

Curriculum Vitae: Prof. Rajendra Kumar Singh

Name: Dr. Rajendra Kumar Singh
Present Position: Senior Professor (worked as Professor w.e.f. 1-1-2009), Dept of Physics, BHU
Date of Birth: Oct. 17, 1967
Email/mobile no.: rajendrasingh.bhu@gmail.com/9451000681

Educational Qualifications: Secured first division in all board and degree examinations
B.Sc. : 1986 First Div. DDU Gorakhpur University
M.Sc.: 1988 First Div. DDU Gorakhpur University
D. Phil.: 1993 University of Allahabad

Employment Details:

Sl. No.	Designation	Name of the Institute/Organization	From	To Month	Responsibility
1.	Senior Professor	Department of Physics, Banaras Hindu University, Varanasi		Current position	Teaching and Research
2.	Professor	Department of Physics, Banaras Hindu University, Varanasi	1-1-2009	1-1-2019	Teaching and Research
3.	Associate Professor	Department of Physics, Banaras Hindu University, Varanasi	1-1-2008	31-12-2008	Teaching and Research
4.	Reader	Department of Physics, Banaras Hindu University, Varanasi	27 th Oct., 2005	31 st Dec, 2005	Teaching and Research

Worked also as Lecturer (pay scale Rs. 2200-4000) w.e.f. 6-12-193 to Dec. 5, 2002 and as Reader (pay scale Rs. 12000-18,300) w.e.f. Dec. 06, 2002 to Oct 27, 2005 at HCPG College, Varanasi and was involved in Teaching and Research

Visits abroad (on official invitation), Dec. 2019: Visiting Scientist, Univ of Marmia, Poland; Sept 2019: Ohio State University for LeAP, **USA**; June 2018: Kyoto, Japan; 2017: Chicago, USA 10th ABAA; 2016: IMLB 21, Chicago, USA; 2015: Colorado, 20th SSI USA; **2011**: USA-COIL4 Washington DC, BNL, New York; **2010 Germany** Institute of Experimental Physics Leipzig; **2010: Germany** Institute of Chemistry Leipzig; **France** Frontiers of polymer Science, **Germany** Technical University Clausthal, **Netherlands** Erasmus Institute of Medical Science, Rotterdam, **Belgium** : **2007 Austria**: ICU2007, **Germany** Institute of Physics, Gottingen, 1992 **Italy** Workshop on Atomic and Molecular Physics

Research Collaboration: Abroad: Prof. Danuta Kruk (Poland), Prof. Anne C Co and Dr. Jung Hyun Kim –The Ohio State University, USA, **Prof. R.C.T. Slade, Univ. of Surrey U.K.,**
National: Prof. Sagar Mitra, I.I.T. Mumbai, Dr. Dimple Dutta, BARC Mumbai, Prof Amreesh Chandra, I.I.T. Kharagpur,

Current research interests include:

- Cathode and Anode Materials, Solid State Ionics, Li/Na Ion Rechargeable Batteries, Ionic Liquids, Ionic Liquids in Confined Geometry, Micro and Mesoporous Materials, Ion Conducting Polymers/Gels

Research Focus: Our current focus is on the development of electrodes and electrolyte materials for lithium/sodium ion rechargeable batteries. Our goal is to create safe, high-discharge capacity, and long-life batteries. We fabricate coin-type, pouch-type, and cylindrical cells using optimized electrode and electrolytes, utilizing them to build battery packs of varying capacities for EVs. Novel cathodes, including lithium/sodium nickel manganese oxide (NMC), are developed for Li as well as sodium batteries. Coating and preparing coated cathodes, along with substituting transition metals, are strategies employed to enhance rechargeable cell capacity. We have developed cobalt free sodium nickel manganese oxide materials and fabricated 18650/2650 cylindrical and 250 watt (42 V, 6 Ah) to test in e-bicycle.

Research Publications: (2023-2005): 190

Some journals of repute in which papers have been published:

(Progress in Materials Science (**I.F.=48.165**), Chemical Engineering Journal (**IF= 16.744**), Journal of Materials Chemistry A (**I.F.14.511**), ACS Appl. Mater. Interfaces, (**I.F.= 10.383**), Energy (IF= **9.0**), Journal of Energy Storage (**IF=8.907**), Journal of Materials Chemistry C (**I.F. 7.393**), Electrochimica Acta (**I.F.=6.901**), Applied Surface Science (**I.F.=6.707**), ACS Applied Energy Materials (**IF= 6.959**), Journal of Industrial and Engineering Chemistry (**I.F.= 5.278**), J. Alloys and Compounds, (**I.F.=6.371**), Energy and fuels (**IF= 5.3**), Materials Science and Engineering: B (**IF=4.051**), The Journal of Physical Chemistry C (**I.F.=4.270**), Physical Chemistry Chemical Physics. (**I.F.3.56**) Current Applied Physics, J Phys D: Applied Physics etc.

Book Chapters: 20

Edited Volumes: 4

Conference/Seminar/Workshop Organized (as convener/organizing Secretary): 11

Academic Recognition:

Citations: more than 4040, H-index 36, i10- 81

Projects:

Projects Completed: 16, Total amount: Rs. 5.39 Crores (DST, SERB, BRNS-DAE, UGC, MHRD, SERB, etc)

Projects Ongoing : 3, Total amount: Rs. 0. 44 Crores

Grand Total:

Rs. 7.06 Crores (including institutional/ departmental support)

Ph.D Supervision

Completed: 18, in progress : 05

No. of Post Docs mentored/mentoring: 5

Membership Professional Bodies/honours/Awards

ACS, American Nano-Society ASI, JASA, USI: **Secretary, Solid State Ionics Society of India** Qualified UGC NET for award of JRF, Visiting Scientist: Olsztyn, Poland; Awarded International collaborative project

Patents filed: 02

Invited Presentations: (last five years 55)

Teaching experience

>30 years

Research Experience

>30 years

Honours/awards

- (i) National Merit Scholarship from Intermediate to M.Sc.
- (ii) Qualified Joint **UGC/CSIR** examination (**NET**), 1989 for the award of Junior Research Fellowship in Physics”
- (iii) Worked as UGC JRF (w.e.f. Feb. 21, 1990 to Feb. 20, 1992) and as Senior Research Fellow (w.e.f. Feb. 21, 1992 to Dec. 5, 1993)
- (iv) Completed training under Leadership for Academicians Program (LEAP) workshop of MHRD (2019) at AMU and Ohio State University
- (v) Visiting Scientist (2019) Univ. of warmia and Mazury, Poland
- (vi) Six coauthored papers received best paper/young scientist awards in various conferences
- (vii) UGC mid-career award grant 2021

Administrative and other Responsibilities

Students Advisor, Institute of Science, BHU July 1, 2016-30 June, 2018

Chairman, Earn while Learn Committee, Institute of Science (2018 –till date)

Chairman Hons. allotment Committee, Inst of Science (2021 onwards)

Member, Student Grievance Redressal Committee, BHU (2023- till date)

Warden Dalmia Hostel, B.H.U. w.e.f. July 01, 2007 to Aug. 31, 2009

Administrative Warden, Dalmia Hostel, w.e.f. Sept. 01, 2009 – June 30,

2011 Member, Policy Planning Committee, Department of Physics, BHU

(2017-till date)

