

## CURRICULAMVITAE

**Prof. RAM KUMAR, M.Sc. Ph.D.**

**Department of Physics**

**BSNV PG College, Lucknow**

**Professor and Ex Head**

**Coordinator IQAC**

**Email ID- [rktshri@gmail.com](mailto:rktshri@gmail.com)**

**Joined as Assistant Professor in Physics**

**Department in 1999 Promoted to Associate**

**Professor in 2013 and Professor in 2021,**

**Head/ In-charge of Physics Department from**

**2017 to 2020.**



### **Qualifications:**

Ph.D.	(Physics)	(2018)	University of Lucknow
CSIR-NET	(UGC)	(1998)	University of Lucknow
M.Sc.	(Physics, Spl. In Electronics)	(1992)	University of Lucknow
B.Sc.	(Physics/Maths)	(1990)	University of Lucknow
Intermediate	( Science)	(1987)	U P Board, Allahabad
High school	(Science)	(1985)	Bihar Board , Patna

### **Title of Ph. D Thesis:**

***STUDY OF NON LINEAR OPTICAL MATERIALS USING VIBRATIONAL SPECTROSCOPY AND DENSITY FUNCTIONAL THEORY.***

### **Field of specialization:**

**Electronics, Optics, Solid state Physics, Information & Communication Technology, eLearning.**

**Research Publications: 16**

**Books / Book- chapters: 4**

**Seminar/ Conferences/ Resource Person: 35**

**Awards /Recognition: 2**

**E-Content: 100+**

**Social Contribution: Leading Social movement MANGALMAN for addressing issues like Climate Change & promoting Universal Human Values (UHV).**

## Research Publications:

S.N	Title with page no.	Journal Name	UGC Sr. No/CAR E list	Year	ISSN No. & EISSN
1	Virtual laboratory; An effective learning tool (pp. 51-54)	AnusandhanVigyan Shodh Patrika	S.N.-4133 (Valid Till 03-05-2018)	2013	23220708 23500123
2	Quantum Computational Ab-initio Methods with Different Perturbation Theories and their Application to Nonlinear Optical Material Investigations (pp. 460-464)	International Journal of Science and Research (IJSR)	Peer Reviewed	2013	2319-7064
3	Molecular structure optimization of Genistein by quantum chemical calculations (pp. 85-91)	AnusandhanVigyan Shodh Patrika	S.N.-45133 (Valid Till 03-05-2018)	2014	23220708 23500123
4	Basis Set and their correlations with quantum chemical computations (pp. 22-27)	Journal of Emerging Technologies and Innovative Research (JETIR)	UGC Serial Number - 63975	2015	ISSN-2349-5162
5	Study of 1 <sup>st</sup> and 2 <sup>nd</sup> order non linear optical (NLO) properties of chalcone derivative 3-(4-chlorophenyl)-1-(pyridine-3-yl) prop-2-en-1-one using quantum chemical techniques (pp. 35-38)	AnusandhanVigyan Shodh Patrika	S.N.-45133 (Valid Till 03-05-2018)	2016	23220708 23500123
6	Homo-Lumo analysis and hyperpolarizability studies of 1,3-Bis(3,4-dimethoxy phenyl) prop-2-en-1-one using quantum chemical computations (pp. 23-28)	International Journal in Physical & Applied Sciences (IJPAS)	Peer Reviewed	2016	ISSN: 2394-5710
7	Vibrational spectroscopic tools and techniques and their applications in the study of nonlinear optics (pp. 204-208)	Journal of Emerging Technologies and Innovative Research (JETIR)	UGC Serial Number - 63975	2016	ISSN-2349-5162

