



# Kirori Mal College

(University of Delhi)

University of Delhi, Delhi-110007

(Phone No. - 011-7121 9084 : Email - principal@kmc.du.ac.in)



Print Date : 15-02-2026

## 1. Personal Profile

Title: **Prof.** First Name: **USHA** Last Name: **KULSHRESHTHA**



Designation: **PROFESSOR** Mobile No. -----

Phone No. (Office) ----- Phone No. (Residence): -----

Email: [ushakulsh@kmc.du.ac.in](mailto:ushakulsh@kmc.du.ac.in) Webpage:

<https://inspirehep.net/authors/1050328>

Facebook: ----- Twitter: -----

LinkedIn: ----- Instagram: -----

Youtube: ----- Research Gate Link: -----

Google Scholar Link: -----

Address: -----

## 2. Educational Qualifications

Degree/ Certification	Institution	Year
Dr. Rer. Nat. (Ph.D.)	University of Kaiserslautern, Germany	1993
M.Sc.	Jiwaji University, Gwalior (M.P.)	1985

## 3. Career Profile & Administrative Assignments

Category	Role/ Designation	Department/ Committee	Date From - To	Remarks
CAREER PROFILE	PROFESSOR	PHYSICS Kirori Mal College University of Delhi	18.Jul.2019 - Till date	
CAREER PROFILE	ASSOCIATE PROFESSOR	PHYSICS KIRORI MAL COLLEGE, DELHI	18.Feb.2010 - 17.Jul.2019	
CAREER PROFILE	READER	PHYSICS KIRORI MAL COLLEGE, DELHI	18.Feb.2007 - 17.Feb.2010	
CAREER PROFILE	SENIOR LECTURER	PHYSICS KIRORI MAL COLLEGE, DELHI	13.Mar.2006 - 17.Feb.2007	

ADMINISTRATIVE ASSIGNMENTS	MEMBER	B.SC.(P) PHYSICAL SCIENCE COMMITTEE KMC, B.Sc (PS) Admission Committee	01.Jul.2024 - 01.Jul.2025	
ADMINISTRATIVE ASSIGNMENTS	MEMBER	PHYSICS KMC, B.Sc (Phys. Hons) Admission Committee	01.Jul.2025 - Till date	
ADMINISTRATIVE ASSIGNMENTS	MEMBER	PHYSICS KMC, B.Sc (Physical Science)Society named SPECTRUM	01.Jul.2025 - Till date	
ADMINISTRATIVE ASSIGNMENTS	CONVENER	PHYSICS KMC, B.Sc (Physical Science)Society named SPECTRUM	01.Jul.2024 - 01.Jul.2025	

#### 4. Other Profiles

##### Other Profile Name/ Description

##### AREAS OF INTEREST/ SPECIALIZATION

Theoretical Physics and Mathematical Physics : Quantum Field Theory and Models and String Theory and Models of Boson Stars, Constrained Dynamics and Constraint Quantization of Field Theory and String Theory Models.

##### WORKSHOP/ SEMINAR/ CONFERENCE/ WEBINAR ORGANIZED

I organized the International Conference on Light-Cone Physics (LC-2012) during December 2012 at the Department of Physics and Astrophysics, University of Delhi, Delhi, as one of the Conference Secretaries that was attended by more than 100 participants including 20 delegates from abroad .

##### RESEARCH COLLABORATIONS

Prof. Dr. H.J.W. Mueller-Kirsten, University of Kaiserslautern, Germany.

Prof. Dr. Daya Shankar Kulshreshtha, University of Delhi, Delhi, India.

Prof. Dr. Jutta Kunz, University of Oldenburg, Oldenburg, Germany.

Prof. Dr. James P. Vary, Iowa State University, Iowa, USA.

