

FACULTY PROFILE



Name	Dr Ranveer Kumar					Date of Birth: 10-9-1966				
Designation	Professor				Date of holding Present Post			06-06-2013		
Name of the Department and School	Department of Physics					School of Mathematical and Physical Science				
Contact Details	Email :ranveerssi@yahoo.com					Mobile: 9425635731				
Additional Responsibility in the university, if any	1. Director, Internal Quality Assurance Cell. 2. In-charge of Sophisticated Instruments(Powder XRD, Simutaneous Thermal Analyser Micro Raman Spectrometer)									
Educational Qualifications (UG onwards)	B.Sc. M.Sc; M.Phil. Ph.D; (diploma in Foregein Languages : Russian, French)									
Research Area/Specialization	Material Science /Superionic solids, Energy storage & Conversion materials									
Awards/ Honors / Fellowship Conferred (With details thereof)	➤ Recipient of 1994 ISCA Young Scientist Award for physics at 81 st Indian Science congress held at Jaipur 3-8 Jan 1994. ➤ Indian National Science Academy (INSA) & Japan Society for promotiom of Science (JSPS) awarded short term fellowship under International collaborative/bilateral exchange programme for 2003-2004 (Japan)									
Summary of Publications (Number only)	Research Papers	19	Books	--	Chapter in Books	-02	Seminars/ Conferences Proceedings	06	Projects	01

Research Projects (Completed and Ongoing):

S.No.	Title	Funding Agency	Duration	Sanction order No. & Date	Amount	Completed/ ongoing
1.	Super ionic conducting Materials : Synthesis, Characterization and device applications	Third world Academy of Sciences (ICTP) Italy, by research project grant NO. 00-046/RG/PHYS/AS	2 years	NO. 00-046/RG/PHYS/AS 14 Feb 2003	6000 USD dollar	completed

PUBLICATIONS - 2013 onwards :

National Publications (Details of Research Papers – 2013 onwards):

2015	1. Structural Transport and dielectric property studies of Ca _{0.94} Nd _{0.06} Sn _{0.6} Zr _{0.4} O ₃ ceramic Purnima Rawat, Sandhya Patel Ranveer Kumar, Harsha Deharia Research Journal (Madhya Bharati) Vol 56, Jan 2015, pg 12 (ISSN No 0972-7434) 2. Preparation and characterization of Mercury- based traditional herbo mineral formulation Shwas Kuthar rasa Suresh Janadri, A.P, Mihra, Ranveer Kumar, Shanmikh I, Nagendra Rao, Muralidhar Kharya Journal of Ayurveda & Integrative medicine 2015, 6, 268-272
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International Publications (Details of Research Papers) – 2013 onwards:

2013	1. Effect of Al ₂ O ₃ ceramic filler on PEG-based composite polymer electrolytes for magnesium batteries Polu AKumar R <i>Advanced Materials Letters</i> (2013) 4(7) 543-547 DOI: 10.5185/amlett.2012.9417 2. Ionic conductivity and discharge characteristic studies of PVA-Mg(CH ₃ COO) ₂ solid polymer electrolytes Polu AKumar R <i>International Journal of Polymeric Materials and Polymeric Biomaterials</i> (2013) 62(2) 76-80 DOI: 10.1080/00914037.2012.664211 3. Preparation and characterization of pva based solid polymer electrolytes for electrochemical cell applications Polu AKumar R <i>Chinese Journal of Polymer Science (English Edition)</i> (2013) 31(4) 641-648 DOI: 10.1007/s10118-013-1246-3
2014	1. Effect of ceramic fillers on polyethylene glycol-based solid polymer electrolytes for solid-state magnesium batteries Polu AKumar R Rhee H <i>High Performance Polymers</i> (2014) 26(6) 628-631 DOI: 10.1177/0954008314536211 2. Effect of zinc salt on transport, structural, and thermal properties of PEG-based polymer electrolytes for battery application Polu AKumar R Joshi G <i>Ionics</i> (2014) 20(5) 675-679 DOI: 10.1007/s11581-013-1024-9 3. Mg ²⁺ -ion conducting poly(ethylene glycol)-TiO ₂ composite polymer electrolytes for solid-state batteries Polu AKumar R <i>Materials Express</i> (2014) 4(1) 79-84 DOI: 10.1166/mex.2014.1143 4. Preparation and characterization of PEG-Mg(CH ₃ COO) ₂ -CeO ₂ composite polymer electrolytes for battery application Polu AKumar R <i>Bulletin of Materials Science</i> (2014) 37(2) 309-314 DOI: 10.1007/s12034-014-0654-5
2015	5. Magnesium ion conducting solid polymer blend electrolyte based on biodegradable polymers and application in solid-state batteries Polu AKumar R Rhee H <i>Ionics</i> (2015) 21(1) 125-132 DOI: 10.1007/s11581-014-1174-4
2017	1) Stability Behavior of Chemically Synthesized Organic Electrolyte Salts and Methylammonium Lead Halide Perovskite Light Harvester Rajan. Kr. Singh, N. Jain, J. Singh, R. Kumar <i>Advanced Materials Letters</i> 2017, 8(6), 707-711 DOI: 10.1007/s11581-017-1174-4

