program on computer interfaced science experiments" conducted by Inter-University Accelerator Center (IUAC) at New Delhi from 30-April-2018 to 5-May-2018.
- Participated in inter state workshop on zero shadow day held at Pt. Ravishankar Shukla University Raipur on 21st and 22nd April, 2018 and **delivered a talk** entitled "Measuring Earth's diameter".
- Participated in the Level 2 of the STEM Teacher Training Workshop on Research-based Pedagogical Tools (RBPT) held from 6th to 8th December 2017 at the Indian National Science Academy (INSA), Delhi. And got the eligibility to contribute towards regional RBPT workshops as an organizer and trainer.
- Participated in the Level 1 of the STEM Teacher Training Workshop on Research-based Pedagogical Tools (RBPT) held from 6th to 8th October 2017 at Pt. Ravishankar Shukla University, Raipur, Chhattisgarh.
- **Delivered a Technical Talk** entitled "Hunting for Low Surface Brightness

Galaxies through Astronomical Image Processing” in the conference on “Signal Processing, Sustainable Energy Material and Astronomy & Astrophysics (NSSEMA-2017)” held at SoS in Electronics & Photonics and SoS in Physics & Astrophysics, Pt. Ravishankar Shukla University, Raipur (C.G.) during March 28-30, 2017.

- **Delivered a talk** in the “Symposium: Structure and evolution of galaxies” held at IUCAA during Jan 22-23, 2015. And conducted hands on session as a **resource person** in the International Winter School on “The central region of spiral galaxies” held at IUCAA during January 12-23,2015.
- **Delivered a talk** on “Introduction to galaxies” and given hands on session on surface photometry of galaxies at the workshop on “Astrophysical Observations and Data Analysis” held at Tezpur University, during June 5-7, 2012.
- **Oral presentation** of third annual progress report of ISRO RESPOND project in RESPOND review meeting held at PRL, Ahmedabad during 30-31 March, 2011
- Participated in ASI 2011 meeting held at Pt. Ravishankar Shukla University, Raipur, during Feb. 23-25, 2011
- **Oral presentation** of second annual progress report of ISRO RESPOND project in RESPOND review meeting held at PRL, Ahmedabad during 19-20 March, 2010
- Participated in meeting entitled “ Gravitation and Astronomy: Frontiers in Theory and Observation” held at IUCAA, Pune during August 11 - 14, 2009
- **Oral presentation** of first annual progress report of ISRO RESPOND project in RESPOND review meeting held at PRL, Ahmedabad during 20-21 March, 2009
- Poster presentation at ASI meeting Feb. 18-20, 2009 IIA, Bangalore with title “Isophotal shapes of early-type galaxies to very faint isophotal levels” Laxmikant Chaware, Ajit K. Kembhavi, Russell Cannon, A. Mahabal, S.K. Pandey
- ”Morphological properties of galaxies from Palomar Large Format Camera (LFC) fields to very faint isophotal levels” is presented before Scientific Advisory Committee (SAC) of IUCAA, Pune in SAC meeting held during July 25-29, 2008.
- Workshop on Virtual Observatories Oct. 15-19, 2007, IUCAA, Pune
- Poster presentation at ASI meeting Feb. 7-9, 2007, Osmania University, Hyderabad
- Workshop on Astrostatistics Dec. 21 - 23, 2005, The Department of statistics, University of Calcutta
- Poster presentation at ASI meeting, Feb. 21-24, 2005, ARIES, Nainital

GRANTS AND SCHOLARSHIPS

- Senior Research Fellowship by Indian Space Research Organization (ISRO) under their RESPOND scheme, project no. ISRO/RES/2/343/2007-08 (April,2008-March,2011).
- Awarded a grant by International Astronomical Union (IAU) to attend the International School for Young Astronomer held at Kuala-Lumpur, Malaysia during March 3-24, 2007.
- Awarded a grant by Committee on Space Research (COSPAR) to attend 9th COSPAR Capacity-Building Workshop in Space, Optical and UV Astronomy, held at Kuala Lumpur, Malaysia, June 1 - 14, 2008.
- Awarded a grant by Japan Society for the Promotion of Science (JSPS) and Indian, Department of Science and Technology (DST) to participate in JSPS-DST Seminar and 8th CPS International School, held at Kobe, Japan during September 26-30, 2011.