Member, Policy Planning Committee, Institute of Science (2017-2018)

Secretary, Teachers Council, Dept. of Physics BHU 2006-2019

Incharge, B.Sc. (H) Semesters I & II Physics Laboratory (2016-2016)

Incharge, M.Sc. (Prev.) Electronics Lab. and overall Incharge, M.Sc. (Prev.) Physics Lab., Dept. of Physics, BHU (2016-202)

VC's nominee, FAC, BHU (2015)

Invited Member, FAC, Physics Department, BHU (2017)

Member, Time Table Committee, Dept of Physics, BHU (2006-

2017) Member, Departmental Purchase Committee

Member/Dy. Coordinator, Time Table Committee, Faculty of Science (2009-2017)

Member, student representative election committee at the Department and faculty level (three years)

Member, Ragging prevention committee at the Department and faculty level (three years)

Member, disciplinary committee, Institute of Science, BHU (2012-2015)

Member, Hons. Subject Allotment Committee, Faculty of Science, BHU (2008-2014)

Member, Pt Mahamana Malviya Centennial Year celebration Committee, F.Sc., BHU

Convener, Dress-Distribution Committee, Institute of Science (2008-till date) Convener,

Student Youth Festival, Aakanksha, Institute of Science, (2017 & 2018)

Research Projects :

Sl no	Title of the project	Funding Agency	Date/year of implementation	Amount Sanctioned INR (Rs.)	Ongoing/completed
1.	Doped and coated cathode materials for high performance sodium ion batteries	SERB	2023-2026	23.76	Ongoing
2.	UGC mid-career award grant	UGC	2021-2024	10	Ongoing
3.	Cathode materials for sodium ion batteries	IoE	2021-2024	10	Ongoing
4.	Development of Novel Superionic Conducting Sodium Electrolyte for Sodium Batteries for automotive application	MHRD, IMPRINT IIC	Sanctioned 28, June 2019	1.00 Crore (including industry contribution)	Completed
5.	Development of High Capacity Lithium Ion Rechargeable Batteries	BRNS-DAE, PI	May 2018	35 lakhs	Completed
6.	Development of ionic liquid polymer electrolyte based 400 mAh Lithium polymer rechargeable battery	SERB, DST, PI	21 st March 2018-2021	Rs 45.5 Lakhs	Completed
7.	Development of high capacity NMC cathode Materials for Lithium ion rechargeable batteries	MES Call, DST, PI	Feb. 22, 2018-2021	Rs 43 Lakhs	Completed
8.	Dynamics of Liquid electrolytes and ionogels by means of NMR relaxometry	Joint Indo-Poland Project , PI	Ongoing, 2017-2019	Rs 20 Lakhs	Completed

9.	Synthesis and characterization of ionic liquid gel polymer electrolyte (ionogel) and gel nanocomposite for application in devices”	UGC, Major/PI	Feb. 01, 2011	11.30 Lakhs	Completed
10.	Development of Ionogels based on ionic liquids as potential highly conductive solid state electrolytes	DST, Major, PI	Dec 01, 2014	~48 lakhs	Completed
11.	Electrical and Viscoelastic studies on some recently	DST, Major, PI	1 Aug. 2008-	35.86 Lakhs	Completed
12.	Development of ionogels for application in rechargeable batteries	DAE-BRNS, Major, P.I.	Nov. 01, 2013	~35 lakhs	completed
13.	Development of ionic liquid based porous gel composites for application in electrochemical devices.	DAE-BRNS, Major, P.I.	2009	~33.00 Lakhs	Completed
14.	Relaxational Processes and chemical kinetic studies in Ionic Liquids by ultrasonic measurements	UGC, Major, P.I.	1-4-2007 to 31-03-2010	11 lakhss	Completed
15.	Order, Kinetics and Properties of Liquid Crystalline Materials	DST, Major, Co-PI	2015-2018	Rs. 46.21 Lakhs	Completed
16.	Quantum Chemical Calculations of Biomolecules	UGC, Major, Co-PI	2010-2013	7.86 lakhs	Completed
	Liquid crystals	UGC, Major, Co-PI	2009-2012	4.5 lakhs	Completed
17.	A study on nano granular magnetic phase embedded in semiconductor for spintronics	DST, Major, Co-PI	2007-2010	Rs 34.20 Lakhs	Completed
18.	Studies on structure property relation in Liquid crystals	DST, Major, Co-PI	2012-2015	Rs. 17.65 Lakhs	Completed
19.	Polymer Nanocomposite	UGC, Co-PI	2015-	~Rs 11.00 Lakhs	Completed

Research Supervision:

Ph.D. (Awarded under my supervision including 01 under co-supervision)

1. Dr. K K Pandey, Asst Professor, Dept. of Physics, Sharada Univ.
2. Dr. Rishipal Singh, Asst. Professor, Dept of Physics, Hapur College, Hapur Meerut
3. Dr. Manish Pratap Singh, Asst Professor VBS PU Jaunpur
4. Dr. Sujeet Kumar Chaurasia, Asst. Professor, VBS PU Jaunpur
5. Dr. Abhishek Kumar Gupta, Associate Professor, Dept of Physics, HBTI, Kanpur
6. (Late) Dr. Jagdish Srivastav, Maths Dept, Banaras Hindu University
7. Dr. Achchhe Lal Saroj, Assistant Professor, Dept. of Physics, Banaras Hindu University
8. Dr. Yogendra Lal Verma, Assistant Professor, Govt Degree College, Aurai
9. Dr. Shalu, Assistant Professor, Sharada University
10. Dr Alok Kumra Tripathi, Assistant Professor, Ramjas College, Delhi
11. Dr Liton Balo, Assistant Professor, Fakir Chand College ,Kolkata
12. Dr Varun Kumar Singh, DSKF Delhi University
13. Dr Himani Gupta, Senior Research Scientist, Godi Energy, Hyderabad
14. Dr. Nitin Srivastava, Assistant Professor, Dept of Physics, Mainpuri, UP
15. Dr. Dipika Meghnani, RMIC, Varanasi
16. Dr. Shishir Kumar Singh, Research Engineer, Ola Electric, Bangalore
17. Dr. Raghvendra Mishra, Research Engineer, Ola Electric, Bangalore
18. Dr. Rupesh Kumar Tiwari, PDF IIT Delhi

PDFs worked/working under my mentorship

- Dr. Pravin Kumar Yadav (N-PDF)
- Dr. Vineet Tiwari
- Dr. Vimal Kumar Tiwari (CSIR,SRA)
- Dr. Rahul Singh, DSKPDF
- Dr. Shubha Singh, Women Scientist

Ph. D. (Students continuing under my supervision)

