



Name : Dr. Rakesh Kumar Pandey
Centre/School: School of Physical Sciences
Department : Pure and Applied Physics
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Qualifications: M.Sc. Ph.D. in Physics

Exami-nations	Name of Board / University	Subject Opted	Year of Passing	Marks Obtained	Division
High School	Board of Secondary Education, M.P., Bhopal	Eng, Hindi, Sans., Maths, Sci., Soc. Sci.	1988	72%	I
Higher Secondary	Board of Secondary Education, M.P., Bhopal	Eng., Hindi, Phy., Chem. Maths	1990	70%	I
B.Sc.	Rani Durgawati University, Jabalpur (M.P.)	Physics, Geology, Maths, FC Course	1993	55%	II
M.Sc. (Physics)	Rani Durgawati University, Jabalpur (M.P.)	Physics with Material Science	1995	65%	I
Specialization in M.Sc.	Rani Durgawati University, Jabalpur (M.P.)	Digital Electronics & Microprocessors	1997	67.5%	I
Ph.D. Degree	Rani Durgawati Vishwa-vidyalaya, Jabalpur-425 001 (M.P.), 25 th April, 2000	Topic: Studies on the Electrodeposited CuInSe₂-Based Photoelectrochemical Solar Cells			

Area of Interest/Specialization: Material Science, Thin films, Optoelectronics Devices
Optical Communication, Nano-materials and Devices

Experience: UG-18Years, PG-21Yrs; Research 18 Years

Designation	Name of Employer	Date of Joining		Salary with Grade	Reason of Leaving
		Joining	Leaving		
Research Associate	Dept. of Electronics, North Maharashtra University, Jalgaon	19 th Aug. 2000	31 st July 2002	8000 +HRA	Project Completed
Research Scientist	Dept. of Electronics, North Maharashtra University, Jalgaon	24 th June 2003	30 th Aug. 2004	Rs. 17000+ HRA	Projected Completed
Visiting Lecturer	Dept. of Electronics, North Maharashtra University, Jalgaon	19 th Aug. 2000	5 th Nov. 2004	Rs. 100/Lect.	-

Assistant Professor	Dept. of Applied Physics	Guru Ghasidas University, Bilaspur	08 th Nov. 2004	Till dated	15600-39100 + AGP 6000
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Awards and Honors:

Sr. No.	Professional Bodies	Responsibilities
1.	Life Member of Indian Society of Particle Accelerators (ISPA)	Life Member
2.	Member of Indian Science Congress	Member
3.	Life Member of Luminescence Society of India (LSI), Jabalpur Chapter	Life Member
4.	Member of Optical Society of Indian	Member

Research Projects

Sr. No.	Title of the Project	Agency	Period	Grant/Amount (Rs. Lakhs)
1.	Synthesis and characterization of doped and un-doped ZnO Thin Films using Sol Gel Spin Coating Method F.No. 41-930/2012 (SR), 23 July 2012	UGC, New Delhi	2012 to 31 st Dec. 2015	9.60 Lakhs

International Collaboration / Consultancy: Nil

Best Peer Reviewed Publication (up-to 10):

Sr. No.	Title, Name of Journal and Vol. No.	Impact Factor
1.	Annealing time induced roughening in ZnO thin films: A fractal and multifractal assessment; Materials Science in Semiconductor Processing; 106 (2020) 104771	Yes 2.722
2.	Comparable nuclear and electronic energy loss effect of Au ²⁺ irradiation on structural, surface morphological, optical and phonon properties of Al:ZnO thin films; Nucl. Instrum. Methods Phys. Res.; 459 (2019) 22-28	Yes 1.21
3.	Power spectral density-based fractal analysis of annealing effect in low cost solution-processed Al-doped ZnO thin films; Phys. Scr.; 94 (2019) 115704	Yes 2.151
4.	Fractal and multifractal analysis of In-doped ZnO thin films deposited on glass, ITO, and silicon substrates; Appl. Phys. A; A 125 (2019) 98	Yes 1.784
5.	Effect of film thickness on structural and optical properties of sol-gel spin coated aluminum doped zinc oxide (Al:ZnO) thin films; Mater. Res. Express.; 5(8) (2018) 086408	Yes 1.449
6.	Deposition and Characterization of Al Doped ZnO Thin Films for optoelectronic Applications; Journal of Electronic Materials; 45 (2016) 5822–5829	Yes 1.676

7.	Comparative Study of Performance of CdTe, CdSe and CdS Thin Film Based Photoelectro-chemical Cells; Solar Energy Materials & Solar Cells; 60 (2000) 59-72	Yes 4.732
8.	Effect of Deposition Temperature on the Chemical Properties of Thermally Deposited Silicon Nitride Films; J. of Optical Materials; 27 No.4 (2005) 663-670	Yes 2.183
9.	Growth and Characterization of Silicon Nitride Thin Films by Using Thermal CVD Machine; Optical Materials; 27 No.2 (2004) 139-146	Yes 2.183
10.	Growth and Characterization of SiON Thin Films by Using Thermal CVD Machine; J. of Optical Materials; 25 (2004) 1-7	Yes 2.183

Recent Books /Book Chapters /Monographs etc.:

Sr. No.	Title with Page No	Book title editor & Publisher	ISSN/ ISBN No.	Peer rev.
1.	Effect of Process Parameters on the properties of SiO ₂ Films Deposited by PECVD System P. 76-81	Thin Films and Nano-materials ed by S Jaikumar, M.D. Khannan, R Balasundraprabhu and S Prasanna Macmillan Pub. India Ltd. 2012	978-935-059-049-2	Yes
2.	Deposition and Characterization of SiO ₂ Films using PECVD System Vol. 3,	Nanoscience Engg. & Advanced Computing, R.S. Dubey et al 2011, P. 295-298	978-81-8465-683-1	Yes
3.	Effect of deposition temperature on the properties of Silicon Nitride films grown by Thermal CVD system	Microwave and Optoelectronics, M.D Shirsat et al, Anamaya Publisher, New Delhi, 2004 P290-297	-	Yes
4.	Analysis of optical properties in one-dimensional photonic crystals P 298-301	Microwave and Opto-electronics, M.D Shirsat et al, Anamaya Publisher, New Delhi, 2004	-	Yes

Research Supervision:

Sr. No.	Number Enrolled	Title of Thesis	Year of Degree Awarded
1.	Dr. Koushik Ghosh	Study of Properties Modifications through Chemical Doping and Ion Irradiation in Zinc Oxide (ZnO) Thin Films	August 2020

Administrative Responsibilities:

Sr. No.	Type of Activity
1.	Worked as a member of BOS, Counseling Committee, Cultural programme Committee, Anti Ragging Committee, Hostel Inspection committee etc.
2.	Worked as Academic Co-ordinator of Dept. of Pure and applied Physics, B. Tech. and Organizing member of different seminars/ symposium/ conferences/ workshops conducted by Dept. of Physics and GGV, Bilaspur
3.	Worked as a member of Executive Committee of the GGV, Bilaspur
4.	Worked as a member of Academic Council of the GGV, Bilaspur
5.	Worked as Astd. Supdt of Examination Committee, of the GGV, Bilaspur

6.	Worked as Presiding officer for conducting Students Election of GGV, Bilaspur
6.	Worked as Incharge of University Guest House
7.	Worked as Incharge of University Cafeteria, GGV, Bilaspur
8	University Internal exam/ ESE of GGV, Bilaspur
9.	National level Examination Conducted at GGV, Bilaspur like NET, SET, VET, VRET etc.
10.	1. Assistant Examination Asst. Superintendent at the GGV during the final examination. 2. Evaluated answer scripts of GGV VET & VRET tests. 3. Appointment as an External of practical Examination of M.Sc. as well as B.Sc. levels at various universities

Additional Information:

Sr. No.	Title of The Book	Types of Book	Publisher/ ISSN /ISB No.	Whether Peer Reviewed
1.	Waves Sound and Optics, B.Sc. II Year, II Paper	Text Book	Pt. SLSO Univ. Bilaspur 2018	Yes
2.	Gaso Ke Anugati Siddhant B.Sc. II Year, I Paper	Text Book	Pt. SLSO Univ. Bilaspur 2018	Yes

Project Supervised to Post Graduate Students:

Sr. No.	Name of Student	Course	Project Title	Year of Completion
1.	Avik Karmakar	M.Sc. Physics	Deposition and Characterization of ZnO Thin Films using Sol-Gel Spin Coating Method	2014
2.	Gargi Devangan	M.Sc. Electronics	Synthesis & Characterization of structural, optical and Electrical Properties of ZnO:Al Thin Films for Optoelectronic Applications	2014
3.	Surabhi Sharma	M.Sc. Electronics	Deposition and Characterization of Mg:ZnO Thin Films using Sol-Gel Spin Coating Method	2014
4.	Rashmi Tiwari	M.Sc. Physics	Deposition and Characterization of Ni:ZnO Thin Films using Sol-Gel Spin Coating Method	2015
5.	Vikram Singh Rajput	M.Sc. Physics	Deposition and Characterization of Ag:ZnO Thin Films using Sol-Gel Spin Coating Method	2015
6.	Koushik Ghosh	M.Sc. Physics	Deposition and Characterization of Na:Mg:ZnO Thin Films using Sol-Gel Spin Coating Method	2015
7.	Subhadeep Pan	M.Sc. Physics	Deposition and Characterization of Al:K:ZnO Thin Films using Sol-Gel Spin Coating Method	2016
8.	Prerna Gupta	M.Sc. Physics	Deposition and Characterization of Na:Mg:ZnO Thin Films using Sol-Gel Spin Coating Method	2016
9.	Bhagawat Koushik	M.Sc. Physics	Deposition and Characterization of Ga:N:ZnO Thin Films using Sol-Gel Spin Coating Method	2017
10.	Vishwakant	M.Sc. Physics	Deposition and Characterization of Al:N:ZnO Thin Films	2017

	Yadav			
11.	Sayan Bandhyo padhyay	M.Sc. Physics	Synthesis and Characterization of Al:ZnO Thin Films using Sol-Gel spin coating Method	2017
12.	Prakash Verma	M.Sc. Physics	Structural and Optical Properties of Sodium and Magnesium Co-doped Zinc Oxide (Na:Mg:ZnO) Thin Films	2018
13.	Aastha Yadav	M.Sc. Physics	Simulation of Perovskite Based Solar Cell for Solar Energy Harvesting	2019
14.	Yasha Mishra	M.Sc. Physics	Fractal analysis of Al:ZnO Thin Films	2019
15.	Anjali Gupta	M.Sc. Physics	Fractal and Multifractal Analysis of Al:ZnO Thin Films	2019
16.	Piyush kundu	M.Sc. Physics	Fractal Geometrical Concepts in Analysing ZnO Thin Film Surface	2020