MEMBERSHIPS

- Committee on Space Research (COSPAR), Associate

2008 - 2013
2013 - continue

- Visiting Associate of Inter-University Centre for Astronomy and Astrophysics (IUCAA)
form 01/10/2018 for a period of three years
- Astronomical Society of India (ASI)
Life membership (L2244)
- Chhattisgarh Vigyan Sabha (CGVS)
Lifetime member

SKILLS

- Programming
Perl, FORTRAN, Python, IDEAL, BASIC, UNIX shell scripting, awk
- Operating systems
Linux, Solaris, Windows
- Packages and softwares
IRAF (general purpose image reduction and analysis software), **SEXTRACTOR** (software for building a catalogue of objects from an astronomical image), **GALFIT**(2D bulge-disk decomposition software), **GALAXEV** (library of evolutionary stellar population synthesis models), **WiegthWatcher** (software for combining weight-maps), **SWARP** (software for re-sampling and co-adding together FITS images), **Configure** (software for configuring fibers for AAT observations), **2dfdr** (AAT data reduction pipeline), **RUNZ** (redshift determination code)
- Virtual Observatory tools
Vplot, Vostat, Astrostat, Topcat, Mirage, Vospec, Specview, Splat, Aladin
- Other tools and applications
SuperMongo(SM), gnuplot, pgplot, \LaTeX
- Frequently used data archives
SDSS sky server, NED, SIMBAD, Vizier, MAST, ESO/ST-ECF Science Archive Facility

OTHER EDUCATIONAL ACTIVITIES

Course work

- Participated in UGC-sponsored refresher course in physics with theme “Recent Advances in Physics” from 24.10 2017 to 13.11.2017 held at Human Resource Development Center, Pt. Ravishankar Shukla University, Raipur (C.G.) and obtained grade A.
- IUCAA Graduate School course work (July-August, 2004), IUCAA, Pune

Project Supervision

- Supervised **Kalyani Chaitanyakumar Mehata , Third Year B. Sc. Physics student of Sir Pt. Sarvajanik College of Science, Surat**, summer research project on Basic CCD astronomical data reduction using Image Reduction and Analysis Facility (IRAF) at Center for Basic Sciences, Pt. Ravishankar Shukla University, Raipur, from 04 June, 2018 to 14 July, 2018.

Assistance in workshops and conferences

- Member of LOC in ASI 2011 meeting held at Pt. Ravishankar Shukla University, Raipur, during Feb. 23-25, 2011
- **tutored** hands on session (i) Stellar photometry (ii) Galaxy Photometry and (iii) Data archives and Analysis : SIMBAD/NED/MAST in IUCAA summer school 2008 (during 12th May - 13 June)

- **Graded** contributed talks and posters of section "Galactic and Extra Galactic Astronomy" as a **Member of Scientific Organizing Committee (SOC)** in Young Astronomer Meet (YAM) Jan 3-5 2008, Mahatma Gandhi University, Kottayam, Kerla
- **Member of Local Organizing Committee (LOC)** in the International Workshop on Virtual Observatories October 15-19, 2007, IUCAA, Pune
- **Tutored** hands on session (i) Stellar Photometry (ii) Sextractor (iii) Simbad, Aladin etc. in "Refresher Course in astronomy and astrophysics", "Vacation Students Programme" and "Data Analysis Workshop" during (May-June 2007) at IUCAA, PUNE

SCIENCE
POPULARIZATION
ACTIVITIES

Television and Radio Programs

- Live TV show: Participated as panelist from 1:30 pm to 4:00 pm in India News channel on the occasion of Chandrayaan-2 Launch on 22 July, 2019.
- Live TV show: Participated as an astronomer in the live program aired on INH News "A debate between astronomer and astrologer" at 6:00-6:30 PM on 22 July 2018.
- Radio Program: "khagol vigyan mein rojgaar ki sambhavnaayen (Yuvvaani)" aired by Aakashvani, Raipur on May 5th 2019
- Live TV show: Participated as an astronomer in the live program aired on IBC24 about "blood moon, super moon" at 6:00-6:30 PM on 31 Jan 2018.
- Live TV show: Participated as an representative astronomer in live telecast of program "Total solar eclipse: Debate with astronomer regarding effect of solar eclipse" aired by Zchhattisgarh news channel from 8:30 pm to 09:00 pm on July, 21st, 2009 (one day before total solar eclipse seen from India)