Dr. Sanjeev Kumar, Hansraj College, University of Delhi, Delhi, India

##### MOOCS/ SWAYAM-NPTEL/ OTHER ONLINE COURSES COMPLETED WITH CERTIFICATION

Online Faculty Development Program on "ICT: Instructional Design Development and Learning analytics"

July 24-30 from KMC, DU, IQAC & UGC - PARAMARSH

#### 5. Research Guidance

Year	Guide For	Title of the Dissertation/ Thesis	Scholar Name	Status
2016	Ph. D.	Study of Boson Stars	Dr. Sanjeev Kumar	Awarded

## 6. Research Projects

Year	Title of Project	Sponsorship Agency	Duration	Amount Sanctioned	Date of Sanction
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## 7. Publications

Category	Publication Name	Title	Name of Author	Reference Link/DOI Link	Publication (Month-Year)
JOURNAL PAPER (International)	Maxwell-Chern-Simons- Higgs theory	Acta Polytechnica	Usha Kulshreshtha, Daya Shankar Kulshreshtha, Bheemraj Sihag (Corresponding Author)	<a href="https://doi.org/10.14311/AP.2022.62.0085">https://doi.org/10.14311/AP.2022.62.0085</a>	January 2022
JOURNAL PAPER (International)	On the Wess-Zumino Model: a supersymmetric field theory	Acta Polytechnica	Daya Shankar Kulshreshtha and Usha Kulshreshtha (Joint Author)	<a href="https://doi.org/10.14311/AP.2022.62.0080">https://doi.org/10.14311/AP.2022.62.0080</a>	January 2022
JOURNAL PAPER (International)	Light-Front Quantization of the Vector Schwinger Model with a Photon Mass Term in Faddeevian Regularization	Few Body Syst.	Usha Kulshreshtha, Daya Shankar Kulshreshtha, James Vary (First Author)	<a href="https://doi.org/10.1007/s00601-016-1084-2">https://doi.org/10.1007/s00601-016-1084-2</a>	May 2016
JOURNAL PAPER (International)	Phase Diagrams of Charged Compact Boson Stars	Eur.Phys.J.C	Sanjeev Kumar, Usha Kulshreshtha , Daya Shankar Kulshreshtha and Jutta Kunz (Joint Author)	<a href="https://doi.org/10.1140/epjc/s10052-019-7006-y">https://doi.org/10.1140/epjc/s10052-019-7006-y</a>	June 2019
JOURNAL PAPER (International)	Wormholes in a Theory of Scalar Phantom Field	Few Body Syst.	Vivek Kamal, Usha Kulshreshtha, Daya Shankar Kulshreshtha (Joint Author)	<a href="https://doi.org/10.1007/s00601-018-1392-9">https://doi.org/10.1007/s00601-018-1392-9</a>	May 2018

JOURNAL PAPER (International)	Some new results on charged compact boson stars	Phys.Lett.B	Sanjeev Kumar, Usha Kulshreshtha , Daya Shankar Kulshreshtha , Sarah kahlen and Jutta Kunz (Joint Author)	<a href="https://doi.org/10.14311/AP.2022.62.0085">https://doi.org/10.14311/AP.2022.62.0085</a>	September 2017
JOURNAL PAPER (International)	New Results on Charged Compact Boson Stars	Phys.Rev.D	Sanjeev Kumar, Usha Kulshreshtha and Daya Shankar Kulshreshtha (Joint Author)	<a href="https://doi.org/10.1103/PhysRevD.93.101501">https://doi.org/10.1103/PhysRevD.93.101501</a>	May 2016
JOURNAL PAPER (International)	Charged compact boson stars and shells in the presence of a cosmological constant	Phys.Rev.D	Usha Sanjeev Kumar, Usha Kulshreshtha and Daya Shankar Kulshreshtha (Joint Author)	<a href="https://doi.org/10.1103/PhysRevD.94.125023">https://doi.org/10.1103/PhysRevD.94.125023</a>	December 2016
JOURNAL PAPER (International)	Boson stars in non-minimal gravity	Class.Quant.Grav. 42 (2025) 7, 077001	Sanjeev Kumar, Susheel Arora, Usha Kulshreshtha and Daya shankar Kulshreshtha (Joint Author)	<a href="https://doi.org/10.1088/1361-6382/adbed3">https://doi.org/10.1088/1361-6382/adbed3</a>	March 2025
CONFERENCE PAPER/ PROCEEDINGS (International)	Boson Stars and QCD Boson Stars	Proceedings, QCD on the light cone - from hadrons to heavy ions (Light Cone 2019) : Palaiseau, France, September 16-20, 2019	Usha Kulshreshtha, Sanjeev Kumar, Daya Shankar Kulshreshtha and Jutta Kunz (Joint Author)	<a href="https://doi.org/10.22323/1.374.0054">https://doi.org/10.22323/1.374.0054</a>	January 2020
CONFERENCE PAPER/ PROCEEDINGS (International)	Role of Light- Front Coordinates in String Theory	Proceedings, QCD on the light cone - from hadrons to heavy ions (Light Cone 2019) : Palaiseau, France, September 16-20, 2019	Daya Shankar Kulshreshtha and Usha Kulshreshtha (Joint Author)	<a href="https://doi.org/10.22323/1.374.0055">https://doi.org/10.22323/1.374.0055</a>	January 2020