1. Mr Anupam Patel
2. Mr Anurag Tiwari
3. Ms Samriddhi
4. Mr Vikash Yadav
5. Mr Shitanshu Pratap Singh

Member Professional/academic bodies

- Awarded International Indo-Poland Joint Collaborative Project (2017)
- Secretary and life member, Solid State Ionics Society of India
- Life member, Ultrasonic Society of India
- Member, American Nano-Society
- Member, American Chemical Society
- Member, Acoustical Society of India
- Member, Board of Studies, B. R. Ambedkar University, Lucknow (2014-2017)
- Member, RDC, Jiwaji University Gwalior(2015-16)
- Member, Board of Studies, V.B.S. P.U. University, Jaunpur (2017-19)
- Member, Board of Studies, Umanath Singh Inst. of Technology, V.B.S. P. University, Jaunpur (2018-19)
- Member, Board of Studies RML Avadh University, Ayodhya
- External expert member, UGC Networking Program, School of Physics, University of Hyderabad (2016-tilldate)
- External Expert Member, Program Advisory Committee, CAS Program, Dept of Physics J.N. Vyas University, Jodhpur (for five years)

- External Expert Member, Program Advisory Committee, CAS Program, Dept of Physics Tripura University (for five years)
- Expert committee member, UGC short listing committee of SAP, DRS, CAS etc proposals (2014)

Other academic involvements

Evaluated thesis (more than 50) on various topics of different Indian/Foreign Universities such as Anna University, Delhi University, Hyderabad University, Bharati Dharshan University, IIT Bombay, IIT Kharagpur, IIT Roorkee, Monash University, Australia, Lucknow University, RML Avadh University, Faizabad, Allahabad University, Cuttak University, India, Manonaya Sundaran University, Revansha University, NPL. New Delhi etc.

Evaluated no. of projects and project completion reports submitted to DST for financial assistance Peer reviewed several projects from National Centre of Science Evaluation, Astana, Kazakhstan, European Union, ANR France, Italy

Invited Peer Reviewer for the Journals:

ACS Nano, Nature communications, J. Phys. Chem. B, J Phys Chem C, J Molecular Liquids, J. Calorimetry, J. Physics Chemistry of Solids, Phase Transitions, J. Chem Eng Data, J Fluid Phase Equilibria, Journal of Chemical Thermodynamics Molecular liquids, Indian Journal of Physics, Indian J Pure and Applied Physics, J Pure and Applied Ultrasonics, J Acoust. Soc India etc., Indian J. Phys., Pramana, J Applied Materials and Interfaces RSC Advances, Analytes, J Phys D: Appl Phys, J Polymer Express and many other reputed journals Journal of Magnetism and Magnetic Materials Journal of Materials Science, Journal of Energy & Fuels Ionics, J. Solid State Ionics Soft Matter, J. Applied Polymer Science, J. Energy and Industrial Technology

Organization of International /National Conferences:

1. **Convener:** Seventeenth National Symposium on Ultrasonics, NSU-XVII Dec 04-06, 2008, Deptt of Physics, Banaras Hindu University, Varanasi
2. **Organizing Secretary:** Third International Conference on Electroactive Polymers, Jaipur, India Oct. 12-17, 2008
3. **Organizing Secretary:** Conference on Mesogenic and Ferroic Materials (CMFM 09), Jan 9-11, 2009, Dept. of Physics, BHU, Varanasi
4. **Organizing Secretary:** Indian Biophysical Society Symposium 2010 held at the Department of Physics, Banaras Hindu University, Varanasi 221005
5. **Organizing Secretary:** Fourth International Conference on Electroactive Polymers, held at Surajkund, Delhi, India Nov. 21-26, 2010
6. **Organizing Secretary,** Workshop on Electronic and Ionic Materials and Devices, March 13-14, 2011, Department of Physics, Banaras Hindu University, Varanasi 221005, India
7. **Organizing Secretary, Workshop** on "Writing Research Papers" June 10-2011, Department of Physics, Banaras Hindu University, Varanasi 221005, India
8. **Convener,** Technical Programme Discussion Meeting (TPDM), Board of Research in Nuclear Sciences-Department of Atomic Energy, BARC held at Department of Physics, BHU, Varanasi during March 13-14, 2012
9. **Convener,** International Conference on electroactive polymers materials and Devices, ICEP-2012 held at the Department of Physics, BHU during Nov 4-9, 2012
10. **Organising Secretary,** Physical Sciences Section, 82nd Annual Session of National

- Academy of Sciences, India held during Nov. 29 –Dec 1, 2012 at BHU, Varanasi
11. Member, organizing committee of various National/International Conferences
 12. **Vice-Chairman**, Third World participation Committee, International Congress on Ultrasonics held at Metz, France, 2015
 13. Member, Organizing committee, ICEP 2017 held at I.I.T. Khargapur during Feb. 18-22, 2017
 14. Core committee member, ICEP 2019 held at Udaipur, Feb., 2019
 15. **Convener**, Fifteenth national Conference on Solid State Ionics, Dec 02-04, 2023 held at **BHU**
 16. Core committee member, ICEP 2024 being held at KIT, Bhubneshwar during Feb., 4-08, 2024

List of Some Important Publications (2024-2008)

2024

1. Mishra, Raghvendra, Rupesh K. Tiwari, Anupam Patel, Anurag Tiwari, and **Rajendra K. Singh**. 2024. "A twofold approach for prolonging the lifespan of cobalt-free Na $[\text{Ni}_{0.55}\text{Mn}_{0.35}\text{Fe}_{0.1}]\text{O}_2$ cathode via Bi^{5+} -doping and Bi_2O_3 coating in sodium ion batteries." *Journal of Energy Storage* 77: 110058. **(I.F:9.4)**

2023

2. Mishra, Raghvendra, Shishir K. Singh, Nitin Srivastava, Rupesh K. Tiwari, Dipika Meghnani, Anupam Patel, Anurag Tiwari, Vimal K. Tiwari, and **Rajendra K. Singh**, 2023. "Mitigating the Capacity Degradation by Ion-Electron-Conducting Dual-Layer Coating on a Layered Oxide Cathode Material for Sodium Ion Batteries." *Energy & Fuels* 37, no. 5: 4106-4122. **(I.F: 5.3)**
3. Patel, Anupam, Raghvendra Mishra, Rupesh K. Tiwari, Anurag Tiwari, Dipika Meghnani, Shishir K. Singh, and **Rajendra K. Singh**, 2023. "Sustainable and efficient energy storage: A sodium ion battery anode from Aegle marmelos shell biowaste." *Journal of Energy Storage* 72: 108424. **(I.F: 9.4)**
4. R Mishra and **R K Singh**, A Dual-Approach for Extending the Lifespan of Cobalt-Free $\text{Na}[\text{Ni}_{0.55}\text{Mn}_{0.35}\text{Fe}_{0.1}]\text{O}_2$ cathode Via Bi^{5+} -Doping and Bi_2O_3 Coating in Sodium-Ion Batteries. 244th ECS Meeting (October 8-12, 2023).
5. Tiwari, Vimal K., and **Rajendra K. Singh**, 2023. "Nanostructured coating strategies of cathode for improved sodium ion battery performance." *Chemical Engineering Journal*: 144592. **(I.F: 15.1)**
6. Tiwari, Rupesh K., Raghvendra Mishra, Anupam Patel, Anurag Tiwari, Dipika Meghnani, and **Rajendra K. Singh**, 2023. "Polysulfide Rejection Strategy in Lithium–Sulfur Batteries Using an Ion-Conducting Gel-Polymer Interlayer Membrane." *ACS Applied Materials & Interfaces* 15, no. 28: 33957-33971. **(I.F: 9.5)**
7. Tiwari, Anurag, Dipika Meghnani, Raghvendra Mishra, Rupesh Kumar Tiwari, Anupam Patel, and **Rajendra Kumar Singh**, 2023. "Impact of sintering temperature and ascertaining hopping bottlenecks for ions in sodium superionic conducting electrolyte for sodium-ion batteries." *Journal of Power Sources* 580: 233365. **(I.F: 9.2)**
8. Meghnani, Dipika, Nitin Srivastava, Rupesh Kumar Tiwari, Raghvendra Mishra, Anupam Patel, Anurag Tiwari, Samridhi, Shitanshu Pratap Singh, Vikas Yadav, and **Rajendra Kumar Singh**, 2023. "Surface-Coated $\text{NaNi}_{0.815}\text{Co}_{0.15}\text{Al}_{0.035}\text{O}_2$ Cathode-Based Sodium-Ion Batteries with Enhanced Performance." *Energy & Fuels*. **(I.F: 5.3)**