8	Assessment of nonlinear optical response of 3-(4-chlorophenyl)-1-(pyridin-3-yl) prop-2-en-1-one based on Quantum chemical computations with different functional and basis sets (pp. 293-305)	International Journal of Materials Science (IJMS)	Peer Reviewed	2017	ISSN 0973-4589
9	An Investigation of nonlinear optical properties, electronic behaviour and Structure -NLO relation of 1,3-Bis (3,4-dimethoxy phenyl) prop-2-en-1-one : A theoretical and computational study (pp. 84-88)	Asian Journal of Research in Chemistry	Peer Reviewed	2017	0974-4150 (Online) 0974-4169 (Print)
10	A study of factor affecting vibrational modes in quantum chemical computations and spectroscopy (pp. 393-397)	Journal of Emerging Technologies and Innovative Research (JETIR)	UGC Serial Number - 63975	2017	ISSN-2349-5162
11	Structural and vibrational characteristics of a non-linear optical material 3-(4-nitrophenyl)-1-(pyridine-3-yl) prop-2-en-1-one probed by quantum chemical computation and spectroscopic techniques (pp. 180-190)	Journal of Molecular Structure (JoMS)	Scopus & WOS	2018	ISSN: 0022-2860
12	A Review of Requirements of Material Suitable for Second and Third Order Nonlinear Optical Activity (pp. 52-63)	Edu World (A Multi disciplinary International Peer Reviewed /Refereed Journal)	UGC Serial Number - 63975	2018	ISSN : 2319-7129
13	An Investigation of Chalcone Derivatives as Organic Nonlinear Optical Materials (pp. 38-44)	International Journal of Research in Engineering and Science (IJRES)	Peer Reviewed	2019	ISSN (Online): 2320-9364, ISSN (Print): 2320-9356
14	Nonlinear optics and its applications in frequency multiplication and imaging (pp. 1007-1013)	International Journal of Advances in Engineering and Management (IJAEM)	Peer Reviewed	2021	ISSN: 2395-5252
15	Machine learning and artificial intelligence in the war against Covid-19 (pp. 22-25)	International Journal of Research in Engineering and Science (IJRES)	Peer Reviewed	2021	ISSN (Online): 2320-9364, ISSN (Print): 2320-9356

16	Virtual Laboratories as Interactive eLearning Resources: Benefits and Limitations (pp. 1621-1625)	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	Peer Reviewed	2021	ISSN: 2321-9653;
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### Books / Book- chapters:

S.N.	Title of Book or chapter with page no.	Publisher Detail	Published by International/National/lo	Year	ISSN/ ISBN No.	Total No of authors	Whether you are the main author
1	Surfing on Web Step by Step [Pages-65]	Shri Publications	National	2009		1	Main Author
2	A comparative study of structural and nonlinear optical properties of two chalcone derivatives (pp. 35-42)	Proceedings of international conference on perspectives in vibrational spectroscopy 2016 (ICOPVS)	Department of Physics, University of Lucknow	2016	ISBN: 978-93-5267-364-3	5	Main Author
3	Lecture Notes on Nuclear Physics [Pages-50]	Notion Press	International	2021	ISBN: 979888-5309516	1	Main Author
4	ONLINE Editor of Anusandhan Vigyan Shodh Patrika Vol. 1(2013) to 8(2021)	BSNV Vigyan Parishad, Lko	National	2013-2021	ISSN: 2322-0708 EISSN : 2350-0123	1	Editor

### Fellowship/Awards:

S. N.	Name of Fellowships/Awards	Awarding Agency	Whether international/ National	Honorarium of Award, if any
1.	Uttar Pradesh Ratna Samman	Mai Bharat Hu Sangh, Mumbai	National (On 05-05-2021)	Certificate
2.	Shikshak Samman	UP State Govt.	University Level [on 05-09-2021]	Certificate

**Invited lectures /Resource Person/ paper presentation in seminars/Conferences/Proceedings:**

S.N	Title of the Invited lectures / papers	Title of Conference/ Seminar /workshop etc	Organized by	Sponsored by	Whether International (abroad)/ International (within country)/ National/ State or University level
1	Workshop Attended	हिन्दी में वैज्ञानिक लेखन पर कार्यशाला (Sep 20-22, 2002)	लखनऊ विश्वविद्यालय, लखनऊ	वैज्ञानिक तथा तकनीकी शब्दावली आयोग, नई दिल्ली	National
2	Project Management	Special lecture on project management (Mar 15, 2007)	Sahara Arts and Management Academy, Lucknow		University
3	Career opportunities in IT and ITES	Fiesta- 2009 (Oct 2, 2009)	Sahara Arts and Management Academy, Lucknow		University
4	Discussion on role and importance of astronomy	International Year of Astronomy - 2009 (July 20, 2009)	Indira Gandhi National Open University (IGNOU)		State
5	eLearning Environment in Higher Education in India	National Seminar on Contemporary Educational System and National Integration (Mar 28, 2010)	BSNV PG College, Lucknow		National
6	Value Added Courses in e-Learning System of Education	National Seminar on Human Right & Values in Education (Mar 31, 2010)	Political Science (PG) Departement, Kamla Rai College, Gopalganj, JP University, Chapra, Bihar	-	National
7	Gandhi's Outlook towards Science & Technology Education	National Seminar on Gandhi: A leader of Peace, Harmony Secularism & Democracy (Apr 1-2, 2010)	Political Science Departement, Kamla Rai College, Gopalganj, JP University, Chapra, Bihar	-	National
8	Impact of science applications on management	Advance leadership training camp- 2010 (Oct 2-3 2010)	Sahara Arts and Management Academy, Lucknow		University
9	Application of Physics Laws in Quantum Mechanics	National Symposium on Application of Various Techniques in Fluid Dynamics (Feb 10-12, 2011)	Department of Mathematics, BSNV PG College, Lucknow	UGC, New Delhi	National