	<p>10.5185/amlett.2016.6953 Impact Factor: 1.352</p>
2018	<p>1. Novel synthesis process of methyl ammonium bromide and effect of particle size on structural, optical and thermal behavior of MAPbBr₃ organometallic perovskite Rajan Kr. Singh, Ranveer Kumar, Amit Kumar, Neha Jain, Rajiv Singh, and Jai Singh Journal of alloy and compound, 743, 2018, 728-736. DOI: 10.1016/j.jallcom.2018.01.355 Impact Factor: 4.175</p>
2019	<ul style="list-style-type: none"> Highly efficient MAPb_{1-x}Sn_xBr_{3-2x}Cl_{2x} (0<x<0.40) perovskite quantum dots with enhanced lifetime in warm WLEDs: An investigation on simultaneous cation and anion exchange for less lead perovskite light harvesters RajanKumarSingh, SudiptaSom, Somrita Dutta, Neha Jain, Jai Singh, Ranveer Kumar and Chung-Hsin Lu <i>Chemical engineering journal</i>, 2019, 123629, DOI: 10.1016/j.cej.2019.123629, Impact Factor: 8.1 Rapid synthesis of hybrid methylammonium lead iodide perovskite quantum dots and rich MnI₂ substitution favouring Pb-free warm white LED applications Rajan K. Singh, SudiptaSom, Somrita Dutta, Neha Jain, Ranveer Kumar, Jai Singh, Mei-TsanKuo and T. M. Chen <i>RSC, Nanoscale Advances</i> 1, 2019; 2999-3008. DOI:10.1039/C9NA00330D, Impact Factor: Pending Progress on Transition Metal-Doped ZnO Nanoparticles and Its Application Pushpendra Singh, Ranveer Kumar, Rajan Kumar Singh ACS, Industrial & Engineering Chemistry Research 58, 37, 2019, 17130-17163. DOI:10.1021/acs.iecr.9b01561, Impact Factor: 3.375 Exploring the impact of the Pb²⁺ substitution by Cd²⁺ on the structural and morphological properties of CH₃NH₃PbI₃ perovskite RajanKumar Singh, Ranveer Kumar, Neha Jain, Mei-TsanKuo, Chandrama Prakash Upadhyaya, Jai Singh <i>Applied Nanoscience</i>, 04/2019 DOI:10.1007/s13204-019-01021-5, Impact Factor: 3.198 Fabrication of Co- and Ce-doped ZnO nanoparticles: a structural, morphological and optical properties investigation Pushpendra Singh, Ranveer Kumar, Rajan Kumar Singh <i>Appl. Nanoscience</i> 11/2019 DOI:10.1007/s13204-019-01217-9, Impact Factor: 3.19 Investigation of optical and dielectrical properties of CsPbI₃ inorganic lead iodide perovskite thin film Rajan Kr. Singh, Ranveer Kumar, Amit Kumar, Neha Jain, Rajiv Kr. Singh, and Jai Singh Journal of the Taiwan Institute of Chemical Engineers, 96, 538-542, 2019 DOI: 10.1016/j.jtice.2018.11.001, Impact Factor: 3.834 Synthesis and characterization of magnesium ion conductivity in PVDF based nanocomposite polymer electrolytes disperse with MgO NidhiPatel SKumar R <i>Journal of Alloys and Compounds</i> (2019) 789 6-14 DOI: 10.1016/j.jallcom.2019.03.089
Chapters in Books – 2013 onwards	
	<ul style="list-style-type: none"> Lead-free hybrid perovskite light-harvesting material for QD-LED application, Rajan Kumar Singh, Neha Jain, SudiptaSom, Somrita Dutta, Jai Singh and Ranveer Kumar, <i>Perovskite Materials, Devices and Integration, Intech Open</i>, London, United Kingdom, 08/2019; IntechOpen., ISBN: ISBN: 978-1-78985-072-7, DOI:10.5772/intechopen.86836 Development in the innovation of lead halide based perovskite quantum dots from rare earth doped garnet based phosphors for light-emitting diodes, Rajan Kumar Singh, Neha Jain, SudiptaSom, Somrita Dutta, Jai Singh, Ranveer Kumar, T.M.Chen and H. C. Swart, <i>Spectroscopy of Lanthanide Doped Oxide Materials, Elsevier Publication</i> (Woodhead Publishing, Cambridge, UK) 11/2019: pages 21-56; Elsevier., ISBN: 9780081029350, DOI:10.1016/B978-0-08-102935-0.00002-2