2022

9. Singh, Shishir K., Dimple P. Dutta, Himani Gupta, Nitin Srivastava, Raghvendra Mishra, Dipika Meghnani, Rupesh K. Tiwari, Anupam Patel, Anurag Tiwari, and **Rajendra K. Singh**, 2022. Electrochemical investigation of double layer surface-functionalized Li-NMC cathode with nano-composite gel polymer electrolyte for Li-battery applications. *Electrochimica Acta*. 435: 141328. **(I.F: 7.336)**

10. Tiwari, Rupesh K., Shishir K. Singh, Himani Gupta, Nitin Srivastava, Dipika Meghnani, Raghvendra Mishra, Anupam Patel, Anurag Tiwari, Vimal K. Tiwari, and **Rajendra K. Singh**, 2022. Multifaceted ethylenediamine and hydrothermal assisted optimum reduced GO-nanosulfur composite as high-capacity cathode for lithium-sulfur batteries. *Electrochemical Science Advances*. 2(1): e202100025.
11. Patel, Anupam, Himani Gupta, Shishir K. Singh, Nitin Srivastava, Raghvendra Mishra, Dipika Meghnani, Rupesh K. Tiwari, Anurag Tiwari, Vimal K. Tiwari, and **Rajendra K. Singh**, 2022. Superior cycling stability of saturated graphitic carbon nitride in hydrogel reduced graphene oxide anode for Sodium-ion battery. *FlatChem*. 33: 100351. **(I.F: 6.2)**
12. Tiwari, Anurag, Shishir K. Singh, Nitin Srivastava, Dipika Meghnani, Raghvendra Mishra, Rupesh K. Tiwari, Anupam Patel, Himani Gupta, Vimal K. Tiwari, and **Rajendra K. Singh**, 2022. Diffusion mechanism in a sodium superionic sulfide-based solid electrolyte: $\text{Na}_{11}\text{Sn}_2\text{AsS}_{12}$. *Journal of Physics D: Applied Physics*. 55(35): 355503. **(I.F: 3.4)**
13. Meghnani, Dipika, and **Rajendra Kumar Singh**, 2022. Influence of synthesis route on the structure and electrochemical performance of biphasic (O'3/O3) $\text{NaNi}_{0.815}\text{Co}_{0.15}\text{Al}_{0.035}\text{O}_2$ cathode for sodium-ion batteries. *Electrochimica Acta* 419: 140403. **(I.F: 6.6)**
14. Tiwari, Rupesh K., Shishir K. Singh, Nitin Srivastava, Raghvendra Mishra, Dipika Meghnani, Anupam Patel, Anurag Tiwari, Vimal K. Tiwari, and **Rajendra K. Singh**, 2022. Conducting Carbon Rich Graphitic Carbon Nitride Nanosheets with Attached Nano Sulfur Copolymer as High-Capacity Cathode for Long-Lifespan Lithium-Sulfur Battery. *Batteries & Supercaps*. 5(12): e202200282. **(I.F: 5.7)**
15. Srivastava, Nitin, Shishir Kumar Singh, Dipika Meghnani, Raghvendra Mishra, Rupesh Kumar Tiwari, Anupam Patel, Anurag Tiwari, and **Rajendra Kumar Singh**, 2022. Molybdenum-Doped Li/Mn-Rich Layered Transition Metal Oxide Cathode Material $\text{Li}_{1.2}\text{Mn}_{0.6}\text{Ni}_{0.1}\text{Co}_{0.1}\text{O}_2$ with High Specific Capacity and Improved Cyclic Stability for Rechargeable Li-Batteries. *ACS Applied Energy Materials*. 5(10): 12183-12195. **(I.F: 6.4)**
16. Srivastava, Nitin, Shishir Kumar Singh, Dipika Meghnani, and **Rajendra Kumar Singh**, 2022. High-Voltage-driven Li/Mn-rich $\text{Li}_{1.2}\text{Mn}_{0.6}\text{Ni}_{0.1}\text{Co}_{0.1}\text{O}_2$ Cathode with nanocomposite blend gel polymer electrolyte for long cyclic stability of rechargeable Li-battery. *Energy Storage* 4(5): e341. **(I.F: 3.2)**
17. Meghnani, Dipika, Shishir Kumar Singh, Nitin Srivastava, Rupesh Kumar Tiwari, Raghvendra Mishra, Anupam Patel, Anurag Tiwari, and **Rajendra Kumar Singh**, 2022. Electrochemical Performance of High-Valence Mo^{6+} and Low-Valence Mn^{2+} Doped- $\text{Na}_3\text{V}_2(\text{PO}_4)_3@C$ Cathode for Sodium-Ion Batteries. *ChemPhysChem* 23(24): e202200459. **(I.F: 2.9)**

2021

18. Mishra, Raghvendra, Shishir K. Singh, Himani Gupta, Nitin Srivastava, Dipika Meghnani, Rupesh K. Tiwari, Anupam Patel, Anurag Tiwari, Vimal K. Tiwari, and **Rajendra K. Singh**, 2021. Surface modification of nano $\text{Na}[\text{Ni}_{0.60}\text{Mn}_{0.35}\text{Co}_{0.05}]\text{O}_2$ cathode material by dextran functionalized RGO via hydrothermal treatment for high performance sodium batteries. *Applied Surface Science* 535: 147695. **(I.F:6.7)**
19. Tripathi, Alok Kumar, Sevi Murugavel, and **Rajendra Kumar Singh**, 2021. Dead Ashoka (Saracaasoca) leaves-derived porous activated carbons and flexible iongel polymer electrolyte for high-energy-density electric double-layer capacitors. *Materials Today Sustainability*. 11: 100062. **(I.F: 7.8)**
20. Meghnani, Dipika, Himani Gupta, Shishir K. Singh, Nitin Srivastava, Raghvendra Mishra, Rupesh K. Tiwari, Anupam Patel, Anurag Tiwari, and **Rajendra K. Singh**, 2021. Enhanced cyclic stability of $\text{LiNi}_{0.815}\text{Co}_{0.15}\text{Al}_{0.035}\text{O}_2$ cathodes by surface modification with BiPO_4 for applications in rechargeable lithium polymer batteries. *ChemElectroChem*. 8(15): 2867-2880. **(I.F:4.0)**