Public lectures

- Delivered a lecture "Welcome to the world of Astronomy and Astrophysics" at Kendriya Vidyalaya Dhamtari as a part of trunostav celebration on 17th, April 2018.
- Delivered a talk on Astronomy and Astrophysics: Scale of Universe on 12th, June 2018 during Astronomical Telescope Making Workshop organized at Kendriya Vidyalaya No. 2, Din Dayal Upadhyay Nagar, Raipur jointly organized by Vigyan Prasar and Kendriya Vidyalaya Sangathan.
- Conducted Quiz for general public regarding Astronomy and Astrophysics, at Mujgahan, Raipur on 25 May 2019, in Overnight Sky Watching Program, Organised by Chhattisgarh Vigyan Sabha.
- Answered questions of school children and general public regarding Astronomy and Astrophysics, in a Program organised as part of "100 hours of Astronomy" at Basic School Ground, Bemetara on 13th, January, 2019.

PUBLICATIONS

Referred Journal

- **Laxmikant Chaware**, Ajit Kembhavi, Russell D. Cannon, Ashish Mahabal, S.K. Pandey
"Isophotal shapes of early type galaxies to very faint isophotal levels", 2014, ApJ, 787, 102, (arXiv:1407.5120) **impact factor 5.580 (2018)**
- Samridhi Kulkarni, D. K. Sahu, **Chaware**, **Laxmikant**, N. K. Chakradhari, S. K. Pandey
"Study of dust and ionized gas in early-type galaxies", 2014, NewA, 30, 51 (arXiv:1402.5545) , **impact factor 1.162 (2018)**

Online Data Catalog

- **Laxmikant Chaware**, Ajit Kembhavi, Russell D. Cannon, Ashish Mahabal, S.K. Pandey
"VizieR Online Data Catalog: Isophotal shapes of early-type galaxies (Chaware+,

2014)", *VizieR Online Data Catalog*, **178**(June, 2017)

Conference proceedings Full Paper

- Sheetal Kumar Sahu, **Laxmikant Chaware**, S. K. Pandey, Samridhi Kulkarni, M. B. Pandge, N. K. Chakradhari
"Multiwavelength Study of Radio Loud Early-Type Galaxies from the B2 Sample", 2014, IAUS, 304, 353

Conference proceedings Abstract

- Pandey, Sheo Kumar; Sahu, Sheetal Kumar; **Chaware, Laxmikant**; Baburao Pandge, Mahadev
"Multiphase ISM in early type galaxies: A case study of NGC 708", 2015, IAUGA, 2254699P
- Sahu, Sheetal Kumar, **Chaware, Laxmikant**, Pandey, S. K.
"Multiphase ISM in Radio Loud Early Type Galaxies", 2014, *cosm*, 40, E2843S
- Samridhi Kulkarni, **Chaware, Laxmikant**, N. K. Chakradhari, D. K. Sahu, S. K. Pandey
"Multi-wavelength investigation of some dusty E/SO galaxies", 2011, *ASInC*, 3, 153
- **Laxmikant Chaware**, Russell D. Cannon, Ajit Kembhavi, Ashish Mahabal, S.K. Pandey
"Redshift of galaxies in Palomar Large Format Camera Fields: Preliminary Results", 2008, *BASIP*, 25, 70
- Sudhansu Barway, S.K.Pandey & **Laxmikant Chaware**
"Long Term Spot Activity Variation in FK Comae Berenices", 2005, *BASI*, 33, 368
- **Laxmikant chaware**, Sudhansu Barway, S.K. Pandey, A.K. Kembhavi & D.K. Sahu
"Dust Properties of NGC 3801", 2005, *BASI*, 33, 401