




Faculty Details proforma for DU Web-site

Title	Prof.	First Name	T R	Last Name	Seshadri	Photograph
Designation	Professor					
Address	109 Vaishali Pitampura Delhi – 110 088					
Phone No Office						
Residence	011-27315329					
Mobile	9971954775					
Email	seshadri.tr@gmail.com t.r.seshadri19610413@gmail.com					
Web-Page						
Educational Qualifications						
Degree	Institution				Year	
5 year integrated M.S (Physics)	Indian Institute of Technology, Delhi				1983	
Ph. D	Tata Institute of Fundamental Research, Mumbai				1989	
Career Profile						
Post Doctoral Experience:						
Institution		Position held		Name of the project		
Physical Research Laboratory		Research Associate June 1989- Oct 1990		Institute fellowship		
Astronomy Centre, University of Sussex, UK		Nehru Centenary Fellowship		Common Wealth		
Dept of Physics and Astrophysics, Univ of Delhi		Research Associate October 1990 - Oct 1992		CSIR RA		
Permanent Position Held:						
Institution		Position Held		Period		
Harish-Chandra Research Institute, Allahabad		Fellow (Faculty Position)		Nov 1992-Nov 1997		
Harish-Chandra Research Institute, Allahabad		Reader		Nov. 97 – Dec 2001		
Department of Physics and Astrophysics, University of Delhi, Delhi		Reader		Dec 2001 - Aug 2008		
Department of Physics and Astrophysics, University of Delhi, Delhi		Professor		Aug 2008 – till date		
Administrative Assignments						

Coordinator IUCAA Resource Centre, Delhi University Dean Research (Physical and Mathematical Sciences)				
Areas of Interest / Specialization				
Astrophysics and Cosmology. Cosmic Microwave Background Radiation, Large-scale Structures in the Universe, Cosmic Reionization, Late time Acceleration of the Universe.				
Subjects Taught				
<u>Theory:</u> Classical Mechanics – M.Sc (Previous) Quantum Mechanics-M.Sc (Previous) Statistical Mechanics-M.Sc (Previous) Astronomy and Astrophysics – I General theory of relativity and Cosmology I General Theory of Relativity and Cosmology II Introductory Physics -M.Tech (Nanoscience and Nanotechnology)				
<u>Laboratory:</u> Waves and Optics – M.Sc (Previous) Observational Astronomy M.Sc (final) Computer Lab (Core)				
Research Guidance				
Research students: Completed: 3 Submitted 2 working presently: 5				
Sr. No	Title of thesis	Date of Regd.	Status (awarded/ submitted/ ongoing)	Name of the student
1	A Theoretical Study of Dark Energy Parameters in Cosmology.	25/09/2003	Awarded (Nov 2009)	Sanil Unnikrishnan
2	Nature of Clustering of Large scale structures	25-09-2003	awarded	Jaswant Kumar
3	Study of Light Curves of Some Variable Stars	24-04-2006	Awarded (July, 2011)	Sukanta Deb
4	Cosmological models for accelerated expansion.	19.03.2008	Awarded	Shruti Thakur
5	Probing Primordial Fields in the Universe	19-03- 2008	Awarded	Pranjal Trivedi
6	Cosmological magnetogenesis	27-10- 2009	Awarded	Kumar Atmjeet
7	Some aspects of cosmology in higher dimensions	27- 10- 2009	Awarded	Isha Pahwa
8	Cosmology and Astrophysics from Higher Dimensional theories	23-10- 2010	Awarded	Sampurnanand jha
9	Cosmic Reionization and its Observational Consequences	13-10-2011	Awarded	Bidisha Bandyopadhyay

10	Magnetic Fields and the Ionization History of the Universe	23-9-2014	Ongoing	Ramkishore Sharma
11	Astrophysical Magnetic Field	8-1-2016	Ongoing	Sunil
12	Nature of Origin of Cosmological Magnetic Fields	25-1-2016	Ongoing	Sandhya Jagannathan
13	Interfacing High energy and cosmology	13.11.2017	Ongoing	Manjeet Kaur

Publications Profile

Refereed international Publications: 45 in Journals

Books: Vignettes in Cosmology (edited L. Sriramkumar and **T R Seshadri**) World Scientific

List of Papers publications (in reverse chronology) (in last 5 years)

1: Generation of helical magnetic field in a viable scenario of inflationary magnetogenesis (Ramkishor Sharma, Kandaswamy Subramanian and T. R. Seshadri)

Physical Review D96 (2017) 083511

2: Challenges in inflationary magnetogenesis: Constraints from strong coupling, backreaction, and the Schwinger effect

(Ramkishor Sharma, Sandhya Jagannathan, T. R. Seshadri and Kandaswamy Subramanian)

Physical Review D96 (2017) 083511

3: Studying neutral hydrogen structures during the epoch of reionization using fractal dimensions

(Bidisha Bandyopadhyay, T. Roy Choudhury and **T. R. Seshadri**)

Monthly Notices of the Royal Astronomical Society 466 (2017) 2302

4: Probing Magnetic Fields with Square Kilometre Array and its Precursors

(Subhashis Roy; Sharanya Sur; Kandaswamy Subramanian; Arun Mangalam; **T. R. Seshadri**, and Hum Chand)

Journal of Astrophysics and Astronomy 37 (2016) article id 42

5: Helical cosmological magnetic fields from extra-dimensions

(Kumar Atmjeet, **T. R. Seshadri** and K. Subramanian)

Physical Review D91 (2015) 103006

6. Cosmological magnetogenesis from extra-dimensional Gauss-Bonnet gravity

(Kumar Atmjeet, Isha Pahwa, **T. R. Seshadri** and K. Subramanian)