21. **Singh, Rajendra Kumar**, and Ravindra Dhar, 2021. "Momentous past and key advancements in ionic liquid mediated polymer electrolyte for application in energy storage. *International Journal of Energy Research*. 45 (11): 15646-15675. **(I.F: 4.6)**
22. Mishra, Raghvendra, Shishir K. Singh, Himani Gupta, Rupesh K. Tiwari, Dipika Meghnani, Anupam Patel, Anurag Tiwari, Vimal K. Tiwari, and **Rajendra K. Singh**, 2021. Polar β -Phase PVdF-HFP-Based Freestanding and Flexible Gel Polymer Electrolyte for Better Cycling Stability in a Na Battery. *Energy & Fuels*. 35(18): 15153-15165. **(I.F: 5.3)**
23. Gupta, Himani, Shishir K. Singh, Nitin Srivastava, Dipika Meghnani, Rupesh K. Tiwari, Raghvendra Mishra, Anupam Patel, Anurag Tiwari, Achchhe L. Saroj, and **Rajendra Kumar Singh**, 2021. Improved High Voltage Performance of Li-ion Conducting Coated Ni-rich NMC Cathode Materials for Rechargeable Li Battery. *ACS Applied Energy Materials*. 4(12): 13878-13889. **(I.F: 6.4)**

2020

24. Singh, Shishir Kumar, Dimple Dutta, and **Rajendra Kumar Singh**.2020. Enhanced structural and cycling stability of Li_2CuO_2 -coated $\text{LiNi}_{0.33}\text{Mn}_{0.33}\text{Co}_{0.33}\text{O}_2$ cathode with flexible ionic liquid-based gel polymer electrolyte for lithium polymer batteries. *Electrochimica Acta*. 343: 136122. **(I.F: 6.6)**
25. Kataria, Shalu, Yogendra L. Verma, Himani Gupta, Shishir K. Singh, Nitin Srivastava, Ravindra Dhar, and **Rajendra Kumar Singh**, 2020. Ionic liquid mediated nano-composite polymer gel electrolyte for rechargeable battery application. *Polymer-Plastics Technology and Materials*. 59 (9): 952-958. **(I.F: 2.7)**
26. Gupta, Himani, and **Rajendra Kumar Singh**. 2020. High-voltage nickel-rich NMC cathode material with ionic-liquid-based polymer electrolytes for rechargeable lithium-metal batteries. *ChemElectroChem* 7(17): 3597-3605. **(I.F: 4.0)**
27. Kruk, Danuta, Milosz Wojciechowski, Malgorzata Florek-Wojciechowska, and **Rajendra Kumar Singh**, 2020. Dynamics of ionic liquids in confinement by means of NMR relaxometry—EMIM-FSI in a silica matrix as an example. *Materials* 13 (19): 4351. **(I.F: 3.4)**
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12. Shalu and **Singh RK**, Effect of ionic liquids on the crystallization kinetics of various polymers and polymer electrolytes, book entitled “Crystallization in Multiphase Polymer Systems, published in Crystallization in Multiphase Polymer Systems” (Elsevier Publications 2018).
13. **Rajendra Kumar Singh**, Effect of ionic liquids on the crystallization kinetics of various polymers and polymer electrolytes, book entitled “Crystallization in Multiphase Polymer Systems”, Elsevier (2018).
14. Verma YL, Tripathi AK, and **Singh RK**. “Immobilization of Ionic Liquids in Porous Matrices and Polymeric Membranes”. In Kumar A, and Das SK (Eds.), Energy Storage and Conversion: Materials and Devices, Narosa Publishing House, India, 2017. (ISBN 978-81-8487-578-2)
15. Tripathi AK, Verma YL, Shalu, Singh VK, BaloL, Gupta H, and **Singh RK**. “Studies on Structural, Thermal and Vibrational Behavior of Ionic Liquid confined in Ordered Mesoporous matrix”. In Kumar A, and Das SK (Eds.), Energy Storage and Conversion: Materials and Devices, Narosa Publishing House, India, 2017. (ISBN978-81-8487-578-2)
16. Singh VK, Shalu, Verma YL, Tripathi AK, BaloL, Gupta H, and **Singh RK**. “Development of IL based sodium ion conducting polymer electrolyte membranes for application in sodium rechargeable battery”. In Kumar A, and Das SK (Eds.), Energy Storage and Conversion: Materials and Devices, Narosa Publishing House, India, 2017. (ISBN978-81-8487-578-2)
17. Singh, S; Srivastava JK, and **Singh RK**. “Polymer Dispersed Liquid Crystals”. In Thakur VK, and Kessler MR (Eds.), Liquid Crystalline Polymers, Springer Int. Pub., Switzerland, 2016. (ISBN 978-3-319-22893-8 (hbk); 978-3-319-22894-8(ebk).
18. SA Hashmi, Amita Chandra, **RK Singh**, Amreesh Chandra, Suresh Chandra, Electroactive Polymers: Materials and Devices, Allied Publishers, 2015.
19. Chandra S, **Singh RK**, and Singh, MP. “Properties of Materials Confined in Nano-pores”. In MisraA, and Bellare JR (Eds.), Nanoscience & Technology for Mankind, the National academy of sciences, India, 2014. (ISBN13,978-81-905548-6-2).
20. **Singh RK**, “Dissipation of Acoustic Waves in Barium Monochalcogenides”. In Acoustic Waves, Dissanayake, DW (Ed.) 2010; p 466. (ISBN978-953-307-111-4)

Proceedings Papers

21. Raghvendra Mishra, **Rajendra Kumar Singh**, A Dual-Approach for Extending the Lifespan of Cobalt-Free Na[Ni_{0.55}Mn_{0.35}Fe_{0.1}]O₂ cathode Via Bi⁵⁺-Doping and Bi₂O₃ Coating in Sodium-Ion Batteries, 244th ECS Meeting (October 8-12, 2023), ECS.
22. Gupta, Himani, Shishir K. Singh, Varun K. Singh, Alok K. Tripathi, Nitin Srivastava, Rupesh K. Tiwari, Raghvendra Mishra, Dipika Meghnani, and **Rajendra Kumar Singh**. "Electrochemical