CONFERENCE PAPER/ PROCEEDINGS (International)	Boson Stars and Boson Shells	Proceedings, Frontiers in Light Front Hadron Physics: Theory and Experiment (Light Cone 2017) : Mumbai, Maharashtra, India, September 18-22, 2017	Sanjeev Kumar, Usha Kulshreshtha , Daya Shankar Kulshreshtha (Joint Author)	<a href="https://doi.org/10.1007/s00601-018-1328-4">https://doi.org/10.1007/s00601-018-1328-4</a>	January 2018
CONFERENCE PAPER/ PROCEEDINGS (International)	Instant-Form and Light-Front Quantization of Field Theories	Few Body Syst.	Usha Kulshreshtha, Daya Shankar Kulshreshtha, James Vary (First Author)	<a href="https://doi.org/10.1007/s00601-018-1336-4">https://doi.org/10.1007/s00601-018-1336-4</a>	May 2018

## 8. Books

Category	Book Name	Title	Name of Author	ISSN/ ISBN Number
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## 9. Faculty Achievements

Year	Category of Achievement	Role	National/ International etc.	Name	Date From- To
2022	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	PARTICIPANT	International	International Conference	06.Sep.2022 - 09.Sep.2022
2022	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	PARTICIPANT	International	International Conference	19.Sep.2022 - 23.Sep.2022
2021	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	PARTICIPANT	International	International Conference	01.Sep.2021 - 03.Sep.2021
2021	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	PARTICIPANT	International	International Conference	29.Nov.2021 - 04.Dec.2021
2024	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	INVITED SPEAKER	National	National Workshop on Recent Trends on Physics	27.Mar.2024 - 28.Mar.2024
2024	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	INVITED SPEAKER	National	National Workshop on Recent Trends on Physics	27.Mar.2024 - 28.Mar.2024
2024	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	INVITED SPEAKER	National	National Workshop on Recent Trends on Physics	27.Mar.2024 - 28.Mar.2024

2024	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	INVITED SPEAKER	National	Certificate Course on Advanced Quantum Mechanics	18.Mar.2024 - 22.Mar.2024
2024	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	INVITED SPEAKER	National	Certificate Course on Advanced Quantum Mechanics	18.Mar.2024 - 22.Mar.2024
2024	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	INVITED SPEAKER	National	PANE 2024 XIV Biennial Conference of the Physics Academy of the North-East	12.Nov.2024 - 14.Nov.2024
2024	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PROFESSOR	National	PANE 2024 XIV Biennial Conference of the Physics Academy of the North-East	12.Nov.2025 - 14.Nov.2025
2024	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	MEMBER	National	PANE 2024 XIV Biennial Conference of the Physics Academy of the North-East	12.Nov.2024 - 14.Nov.2024
2024	SEMINAR ATTENDED	PROFESSOR	National	Visiting Scientist	15.Nov.2024 - 20.Nov.2024
2025	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PROFESSOR	National	A. N. Mitra Memorial Meeting and Lecture	14.Apr.2025 - 15.Apr.2025

**Prof. USHA KULSHRESHTHA**