10	ICT for Green..... Carbon	National Seminar on Role of Bio Sciences to Save Environment (Oct 6-7, 2012)	Department of Chemistry, Kisan PG College, Bahraich, UP	UGC, New Delhi	National
11	Science and Technology in Raja Ram Mohan Roy's Era	National Conference on Indian Renaissance in Raja Ram Mohan Roy's Era: A Synthesis with Current Trends (Mar 5, 2013)	Raja Ram Mohan Roy Studies Centre, BSNV PG College, Lucknow, Lucknow		National
12	Role of ICT in Aquaculture Development	National Seminar on Environmental Degradation and Aquaculture (NSEDA) (April 28, 2013)	PG Department of Zoology, BSNV PG College, Lucknow & Applied and Natural Science Foundation, Haridwar, U.K.		National
13	Workshop Attended	Workshop on E-Learning and Preparation of E-Learning Material (Aug 17, 2013)	Internal Quality Assurance Cell (IQAC), Lucknow University, Lucknow		University
14	Quantum Computing and Entanglement	National Conference on Role of Mathematics in Advancement of Science & Technology (NCRMAST-2013) (Oct 18-20, 2013)	Department of Mathematics, BSNV PG College, Lucknow in Association with National Science Network & BSNV Vigyan Parishad	DST, Govt of India & CSIR, New Delhi	National
15	A-View Hand-on demonstration	National Workshop on How to use A-View (Oct 19, 2013)	Amrita E-Learning Research Lab	NME-ICT (MHRD)	National
16	-	International Seminar on Advances in Bio and Nano Materials (ISABNM-2013) (Nov 17, 2013)	Physics Department, University of Lucknow		International
17	Open source software for characterization of materials	International Symposium on Advances in Biological & Material Sciences; ISABMS-2014 (July 15, 2014)	Humboldt Academy Lucknow & University of Lucknow		International (India)
18	An overview of CAS and PBAS system	National Workshop on Quality Enhancement Under Career Advancement Scheme (CAS) (07-07-2015)	BSNV PG College, Lucknow		National
19	Spectroscopic analysis and nonlinear optical characterization of 3-(4-nitrophenyl)-1-(pyridine-3-yl) prop-2-en-1-one using density functional theory	International Conference on Advances in Light Technologies and Spectroscopy of Materials (ICALTSM - Jan 16-18, 2016)	Department of Physics University of Lucknow In collaboration with Laser and Spectroscopy Society of India		International (India)

20	The role of information and communication technology and ICT industry in sustainable society and climate changes.	National Seminar on SAVE FEW (Fuel, Electricity, Energy, Environment & Water) (March 13, 2016)	Department of Chemistry, Shri JNPG College, Lucknow & Bharat Raksha Dal Trust Environment Cell		National
21	Theoretical and computational study of basis set effect on linear and nonlinear optical properties of chalcone derivative 3-(4-chlorophenyl)-1-(pyridin-3-yl) prop-2-en-1-one using quantum chemical calculations	International Conference On New Scintillations On Materials Horizon (ICNSMH-2016) (Oct 21-23, 2016)	Department of Applied Physics Faculty of Engineering & Technology, M.J.P. Rohilkhand University, Bareilly-243006	World Bank funded TEQIP-II	International (India)
22	Linear and nonlinear optical characterization of a chalcone derivative using hybrid functional and density functional theory	National Conference on Recent Advancement and Innovations in Chemical and Material Science- RAICMS- 2017 (Feb 23-24, 2017)	Department of Chemistry, Shri Jai Narain PG College, Lucknow & Dr Shakuntla Mishra National Rehabilitation University, Lucknow		National
23	FT-IR, FT-Raman, UV-vis, Homo-Lumo analysis and nonlinear optical characterization of 1-(3,4-Dimethoxyphenyl)-3-(4-methoxyphenyl) prop-2-en-1-one using density functional theory	International Conference on Emerging Materials and Applications (ICEMA- 2017) (Feb 20-22, 2017)	Department of Physics, University of Allahabad, India		International (India)
24	Quality Enhancement in Higher Education Institutions Using SWOT Analysis	New Methodology of Assessment to Nurture Quality (Jan 29-30, 2018)	IQAC, Mata Gujri Mahila Mahavidyalaya, Jabalpur, MP	NAAC, Bangalore	National
25	eLearning Opportunities and Challenges in Higher Education Institutes	National Seminar on Digital Learning Opportunities and Challenges in Higher Education Institutes (NSDLOCHEI-2018) (May 05, 2018)	Department of Physics, B.S.N.V. Post Graduate College, Lucknow In Association with BSNV Digital Learning Club		National
26	Issues and Challenges of Higher Education in Uttar Pradesh	National Seminar on Changing Paradigm of Higher Education in India: Issues and Challenges with Special Reference to Uttar Pradesh (Oct 10, 2018)	Lucknow University Associated Colleges Teachers Association (LUACTA) & National PG College, Lucknow		National
27	Adjudged the PPT Presentation	Application of Mathematics in Various Fields (Dec 22, 2018)	Department of Mathematics, BSNV PG College, Lucknow		University