- performance of rechargeable lithium polymer batteries using NMC cathode." In Proceedings of the international meeting on energy storage devices and industry-academia conclave. 2018.
23. Tripathi, Alok Kumar, Varun K. Singh, Himani Gupta, Shishir K. Singh, Nitin Srivastava, Rupesh K. Tiwari, Dipika Meghnani, Raghvendra Mishra, and **Rajendra Kumar Singh**. "Development of quasi solid-liquid electrolytes for lithium battery application with enhanced lithium transference number." In Proceedings of the international meeting on energy storage devices and industry-academia conclave. 2018.
 24. Singh, Shishir K., Himani Gupta, Varun K. Singh, Alok K. Tripathi, Nitin Srivastava, Rupesh K. Tiwari, Raghvendra Mishra, Dipika Meghnani, and **Rajendra K. Singh**. "Electrochemical behaviour of developed cathode materials in rechargeable Li-polymer battery." In Proceedings of the international meeting on energy storage devices and industry-academia conclave. 2018.
 25. Suresh Chandra, **Rajendra K Singh**, Manish P Singh, Properties of Materials Confined in Nano-Pores, Department of Physics, Banaras Hindu University, Varanasi (2014).
 26. Shalu, S.K. Chaurasia, A.L. Saroj, A.K. Gupta, Y.L. Verma, **R.K. Singh**, S. Chandra, Studies on PVdF-HFP based polymer electrolytes with dispersed ionic Liquid [BMIM][BF₄]: Thermal, structural and ionic transport behavior, Proceedings of the 5th International Conference on Electroactive Polymer Materials and Devices (Varanasi, India) 2012.
 27. S.K. Chaurasia, M.P. **Singh**, **R.K. Singh**, S. Chandra, Raman Spectroscopic study on Polymer Electrolyte Polymer Poly(ethylene oxide) Complexed with Salt, LiClO₄ and Ionic liquid, BMIMPF₆, Proceedings of the 4th International Conference on Electroactive Polymer Materials and Devices (Surajkund, India) 2010.
 28. **R. K. Singh**, A. K. Gupta, M. P. Singh, S. Chandra, Studies on Ionic liquids in nanoporous matrices, Fourth International Conference on Electroactive Polymers Materials and Devices: ICEP-2010 (Surajkund, New Delhi) 2010.
 29. **R K Singh**, A K Gupta, M P Singh, S Chandra, Dielectric relaxation and conductivity studies on PVA based polymer electrolyte films containing different amounts of ionic liquid [EMIM][EtSO₄], Fourth International Conference on Electroactive Polymers Materials and Devices: ICEP-2010 (Surajkund, New Delhi) 2010.
 30. **Rajendra Kumar Singh**, Sujeet Kumar Chaurasia, Structural And Transport Studies On Polymer (Peo+ Il) Membranes, The 12th Asian Conference on Solid State Ionics, 2010.
 31. Rishi P Singh, Manish P Singh, **Rajendra K Singh**, Acoustical dissipation due to phonon-phonon interaction, thermoelastic loss and dislocation damping in MnO and CoO, Proceedings of Meetings on Acoustics, 2008.
 32. **Rajendra Singh**, Manish Singh, Rishi Singh, Sujeet Chaurasia, Investigations of molecular interactions in polymeric solutions using acoustical characterization techniques, 2008 IEEE International Ultrasonics Symposium Abstract book 2008.

33. Suresh Chandra, **Rajendra Kumar Singh**, SK Singhal, NSU-XVII 2008: Seventeenth National Symposium on Ultrasonics, 4th-6th December, 2008: Souvenir, Department of Physics, Banaras Hindu University, 2008.
34. S.K. Chaurasia, M.P. Singh, **R.K. Singh**, S. Chandra, Ionic Conductivity of Polymer (Polyethylene Oxide) and Ionic Liquid Composite, Proceedings of the 3rd International Conference on Electroactive Polymer Materials and Devices (Jaipur, India) 2008.
35. M.P. Singh, S.K. Chaurasia, **R.K. Singh**, S. Chandra, Determination of T_m of Poly (ethylene glycol) from temperature dependent viscoelastic studies Evidence of formation of solvation shell, 3rd International Conference on Electroactive Polymer Materials and Devices (Jaipur, India) 2008.
36. M.P. Singh, R.P. Singh, S.K. Chaurasia, **R.K. Singh**, Ultrasound Investigation of Poly Ethylene Glycol in Aprotic Solvent: Density and compressibility Study, 17th National Symposium on Ultrasonics (Department of Physics, Banaras Hindu University, Varanasi) 2008.
37. **R.K. Singh**, M.P. Singh, R.P. Singh, S.K. Chaurasia, S. Chandra, Studies on polymer electrolyte using ionic noise and ultrasonic velocity Measurement technique: determination of T_m, 11th Asian Conference on Solid State Ionics Solid State Ionics (Tamil Naidu, India), 2008.

Edited volumes

1. Electroactive materials and devices Vol. 2, Allied publishers
2. Ultrasonics 2008
3. Electroactive materials and devices, Vol 3, Allied publishers
4. Electroactive materials and devices, Vol 4, Allied publishers

Patents

1. 202311025720 Prolong cycling stability of hard carbon-based anode derived from almond shell (Prunus dulcis) biowaste for sodium-ion batteries
2. Preparation Method of NASICON Type Coated and Doped Cobalt-free Layered Ternary Cathode for Sodium-ion Battery

Some Important National/ International conferences/meetings/events attended and talks delivered

1. Showcasing outcome of MHRD-SERB MPRINT II program at IIT Delhi during May 24-25, 2023
2. Clean Energy Mission-14/Mission Innovation -8 Interministerial G-20 meeting held at Goa During July 19-22, 2023
3. Expert panel meeting on Advanced Materials for Energy Storage, Aug. 24, 2023, DST New Delhi
4. Technical Programme Discussion Meeting 10-09-2020, BRNS-DAE, BARC, Mumbai (online)
5. Technical Programme Discussion Meeting (TPDM) 07-05-2021, BRNS-DAE, BARC, Mumbai (online)
6. Advanced Materials MPRINT meeting 27-28 April, 2022 University of Engineering & Management (UEM), Kolkata-700156.
7. Energy Conclave on Energy Transformation and Storage, 02-03 Sept., 2022 at Institute of Nano Science and Technology (INST) Mohali
8. International Conference on “Beyond Fossil Fuels” The future of Alternative technologies, B-FAT-II, July 23-25, 2022, Dept of Ceramic Engineering, IIT BHU
9. International Conference on Supercapacitors and Batteries, March 28-30, 2022, Dept of Physics and Astrophysics, IIT Kharagpur
10. Recent Trends in Acoustics and Materials Science 2020 (RTAMS-2020) 28-30 Nov 20220, Sharada University (online)
11. Fourteenth National Conference on Solid State Ionics, NCSSI-14, Dept of Physics and Astrophysics, University of Delhi Dec. 16-18, 2021
12. International Conference on Green Technologies, Issues and Challenges Sept 22-24, 2022, CCU Meerut
13. Conference on Materials Science , ICMS 2020, Dept of Physics, Tripura Univ March 4-6, 2020
14. International Conference on Energy and Advanced Materials, ICAM 2021, 21-23 Oct , 2021 JP Univ, Noida
15. The 2022 Annual Meeting of the International Joint Laboratory of New Energy Materials & Devices of Henan Province, China: Coated Cathode materials for improving the performance of Sodium-ion batteries. Dec. 13-14, 2022 (online)
16. China-UK Biological Imaging and Sensing Workshop, April 1-3, 2023: Photoacoustic Imaging and Basic Principles (online)
17. STUTI Workshop Jan 23-24, 2023, Organized by Department of Physics, BHU Scientific Webinar on Electric Vehicle Technologies, 22-23 April 2021 Organized by Dr. Shishir Shrotriya Counsellor (S & T) Embassy of India (Moscow) (Russia) (online)
18. Conference on Solid State Ionics, Dept of Physics, IIT Roorkee, Dec 17, 2019
19. Discussion meeting at University of Warmia an Mazury (in **Olsztyn**), **Poland** Dec. 19-24, 2019 under Joint Indo-Poland collaborative project
20. International Conference on Electroactive Polymers, ICEP 2019 held at Udaipur 3 Feb., 2019\
21. Conference on Smart Materials, Devices and Sustainable Technologies” (SMDST)-MMMTU, Gorakhpur March 15, 2019
22. Smart Materials, Devices and Sustainable Technologies”(SMDST-19) March 2019
23. Leadership for Academicians Programme (LEAP) workshop MHRD Aug. 22 August 2019 to 04 September 2019
24. Leadership for Academicians Programme (LEAP) workshop MHRD08 September 2019 to 15 September 2019 (Ohio State University, USA)
25. Joint Indo-Polish Collaborative Discussion Meeting DST Dec. 19-25, 2019
26. 13th National Conference on Solid State Ionics, Dec. 15-18, 2019
27. Third International Conference on Material Science (ICMS2020) March 4-6, 2020
28. International e-Conference on Advanced Functional Materials

