

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR

DEPARTMENT OF PURE AND APPLIED PHYSICS

RESEARCH DETAILS

1. Prof. Bajpayee

2. Prof. M.N. Tripathi

3. Dr. H. S. TEWARI

Professor of Physics

&

Dean, School of Physical Sciences

AREA OF RESEARCH: *Materials Science, Super capacitors, Oxide based Electronic Ceramics sensor and water purification etc., Multiferroics, Magnetic Nano-materials*

Publications:

Total ~ **69** papers published in international and national journals.

Approximately **63** conferences/seminars attended to present research work.

One book jointly edited (2006)

Edited special issue of PRAMANA (2014)

Experience (Teaching and Research):

At present, working as Associate Professor in Physics, Guru Ghasidas University since September 2005 till date. From Sept. 1996 to Aug. 2005 worked as a lecturer and senior lecturer respectively. Before this I have research and teaching experience while working as a research associate from March 1994 to September 1996 in Barkatullah University and Guru Ghasidas University, Bilaspur

Other Activities/Achievements:

1. Warden: Boy's Hostel (session 2003 –2004)
2. Program Officer: National Service Scheme (1999 – 2002)
3. Associate Editor: Chhattisgarh Journal of Science and Technology (upto 2006)

11. Membership of Professional Societies/ Organizations:

1. Life Member: Materials Research Society of India

a. Post-Doctoral Work:

- 1) Research experience in the field of dielectrics and high temperature Superconductivity from March 1994 to April 1996 in the Department of Physics, Barkatullah University, Bhopal.
- 2) Research experience in the field of preparation and characterization of Electronics ceramics for sensor and other application as a Research **Associate of C.S.I.R.** at the School of Pure and Applied Physics,

Guru Ghasidas University, Bilaspur from May 01, 1996 to September 20, 1996. First C. S. I. R. direct Research Associate in Guru Ghasidas University.

3) Visited as a expatriate faculty from Oct. 23, 2006 to July 31, 2008 to Department of Physics, Addis Ababa University, Addis Ababa, Ethiopia, N E Africa for teaching UG and PG students.

Research Experience:

During Ph.D. (1987 – 1993): Total Seven Years Experience on preparation and characterization of Electronics Ceramics in the department of Metallurgical Engineering, B. H.U., Varanasi.

Post-Doctoral Work:

Research experience in the field of dielectrics and high temperature superconductivity from March 1994 to April 1996 in the Department of Physics, Barkatullah University, Bhopal.

Research experience in the field of preparation and characterization of electronics ceramics for sensor and other application as a Research Associate of C.S.I.R. at the School of Pure and Applied Physics, Guru Ghasidas University, Bilaspur from May 01, 1996 to September 20, 1996. First C. S. I. R. direct Research Associate in Guru Ghasidas University.

Visited as a expatriate faculty from Oct. 23, 2006 to July 31, 2008 to Department of Physics, Addis Ababa University, **Addis Ababa, Ethiopia**, N E Africa for teaching UG and PG students.

After Ph. D. (1994 - onwards): Total two years' experience on preparation and Characterization of Dielectric and super conducting materials while working as a research associate of U.G.C. project in department of Physics, Barkatullah University from March 1994 to April 1996.

Total five months' experience on synthesis and characterization of Oxide ceramic materials while working as a Research Associate of C.S.I.R. from May 1, 1996 to September 20, 1996 at department of physics, Guru Ghasidas University, Bilaspur.

Total approximately more than 30 years' experience in the fields of Materials Science while working as a lecturer,

Reader (from Sept. 2004) and Associate Professor of Physics, Guru Ghasidas University, Bilaspur.

1. Attended a refresher course in Physics organized by Department of Physics, University of

Jammu and Academic Staff College, University of Kashmir, Srinagar from March 08 -28, 1999.

