Kirori Mal College

(University of Delhi)
University of Delhi, Delhi-110007
(Phone No. - 011-7121 9084 : Email - principal@kmc.du.ac.in)

Print Date : 19-01-2026

1. Personal Profile

Title: **Dr.** First Name: **NIRMAL** Last Name: **KUMAR**

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

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

Email: **kumarn@kmc.du.ac.in** Webpage: **----------**

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

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

Youtube: **----------** Research Gate Link: **https://www.researchgate.net/profile/Nirmal-Kumar-9**

Google Scholar Link: **https://scholar.google.com/citations?user=magSS0cAAAAJ&hl=en**

Address: **----------**

2. Educational Qualifications

Degree/ Certification	Institution	Year
Ph.D.	University of West Bohemia, Pilsen, Czech Republic	2021
M.Sc. Physics	Indian Institute of Technology Delhi	2016
B.Sc(H) Physics	Kirori Mal College, University of Delhi	2014

3. Career Profile & Administrative Assignments

Category	Role/ Designation	Department/ Committee	Date From - To	Remarks
CAREER PROFILE	ASSISTANT PROFESSOR	PHYSICS KIRORI MAL COLLEGE, DELHI	15.Nov.2022 - Till date	
CAREER PROFILE	POST DOCTORATE	PHYSICS NTIS, Faculty of Applied Sciences, University of West Bohemia	31.Jan.2024 - Till date	
CAREER PROFILE	POST DOCTORATE	PHYSICS Czech Technical University, Prague, Czech Republic	01.May.2022 - 15.Nov.2022	
CAREER PROFILE	POST DOCTORATE	PHYSICS Czech Academic of Sciences, Prague, Czech Republic	17.Jan.2022 - 31.Oct.2022	

4. Other Profiles

Other Profile Name/ Description

AREAS OF INTEREST/ SPECIALIZATION

Nanostructured Metal Oxide Semiconductor, Hydrogen Technology: Production and Detection,

Photoelectrochemical Cell: Water Splitting and CO_2 Reduction. Quantum Materials for Sustainable Technology

SUBJECTS TAUGHT

1. Digital Electronics and Microprocessor: 8085 Microprocessor

2. Advanced Mathematical Physics I (DSE) : Vector Spaces, Matrices, Eigen Values and Eigen Vectors, and Tensors.

3. Advanced Mathematical Physics II (DSE) : Calculus of Variation, Group Theory and Advanced theory of Probability.

4. Electrical Circuits and Networking Skills (SEC).

5. Solid State Physics Laboratory.

6. Waves and Oscillations Laboratory.

7. Elements of Modern Physics Laboratory.

8. Mechanics Laboratory.

RESEARCH COLLABORATIONS

1. Dr. Harsh Yadav, Assistant Professor, Department of Physics, Netaji Subhash University of Technology, Delhi.

2. Dr. Pavel Baroch, Head of Department, Department of Physics, Faculty of Applied Sciences, University of West Bohemia Pilsen, Czech Republic.

3. RNDr. Stanislav Haviar, Assistant Professor, Department of Physics, Faculty of Applied Sciences, University of West Bohemia Pilsen, Czech Republic.

4. Prof. Alexander Kromka, Professor, Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic.

5. Prof. Bohuslav Rezek , Professor, Faculty of Electrical Engineering, Czech Technical University,Prague, Czech Republic.

AWARDS AND DISTINCTIONS

Postdoctoral Fellowship, Faculty of Electrical Engineering, Czech Technical University, Prague, Czech Republic

Postdoctoral Fellowship, Institute of Physics, Czech Academy of Science, Prague, Czech Republic

CSIR-UGC NET- JRF, June, 2015

Joint Admission Test for Masters - IIT JAM 2014

WORKSHOP/ SEMINAR/ CONFERENCE/ WEBINAR ORGANIZED
OTHERS

5. Research Guidance

Year	Guide For	Title of the Dissertation/ Thesis	Scholar Name	Status

6. Research Projects

Year	Title of Project	Sponsorship Agency	Duration	Amount Sanctioned	Date of Sanction