28	Participated	All India Seminar on Artificial Intelligence: An application Persepective (Sep 5-6, 2019)	Department of Electronics & Communication Engineering, Kumaraguru College of Technology, Saravanampatti, Coimbatore, TN & Institute of Engineers		National
29	भारतीय भाषाओं में विज्ञान एवं तकनीकी शिक्षा— चुनौतियाँ भरी संभावनाएं	विज्ञान एवं प्राद्योगिकी में तकनीकी शब्दावली का अनुप्रयोग— (Oct 22-23, 2019)	Sri Ram Swaroop Memorial University, Lucknow & DSTT	DSTT, Govt of India	National
30	Smart Systems and Sustainable Development	National Seminar on Need for Forward Looking Development Strategies for India (Nov 5-6, 2019)	Department of Economics, BSNV PG College, Lucknow		National
31	ICT driven development strategies for growth and sustainability in India	National Seminar on Consumerism, Social equity and Environmental Sustainability ( Dec 20-21, 2019)	Academic Development Council, BSNV PG College, Lucknow	Higher Education: Department, Government of UP	National
32	Artificial Intelligence for All	National Seminar on Prospects of Science and Society in the Era of Artificial Intelligence NSPSSEAI-2020 (Mar 3-4, 2020)	B.S.N.V. Post Graduate College, Lucknow In Association with Vijnana Bharati & Institution of Engineers (India)	IQAC	National
33	Interactive Physics Learning with Virtual Labs	National Seminar on Innovative Methods of Teaching Physics (March 5-6, 2020)	Department of Physics, Shia PG College, Lucknow	-	National
34	Role of ICT in the implementation of NEP-2020	National Seminar on Aspects of Higher Education in New Education Policy 2020 (Mar 17, 2021)	Academic Development Council, BSNV PG College with Department of Commerce		National
35	The impact of COVID- 19 on Environmental Sustainability	National Seminar on Environmental Challenges and Sustainability (Sep 15, 2021)	Academic Development Council, BSNV PG College, Lucknow		National

### Other Relevant Information:

1. Designed and Developed 10+ educational software.
2. Google certified Social Media Marketing expert.
3. Founded National Science Network for the promotion of science.
4. Designed, developed and launched open access eLearning portal (<http://learning247.in>) for undergraduate and competitive students.
5. Pioneered various activities for promotion of the Technology Enhanced Learning in the



college campus. (Organizing training for staff, smart room development, website for Physics department, Artificial Intelligence Mahotsav and Seminar etc.)

6. Worked for accreditation of the college from the NIELET Digital Learning Courses and presently working as a member of coordination committee of this course.
7. Hand on Expertise of Website development and IT infrastructural development.
8. Life member of various professional academic bodies like Indian Science Congress Association, BSNV Vigyan Prishad, BSNV Kala Parishad, Order-disorder Society, Vijnana Bharti, National Science Network etc.
9. Served as a Nodal Officer of Virtual Labs, MHRD, Govt. of India, at college
10. Leading Social movement MANGALMAN for addressing issues like Climate Change & promoting Universal Human Values (UHV).
11. Serving as Coordinator, Internal Quality Assurance Cell, at college since 2020.  
Working as a Nodal Person for establishment of BSNV Kaushal Vikas Kendra under the aegis of BSNV Professional Studies Centre.