2. Attended an orientation course organized by Academic Staff College, Banaras Hindu University, Varanasi from Nov. 30 to Dec 27, 1999.
3. Participated in QIP short-term course on “Modern Magnetic Materials” organized by Advanced Centre for Research in Electronics, Indian Institute of Technology, Powai, and Mumbai during May 15 – 26, 2000.
4. Participated in the Regional Training course on Fiber Optics University/College Teachers of South East Asia Sponsored by UNESCO and organized by Department of Physics, Indian Institute of Technology, Kharagpur during Feb. 12-24, 2001.
5. First C. S. I. R. direct Research Associate in Guru Ghasidas University.
6. Worked as Program Officer of National Service Scheme for University Teaching Department Guru Ghasidas University, Bilaspur (C.G.) from 1998 to 2002.
7. Attended ten days Training and orientation programme organized by Training and Orientation Center, NSS, Vikram University, Ujjain (M.P.) during Oct. 8-17, 1999.
8. Participated in the Regional Training Course in University Science Teaching sponsored by **UNESCO** an organized by Indira Gandhi National Open University, New Delhi for teachers of South East Asia from November 15-26, 1999.
9. Worked as a Warden, Boys Hostel, Guru Ghasidas University, Bilaspur.
10. Worked as Associate Editor, Chhattisgarh Journal of Science & Technology; A joint publication of G.G. University and Chhattisgarh Council of Science and Technology, Raipur till 2006.

Papers published:

S.N.	Title of the research paper	Journal	Year	Vol. & Page
1.	<u>Electrical characterization of Bi_{0.65}Li_{0.35}Fe_{0.65}Nb_{0.35}O₃ ceramic</u> M De, HS Tewari, RNP Choudhary AIP Conference Proceedings 2995 (1		2024	
2.	<u>Dielectric properties of the system Ca La x Ti Co x O 3</u>		2023	

	CD Prasad, HS Tewari, D Kumar, O Parkash Bulletin of Materials Science 46			
3.	<u>Synthesis and characterization of CeO₂ nano particles</u> D Uthra, MP Sharma, HS Tewari AIP Conference Proceedings 2352 (1)		2021	
4.	<u>Synthesis and characterization of cerium substituted cobalt ferrite</u> MP Sharma, D Uthra, HS Tewari AIP Conference Proceedings 2352 (1)	1	2021	
5.	<u>Structural and Dielectric Characterization of LiNbO₃ Substituted BiFeO₃</u> 2021 DAE SSPS 2021 817 Rashmi Tiwari H S Tewari M. De Proc of the 65th DAE Solid State Physics Symposium 2021 (1), 817		2021	
6.	<u>BaTiO₃ and Ba_{0.9}R_{0.1}TiO₃ (R= Ni, Fe): Low temperature synthesis, structural and phonon mode study</u> M De, S Pal, R Tiwari, HS Tewari AIP Conference Proceedings 2265 (1)		2020	
7.	<u>Structural, morphological and vibrational studies of modified nickel ferrites</u> R Tiwari, M De, HS Tewari AIP Conference Proceedings 2265 (1)		2020	
8.	<u>Magnetic and Dielectric Properties of La and Ni Co-substituted BiFeO₃ Nanoceramics</u> A Srivastava, AK Singh, ON Srivastava, HS Tewari, KB Masood, J Singh Frontiers in Physics 8, 282	16	2020	
9.	<u>Structural and magnetic properties of tailored NiFe₂O₄ nanostructures synthesized using auto-combustion method</u> R Tiwari, M De, HS Tewari, SK Ghoshal Results in Physics 16, 102916	68	2020	

10.	<u>Studies on composition dependent structural and magnetic characterization of nano-crystalline cadmium doped nickel ferrite</u> R Tiwari, M De, HS Tewari AIP Conference Proceedings 2115 (1)	1	2019	
11.	<u>Structural, electrical and ferroelectric properties of lithium niobate-bismuth ferrite solid solutions</u> M De, S Hajra, R Tiwari, S Sahoo, RNP Choudhary, HS Tewari Solid State Sciences 93, 1-6	3	2019	
12.	<u>Structural and magnetic properties of tailored NiFe₂O₄ nanostructures synthesized using auto-combustion method, Results Phys., 16, 102916 (2020)</u> R Tiwari, M De, HS Tewari, SK Ghoshal	6	2019	
13.	<u>Synthesis and structural characterizations of Ba and Sr doped BiFeO₃</u> K Pandey, S Jyaswal, G Maity, M De, HS Tewari, SP Patel, S Ojha Proceedings of the first international conference on advances in ...		2019	
14.	<u>Synthesis and characterizations of perovskite oxide based nano-ferrites energy applications</u> HS Tewari, R Tiwari, M De Proceedings of the first international conference on advances in ...		2019	
15.	<u>Structural, morphological and vibrational study of La doped Ni-Zn ferrites</u> MP Sharma, R Tiwari, V Shahu, M De, HS Tewari Proceedings of the first international conference on advances in			
16.	Studies on composition dependent structural and magnetic characterization of nano-crystalline cadmium doped nickel ferrite Manojit De, Rashmi Tiwari and HS Tewari	AIP Conference Proceedings	2019	2115-030102