7. Publications

Category	Publication Name	Title	Name of Author	Reference Link/ DOI Link	Public (Mont Year)
JOURNAL PAPER (International)	WO3/CuWO4 nanocomposite thin films for humidity resilient acetone gas sensing	Applied Surface Science Advances, Elsevier	Nirmal Kumar , Akash Kumar, Ji?rí Capek , Elisabetta Comini, Stanislav Haviar (First Author, Corresponding Author)	https://doi.org/10.1016/j.apsadv.2025.100894	Novem 2025
JOURNAL PAPER (International)	Thermally-induced microstructural evolution in nanoparticle-based CuO, WO and CuO–WO thin films for hydrogen gas sensing	Applied Surface Science Advances	Kalyani Shaji, Stanislav Haviar, Petr Zeman, Michal Procházka, Radomír ?erstvý, Nirmal Kumar, Ji?í ?apek (Joint Author)	https://doi.org/10.1016/j.apsadv.2025.100768	May 2025

JOURNAL PAPER (International)	Specialized fractionation combined with deep analytics of waste plastic cracking oils for petrochemical operations	Journal of Industrial and Engineering Chemistry	Ritik Tomar, Arashdeep Singh, Adam Karaba, Jaroslav Moško, Krzysztof Adam Gaw?owski, Nirmal Kumar, Marek Staf, Vineet Singh Sikarwar, Michael Poho?elý (Joint Author)	https://doi.org/10.1016/j.jiec.2025.05.012	May 2025
JOURNAL PAPER (International)	Wide Electrochemical Stability Window of Boron-Doped Microcrystalline Diamond Electrode in NaNO3 Water-in-Salt Electrolytes	ACS The Journal of Physical Chemistry C	Oksana Gutsul, Rene Pfeifer, Ondrej Szabo, Dhananjay K. Sharma, Jaroslav Kuli?ek, Nirmal Kumar, Alexander Kromka, Bohuslav Rezek (Joint Author)	https://doi.org/10.1021/acs.jpcc.5c00414	May 2025
JOURNAL PAPER (International)	New polymorph ?-CuWO4 inspired by ?-CuMoO4: Experimental identification and theoretical verification	Scripta Materialia, Elsevier	Jiri Houska , Stanislav Haviar , Jiri Capek , Radomir Cerstvy , Kalyani Shaji , Nirmal Kumar , Petr Zeman (Joint Author)	https://doi.org/10.1016/j.scriptamat.2025.116635	March 2025
JOURNAL PAPER (International)	Kelvin Probe Characterization of Nanocrystalline DiamondFilms with SiV Centers as Function of Thickness	Physica Status Solidi-A Applications and Material Science	Jaroslav Kuli?cek,* Maxmilian Marek, Nirmal Kumar, Jan Fait, Št?epán Potocký,Št?epán Stehlík, Alexander Kromka, and Bohuslav Rezek (Joint Author)	https://doi.org/10.1002/pssa.202300459	Septem 2023

JOURNAL PAPER (International)	Electrical properties of MXene thin films prepared from non-aqueous polar aprotic solvents	Journal of Material Research	Oksana Gutsul, Ondrej Szabo, Nirmal Kumar, Rene Pfeifer, Branislav Dzurnak, Kezia Sasitharan, Vsevolod Slobodyan, Alexander Kromka & Bohuslav Rezek (Joint Author)	10.1557/s43578-023-01033-6	May 2023
JOURNAL PAPER (International)	Three-Layer PdO/CuWO4/CuO System for Hydrogen Gas Sensing with Reduced Humidity Interference	MDPI Nanomaterials	Nirmal Kumar, Stanislav Haviar, and Petr Zeman (First Author)	https://doi.org/10.3390/nano11123456	Novem 2021
JOURNAL PAPER (International)	Synergy of experiment and model for reactive HiPIMS: Effect of discharge parameters on WO x composition and deposition rate	Journal of Physics D: Applied Physics	Jiri Rezek, Tomáš Kozák, Nirmal Kumar, Stanislav Haviar (Joint Author)	10.1088/1361-6463/abd1a3	Decem 2020
JOURNAL PAPER (International)	Tuning Stoichiometry and Structure of Pd-WO3?x Thin Films for Hydrogen Gas Sensing by High-Power Impulse Magnetron Sputtering	MDPI Materials	Nirmal Kumar, Stanislav Haviar, Ji?í Rezek, Pavel Baroch and Petr Zeman (First Author)	https://doi.org/10.3390/ma13225101	Novem 2020
JOURNAL PAPER (International)	Nanostructured CuWO4/WO3-films prepared by reactive magnetron sputtering for hydrogen sensing	International Journal of Hydrogen Energy	Nirmal Kumar, Stanislav Haviar, Ji?í Rezek, Pavel Baroch and Petr Zeman (First Author)	10.1016/j.ijhydene.2020.04.203	May 2020