National Seminar/Conference/Workshops (Attended) – 2013 onwards	
	<ol style="list-style-type: none"> Participated in National Conference on Energy for Sustainable Development, March 23-24, 2017, Organised by Department of Physics, School of Mathematical and Physical Science, DR Hari Singh Gour University, Sagar, M.P. Participated in 12th National Conference on Solid State Ionics, Dec 21-23, 2017 organized by Department of Physics, Birla Institute of technology & Science, Pilani Participated in NAAC sponsored National Workshop on “Evolving Trends in Quality : Role of IQAC”, 14th -15th Dec, 2018, organized by Vivekananda Institute of professional Studies, Affiliated to Guru Gobind Singh Indraprastha University, New Delhi
International Seminar/Conference/Workshops (Attended) – 2013 onwards	
	<ol style="list-style-type: none"> Participated in 15th Asian Conference on Solid State Ionics 27th- 30th Nov 2016, organized by Indian Institute of technology, Patna
Research Papers in Proceedings (International Seminar/Conference/Workshops) – 2013 onwards	
	<ul style="list-style-type: none"> Effect of TiO₂ ceramic filler on PEG-based composite polymer electrolytes for magnesium batteries Polu AKumar R, Kumar K, Jyothi N <i>AIP Conference Proceedings</i> (2013) 1512 996-997 DOI: 10.1063/1.4791378 Solution Processed Hybrid Organic-Inorganic CH₃NH₃PbI₃ Perovskite Material and Optical Properties, Rajan. Kr. Singh, A. Kumar, N. Jain, J. Singh, R. K. Singh and R. Kumar, <i>Elsevier Materials Today: Proceedings</i>, 4 (2017) 12661–12665. DOI: 10.1016/j.matpr.2017.10.079 Effect of Molar Concentration of Precursors on Crystallinity and Thermal Decomposition of CH₃NH₃PbI₃, Rajan Kumar Singh, Ranveer Kumar, and Jai Singh, <i>AIP Conference Proceedings</i>, 1832, 050056 (2017); DOI: 10.1063/1.4980289 Structural and thermodynamic aspects of organic-inorganic mixed halide (CH₃NH₃PbI_{3-x}Br_x) perovskite, Rajan. Kr. Singh, S. R. Das, N. Jain, J. Singh, and R. Kumar, <i>AIP Conference Proceedings</i>, 1953, 080019 (2018); DOI: 10.1063/1.5032825 Role of organic and inorganic cations on thermal behavior of lead iodide perovskites, <i>AIP Conference Proceedings</i>, 1551, (030010), 030010-1-4, 2018, DOI:10.1063/1.5031736 Effect of mechanical milling on barium titanate (BaTiO₃) perovskite, Rajan Kumar Singh, Sagar Sanodia, Neha Jain,

	Ranveer Kumar, <i>AIP Conference Proceedings</i> , 1953, 1, 130017, 2018, DOI:10.1063/1.5033161	
No. of Ph.D. Awarded:	05	
No. of Ph.D. Scholars working:	07	
Memberships in Academic Bodies:		
➤ Life Member of National Solid State Ionics Society (Varanasi)	➤ Life Member of Indian Science Congress Association	
➤ Life member of laser and Spectroscopy society of India,	➤ Sectional member in ISCA (Material Science Section 2007	
Other Academic Achievements :		
(i) Membership of the Board of Studies/School Board / Academic Council/ Executive Council (Within/ outside the university)		
• Member of Boards of School (Within University)		