29. and Optoelectronic Devices June 2020
30. International Conference on Electroactive Polymers, ICEP 2019 at Udaipur Feb.2019
31. National Conference on Smart Materials, Devices and Sustainable Technologies” (SMDST)-MMMTU, Gorakhpur March 15,2019
32. Refresher course at BHU, March2019
33. Advances in Materials Science and Engineering for Societal Applications (NMSE - 2018)” held during 18th to 20th of July 2018, Sri Ramakrishna Engineering College, Coimbatore
34. Delivered talk (three hours duration) at Academic Staff College Puducherry on July 19, 2018 during Refresher course in Physics at Pondicherry University, Puducherry, July
35. Delivered invited talk at the Department of Physics, Pondicherry University, Puducherry, July 19, 2018
36. 19th International Meeting on Lithium Batteries, IMLB 2018, Kyoto Japan, June 2018
37. Technical Program Discussion Meeting, RRCAT March 21, 2018
38. Doordarshan, Varanasi: Scientific Contributions of Stephen Hawking, March 14, 2018
39. 12th National Conference on Solid State Ionics, NCSSI-12, BITS Pilani Dec 23-25, 2017
40. 21st International Conference on Solid State Ionics Padua, Italy, June 18-23, 2017
41. Physics at Small Scales and Advanced Materials” during 8-9 September, 2017 held at the School of Physics, University of Hyderabad
42. Invited Talk during "Growth of Science & Technology in the Campus of Purvanchal University" at Purvanchal University, Jaunpur held during Sept. 10, 2017
43. Mission Innovation, TERI, New Delhi Oct 6, 2017
44. DST, SERB Fresh Proposal Presentation at SSN College, Chennai June 2017
45. DST SERB Progress Report Presentation at JP College Noida, July 2017
46. 10th International Conference on Advanced Batteries for Automotive Applications, Oct 22-26, 2017 Chicago, IL, USA
47. Energizing India: The first Annual Conference on Li-ion and Ev Testers 2017 held at Digitron-Ador India Pune, Nov 04, 2017
48. International Symposium on Ionic Liquid (ISOIL_2016), JAN 21-22, 2016, ICT, Mumbai
49. International Conference on Electroactive Polymers, ICEP-2017, Feb. 18-22, 2017, Department of Physics and Astrophysics, IIT Kharagpur
50. Workshop on Functional Materials, M M M T U, Gorakhpur; May 28-30, 2017
51. THERMANS- 2016 held at Physics Department, I.I.T., BHU, Varanasi, Jan 19, 2016
52. Frontiers in Physics, CAS presentation, Dept of Physics BHU, Jan 22, 2016
53. Indo-Polish Seminar on Advanced Materials-2016, Centre of Material Sciences, University of Allahabad, Feb, 5, 6; 2016.
54. Invited talk during Winter School on “Beyond The Standard Model Physics, Jan 24-Feb 14, 2016.
55. Invited talk for NCFM-2016, Gorakhpur University, March, 10-12, 2016
56. Frontiers in Physics-2016” from March 28 to 29, 2016 at the School of Physics in University of Hyderabad
57. 18th International Meeting on Lithium Batteries, Chicago USA June 18-23, 2016
58. Indo-German bilateral workshop on “Electrochemical energy systems: Synergy of materials design and modelling” during Feb. 17-20, 2016 at IIT Kharagpur, India.
59. 20th International Conference on Solid State Ionics June 14-19, 2015, KEYSTONE RESORT & CONFERENCE CENTER KEYSTONE, COLORADO, USA
60. 19th NSCG 2015, 12-14th March 2015, VIT Univ, Vellore
61. Invited Talk at Avadh Univ, Faizabad 2015.
62. INSIDE RAMAN seminar on 10th & 11th Dec 2015 at IISER Mohali
63. 11th National Conference on Solid State Ionics (NCSSI-11), Dec. 21-23, 2015, Department of Physics, Tezpur University, Assam.
64. TCBNES-2014 Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar, Gujarat, 17th-18th October, 2014

65. Invited Talk during Refresher Course in Physics at BHU, 2013
66. Technical Programme Discussion Meeting (TPDM) July 9-11, VECC, Kolkata, 2012
67. Fifth International Conference on Electroactive Polymers: Materials and Devices (ICEP- 2012) Department of Physics, BHU, Nov 4-9, 2012
68. Technical Programme Discussion Meeting, TPDM, BARC, Mumbai July 20-21, 2012
69. 9th National Conference on Solid State Ionics, Jaypee Inst of Tech, Noida, Dec 14-16, 2011.
70. COIL 4, June 19-24, 2011 **Washington DC, USA**
71. Symposium on Frontiers of Chemistry **Paris, France**, May 21-23, 2010
72. Fourth International Conference on Electroactive Polymers: Materials and Devices, ICEP- 2010, November 21-26, 2010, Surajkund, New Delhi
73. Discussion Meeting on Chemical Reactions in Unusual Media, National Chemical Laboratory, Pune, Oct. 8-9, 2009.
74. Eighth National Conference on solid State Ionics: Materials for Novel Devices, H.S. Gour University, Sagar (M.P.) Dec. 7-9, 2009
75. Eighteenth National Symposium on Ultrasonics, NSU-XVIII, VIT University, Vellore- 632 014, Tamil Nadu, Dec. 21-23, 2009

Some Important Invited Talks Delivered/presentations:

1. XVth National Symposium on Ultrasonics, Cochin University of Science and Technology, Dec. 17-19, 2007 Cochin
2. 7th National Conference on Solid State Ionics, APS Univ., Rewa, Nov. 1-3, 2007.
3. 11th Asian Conference on Solid State Ionics, June 2008, Coimbatore
4. XVIIIth National Symposium on Ultrasonics, Dec 2009, VIT, Vellore
5. Charles Gherald Institute of Chemistry, Montpellier, **France** 2010
6. **TU Clausthal, Germany**, 2010
7. Institute of Exp. Physics II, **Leipzig, Germany**, 2010
8. Institute of Theoretical Chem., **Leipzig, Germany**, Institute of Experimental Physik II, **Leipzig University, Germany**
9. Summer School on Condensed Matter, Organized by the Deptt. of Physics, BHU, Aug. 2010
10. Fourth International Conference on Electroactive Polymers, held at Surajkund, Delhi, Nov. 21-26, 2010
11. Visited Prof. Andrau Vioux lab at **Montpellier, France** and delivered invited talk, 2010
12. Visited Prof. Frank Endreas Lab and delivered invited talk at **TU Clausthal, Germany**, 2010
13. Visited Inst. of Experimental Physics, (Prof. W.H. Grill's Lab.) **Leipzig University, Germany** and delivered invited talk, 2010
14. Visited Institute of Theoretical Chem. at Leipzig University, **Germany** and delivered invited talk.
15. National Symposium on Acoustics, NSA, B U Jhansi Dec, 2011
16. Solid State Ionics Conference Jaypee Institute of Technology Noida Dec 2011
17. Refresher Course BHU Feb. 2012
18. Technical Programme Discussion Meeting, BARC, Mumbai July 19-20, 2011.
19. Technical Programme Discussion Meeting July 9-11, 2012 held at VECC, Kolkata
20. Talk during ICEP-Nov 4-9, 2012 at Dept of Physics, BHU
21. Ionogels: Potential candidates for Applications in Electrochemical Devices TCBNES-2014 Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar Gujrat, **17th-18th October, 2014**
22. Talk during Refresher Course in Physics at BHU, 2013
23. Talk at Deptt of Physics Avadh University, Faizabad Aug., 2014

24. 20th International Conference on Solid State Ionics June 14-19, 2015, KEYSTONE RESORT & CONFERENCE CENTER KEYSTONE, COLORADO, USA
25. 19th National Symposium on crystal growth, NSCG 2015, 12-14th March 2015, VIT Univ, Vellore
26. Invited Talk at Avadh Univ, Faizabad 2015.
27. INSIDE RAMAN seminar on 10th & 11th Dec., 2015 at IISER Mohali
28. 11th National Conference on Solid State Ionics (NCSSI-11), Dec. 21-23, 2015, Department of Physics, Tezpur University, Assam.
29. THERMANS- 2016 held at Physics Department, I.I.T., BHU, Varanasi, Jan 19, 2016
30. International Symposium on Ionic Liquid (ISOIL_2016), 21-22nd Jan, 2016, in ICT, Mumbai, INDIA.
31. Frontiers in Physics, CAS presentation, Dept of Physics BHU, Jan 22, 2016
32. Indo-Polish Seminar on Advanced Materials-2016, Centre of Material Sciences, University of Allahabad, Feb, 5, 6, 2016.
33. Invited talk during Winter School on "Beyond The Standard Model Physics, Jan 24-Feb 14, 2016.
34. Invited talk for NCFM-2016, Gorakhpur University, March, 10-12, 2016
35. Frontiers in Physics-2016" from March 28 to 29, 2016 at the School of Physics in University of Hyderabad
36. 18th International Meeting on Lithium Batteries, Chicago USA June 18-23, 2016
37. Indo-German bilateral workshop on "Electrochemical energy systems: Synergy of materials design and modelling" during Feb. 17-20, 2016 at IIT Kharagpur, India.
38. Technical programme discussion meeting held at RRCAT Indore, Sept 2016
39. International Conference on functional electroceramics and polymers, Department of Physics, Indian Institute of Technology, Kharagpur, 20-02-2017-22-02-2017
40. 21st International Conference on Solid State Ionics Padua, Italy, June 18-23, 2017
41. Physics at Small Scales and Advanced Materials" during 8-9 September, 2017 held at the School of Physics, University of Hyderabad
42. Invited Talk during "Growth of Science & Technology in the Campus of Purvanchal University" at Purvanchal University, Jaunpur held during Sept. 10, 2017
43. Mission Innovation, TERI, New Delhi Oct 6, 2017
44. DST, SERB Fresh Proposal Presentation at SRM Chennai June 2017
45. DST SERB Progress Report Presentation at JP College Noida, July 2017
46. 10th International Conference on Advanced Batteries for Automotive Applications Oct 22-26, 2017 **Chicago, IL, USA**
47. Energizing India: The first Annual Conference on Li-ion and Ev Testers 2017 held at Digitron-Ador India Pune Nov 04, 2017
48. Workshop on Functional Materials, M M T U, Gorakhpur; May 28-30, 2017
49. Technical Program Discussion Meeting, RRCAT March 21, 2018
50. Doordarshan, Varanasi: Scientific Contributions of Stephen Hawking, March 14, 2018
51. International Conference on Electroactive Polymers, ICEP 2019 at Udaipur Feb. 2019.

Visits abroad/International Conference/workshop

1. Attended a Research Workshop in "Condensed Matter, Atomic and Molecular Physics at International Centre for Theoretical Physics, **Trieste, Italy**" from Sept. 08 to Oct. 08, 1992

2. Attended International Congress on Ultrasonics ICU-2007 in **Vienna, Austria**, April 9-12, 2007
3. Visited Prof. Udo Kaatzel's lab of Ultrasonics and Dielectrics in **Gottingen, Germany**, 2007
4. Attended International Conference on Frontiers of Chemistry, **Paris, France**, May 21-23, 2010
5. Visited Prof. Andrau Vioux laboratory at **Montpellier, France** and delivered invited talk, 2010
6. Visited Prof. Frank Endreas Lab and delivered invited talk at **Technical University, Clausthal, Germany**, 2010
7. Visited Institute of Experimental Physics, (Prof. W.H. Grill's Lab.) **Leipzig University, Germany** and delivered invited talk, 2010
8. Visited Institute of Theoretical Chem. at Leipzig University, **Germany** and delivered invited talk.
9. Visited ERASMUS MC, **Amsterdam**, 2010
10. Visited Georgia Institute of Technology (Prof. Nico. F. Declercq's lab.) **Metz France**, 2010
11. Washington DC, USA 2011
12. Elbert Einstein College of Medical Science, **New York, USA**, 2011
13. Colorado, USA, June 2011
14. Chicago, USA, June 2016
15. Chicago, USA Oct., 2017
16. Kyoto Univ, Japan June 2018
17. The Ohio State Univ. USA, Sept 2019
18. Univ of Warmia in Mazury, Poland, Dec. 2019

Orientation Course/ Refresher Course:

1. Attended Orientation Course of 4 weeks duration at Academic Staff College, Banaras Hindu University, Varanasi.
2. Attended Refresher Course of 3 weeks duration at Academic Staff College, Banaras Hindu University, Varanasi.
3. Attended Refresher Course of 3 weeks duration at Academic Staff College, Banaras Hindu University, Varanasi.

Number of M.Sc./B.Tech. Dissertations completed under my Supervision: 40

Membership various committees:

Acted as expert member in selection committees of UPPSC, Allahabad, PSC, Jammu, MPPSC and UK PSC, MMTU, Gorakhpur, IET, Lucknow, JN Vyas University, Jodhpur, Thapar University, Patiala, P.U. Jaunpur etc. Evaluated Ph.D. Thesis from various various IITs, Indian Universities, some foreign Universities like Anna Univ, Tamilnadu, Delhi University, Kaketiya Univ, Jammu Univ., APS Univ, Rewa, Revansha Univ, Cuttack, IACS Jadavpur Kolkata, Nagpur University, Institutes like, I.I.T. Mumbai, Monash University Australia, UGC expert member for Dr. J N Vyas Univ. Jodhpur, Tripura University, UGC Networking Centre, School of Physics, University of Hyderabad