JOURNAL PAPER (International)	Hydrogen gas sensing properties of WO3 sputter-deposited thin films enhanced by on-top deposited CuO nanoclusters	International Journal of Hydrogen Energy	Stanislav Haviar, Ji?í ?apek, Šárka Batková, Nirmal Kumar , Filip Dvo?ák, Tomáš Ducho?, Markéta Fialová, Petr Zeman (Joint Author)	10.1016/j.ijhydene.2018.10.127	Decem 2018
CONFERENCE PAPER/ PROCEEDINGS (International)	Tungsten Oxide Based Hydrogen Gas Sensor Prepared by Advanced Magnetron Sputtering †	MDPI Materials	Nirmal Kumar, Stanislav Haviar, Ji?í Rezek, Ji?í ?apek and Pavel Baroch (First Author)	https://www.mdpi.com/article/10.3390/I3S2021Dresden-10154/s1	July 2021

8. Books

Category	Book Name	Title	Name of Author	ISSN/ ISBN Number
BOOK (International)	LAGRANGIAN AND HAMILTONIAN DYNAMICS	Bipin Singh Koranga, Nirmal Kumar, Ashish Shrivastava (Joint Author)	LAP Lambert Academic Publishing	6206844331

9. Faculty Achievements

Year	Category of Achievement	Role	National/ International etc.	Name	Date From-To
2023	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PAPER PRESENTER	International	International Conference on Advanced Materials for Emerging Technology	04.May.2023 - 06.Dec.2023
2023	FACULTY INDUCTION PROGRAM ATTENDED	ASSISTANT PROFESSOR	National	Faculty Induction Program	21.Dec.2022 - 19.Jan.2023
2023	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	MEMBER	College	2 Day Hands on Workshop on Arduino Programming	24.Mar.2023 - 25.Mar.2023
2024	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	International	EMAS Workshop on the Edge of EM and Microanalysis Techniques	12.May.2024 - 15.May.2024
2024	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PAPER PRESENTER	International	19th International Conference on Plasma Surface Engineering	02.Sep.2024 - 05.Sep.2024
2024	NATIONAL/ INTERNATIONAL FELLOWSHIPS (IOE, FRSC, etc.) ATTENDED	POST DOCTORATE	International	Postdoctoral Researcher	01.Feb.2024 - 31.Dec.2025

2024	INVITED LECTURES/ RESOURCE PERSON/ PAPER PRESENTATIONS ATTENDED	PAPER PRESENTER	International	19th International Conference on Plasma Surface Engineering (PSE 2024)	02.Sep.2024 - 05.Nov.2024
2025	FACULTY DEVELOPMENT PROGRAM ATTENDED	PARTICIPANT	National	One week online faculty development program (FDP) on Functional Materials for Sustainable Development	27.Jan.2025 - 31.Jan.2025
2025	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PAPER PRESENTER	International	TCM-TOEO 2025 conference-International Symposium on Transparent Conductive Materials	19.Oct.2025 - 23.Oct.2025
2025	FACULTY DEVELOPMENT PROGRAM ATTENDED	ASSISTANT PROFESSOR	National	One week online faculty development program (FDP) on Functional Materials for Sustainable Development	27.Jan.2025 - 31.Jan.2025

Dr. NIRMAL KUMAR