Physical Review D89 (2014) 063002

7. Primordial magnetic field limits from the CMB trispectrum: Scalar modes and Planck constraints (Pranjal Trivedi, K. Subramanian and T R Seshadri)
Physical Review D89 (2014) 043523

8. Thawing versus tracker behaviour: observational evidence (Shruti Thakur, Akhilesh Nautiyal, Anjan A. Sen and **T. R. Seshadri**)
Monthly Notices of the Royal Astronomical Society 227 (2012) 988

9. Cosmic Microwave Background Trispectrum and Primordial Magnetic Field Limits (Pranjal Trivedi ; **T R Seshadri**, K. Subramanian)
Physical Review Letters, 108 (2012) 231301

Conference Organization/ Presentations (in the last three years)

Conference Organized:

Cosmology Today: Present observational constraints on cosmological parameters, Wrokshop, IUCAA Resource Centre, University of Delhi, Jan 28th to Feb 1, 2013

Presentations and Talks delivered:

CMB Polarization and the Bicep2 Results, Indian Institute of Space Science and Technology, Trivandrum, Kerela, 6th May 2014

CMP Polarization and the Bicep2, Physics Socieity, St Stephens College, 21st April 2014

Cosmological discoveries with the background radiation, NOESIS, Sri Venkateswara College, University of Delhi, 25th March 2015

Polarization of the CMB

March 16, 2014 Astronomical Society of India Meeting (ASI) Mohali, March 20-22, 2014

Cosmic Microwave Background Radiation, Physics Society, Kirori Mal College, University of Delhi, 10th February 2014

Structures in the Universe, Physics Society, Ramjas College, University of Delhi, 23rd January, 2014

Learning about the Universe through the Cosmic Microwave Background Radiation. *Physics Colloquium at IIT Kanpur, January 17, 2014*

Cosmology Today: Present observational constraints on cosmological parameters, Wrokshop, IUCAA Resource Centre, University of Delhi, Jan 28th to Feb 1, 2013

History of the Universe, Astronomy Week, Indian Institute of Technology, Delhi, 20th September, 2013

Nature and Evolution of Galaxies, The beginnings of the Universe,
Vidyut, Miranda House, University of Delhi, 16th and 17th January 2013

Polarization of the CMB, School on Cosmology, BITS Pilani, 12 th November 2013.

Probing Primordial Magnetic Fields with Cosmic Microwave Background Radiation
IIT Madras, May 17, 2012

Physics of Expanding Universe : From the cosmic microwave background radiation, Refresher course,
University of Delhi, 1st October 2012

Probing Cosmic Magnetic Fields with CMBR

Cosmic Microwave Background Non Gaussianity as a probe of Primordial Magnetic Fields
Aspects of Cosmology, April 9 to 11, Indian Institute of Astrophysics, Bangalore

Late Time Acceleration of the Universe from Higher Dimensional Cosmological models,
IUCAA Associate Fest, Department of Phys and Astrophys, University of Delhi. 25-29 June, 2012

Physics of Expanding Universe and the Cosmic Microwave Background Radiation
Inter University Accelerator Centre (IUAC), New Delhi, May 15 2012

Physics of Stars, International Year of Astronomy,
Physics Society, Miranda House, Delhi University, 18th November 2009

CMB Non-Gaussianity from Cosmic Magnetic Fields,
Meeting of the Associates, IUCAA, Pune, 11th August 2011

CMB as a probe of Cosmic Magnetic fields,
Raman Research Institute (RRI), Bangalore, 29th July 2011.

Physics of Expanding Universe – and the Cosmic Microwave background, International year of
Astronomy, Physics Society, St Stephans College, 4th December 2009.

Physics of Stars,
School of Physical Sciences, Jawaharlal Nehru University (JNU) New Delhi, 20th October 2010

Brief History of the Universe
Physics Society, Hindu college, Delhi University, Jan 31, 2012,

Structure and evolution of stars,
Physics Society, Acharya Narendra Dev (AND), Delhi University, 17th August 2012,

Cosmic Accelerated Expansion in Higher Dimensional Cosmological models
Jayant@75 at Inter University Centre for Astronomy and Astrophysics (IUCAA), July 18, 2013 to celebrate the

75th birthday of Prof. Jayant Narlikar				
Probing Cosmic Magnetic Fields Using Cosmi Microwave Background (CMB) <i>Indian Institute of Science, Bangaluru, Oct 4, 2011</i>				
Constraining Primordial Magnetic fields using Cosmic Microwave Background Radiation, Indian Institute of Astrophysics (IIA), Bangalore, 19th November, 2012				
Research Projects (Major Grants/Research Collaboration)				
Sr. No.	Title of Project	Funding Agency	Status (completed/ongoing)	Amount
1.	Cosmic microwave background radiation as a probe for large scale matter distribution and primordial magnetic fields in the universe	Department of Science and Technology (DST)	2005-2008	8 lacs
2.	Accelerated expansion of the Universe: Its origin and its observational consequences	Centre for Scientific and Industrial Research (CSIR)	Aug 2011- Jan 2015 Ongoing	9.28 Lacs sanctioned till now.
3	Magnetic Fields as Probes of Astrophysical Phenomena	SERB	Ongoing	25,87,608/- (total)
Programmes taken up involving inter-institutional collaboration:				
Collaborations: Inter University Centre for Astronomy and Astrophysics (IUCAA), Pune Raman Research Institute (RRI), Bangalore. Centre for theoretical Physics, (CTP), Jamia Milia Islamia				
Awards and Distinctions				
Visiting Associate of IUCAA, Pune from 2002				
Association With Professional Bodies				
Life Member: Member of the Astronomy Society of India				
Other Activities				

Signature of Faculty Member

- You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.