17.	Studies on composition dependent structural and magnetic characterization of nano-Crystalline cadmium doped nickel ferrite Rashmi Tiwari, Manojit De, and H. S. Tewari DOI: 10.1063/1.5112941	AIP Conference Proceedings	2019	2115, 030102
18.	Structural and magnetic properties of tailored NiFe ₂ O ₄ nanostructures synthesized Using auto-combustion method. Rashmi Tiwari, Manojit De, H. S. Tewari , S. K. Ghoshal https://doi.org/10.1016/j.rinp.2019.102916 ...	Results in Physics (102916)	2019	
19	Structural, electrical and ferroelectric properties of lithium niobate-bismuth ferrite solid solutions Manojit De, Sugato Hajra, Rashmi Tiwari, Sushrisangita Sahoo, R. N. P. Choudhary, H. S. Tewari DOI: 10.1016/j.solidstatesciences.2019.04.009	Solid State Sciences	2019	93
20	Structural, dielectric and electrical characteristics of BiFeO ₃ -NaNbO ₃ solid solutions; Manojit De, Sugato Hajra, Rashmi Tiwari, Sushrisangita Sahoo, R N P Choudhary, H.S. Tewari ;	Ceramics International,	2018	44
21	Structural and electrical characteristics of Barium modified Bismuth-Sodium Titanate (Bi _{0.49} Na _{0.49} Ba _{0.02})TiO ₃ Sugato Hajra, Sushrisangita Sahoo, Manojit De, Pravat Kumar Rout, H. S. Tewari , R. N. P. Choudhary DOI: 10.1007/s10854-017-8054-4;	J Mater Sci: Mater Electron	2018	29
22	Self-cleaning and spectral attributes of erbium doped sodium-zinc-tellurite glass: Role of titania nanoparticles N N Yusof, S K Ghoshal, R Arifin, A Awang, H S Tewari, K Hamzah	J. of Non-Crystalline Solids	481	2018

23	Synthesis and structural characterization of NaNbO_3 doped BiFeO_3 multiferroics Manojit De and H. S. Tewari DOI: 10.1080/00150193.2017.1362284;	Ferroelectrics	2017	519:1
24	Investigation on Synthesis, Structural and Electrical properties of Barium Stannate Based Complex Perovskites $\text{Ba}_{1-x}\text{La}_x\text{Sn}_{1-x}\text{Co}_x\text{O}_3$ H. S. Tewari and Manojit De	J. Integrated Science & Technology	2017	5
25	A Comparative Study on Structural Characterization of Mg Substituted on A/B sites in NiFe_2O_4 Nanoparticles Using Auto-Combustion Method. Manojit De and H. S. Tewari DOI: 10.1007/s12043-017-1394-z;	Pramana – J. Phys	2017	
26	$\text{R}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ (R = Na and K): Synthesis, structural and polarization study Rashmi Tiwari, Manojit De, and H. S. Tewari DOI: 10.1063/1.4982130	AIP Conference Proceedings	2017	1837
27	Synthesis and structural characterization of A-site doped NiFe_2O_4 Manojit De, Ananya Rout, and H. S. Tewari DOI: 10.1063/1.4982126	AIP Conference Proceedings	2017	1837
28	Structural Characterization of Magnesium Substituted Nickel Ferrites $\text{NiFe}_{(2-x)}\text{Mg}_x\text{O}_4$ Nanoparticles Synthesized Using Combustion Technique. Manojit De, Soumen Bera and H. S. Tewari. DOI: 10.1680/jemmr.15.00070;	Emerging Materials Research	2017	6
29	Strain induced structural phase transition in NaNbO_3 doped BiFeO_3 Manojit De, Shiv P. Patel and H. S. Tewari DOI: 10.1007/s10854-017-6393-9.;	J Mater Sci: Mater Electron	2017	28

30	Synthesis and Structural Characterization of $\text{Ni}_{1-x}\text{Cd}_x\text{Fe}_2\text{O}_4$: Experiment and Theory A Srivastava, H S Tewari , A Mukherjee	Quantum Matter	2016	5 (3),
31	Characterization of Cadmium substituted Nickel Ferrites nano-particles synthesized using combustion technique. Manojit De, Aniruddha Mukherjee and Hari S. Tewari . DOI: 10.2298/PAC1504193D;	Processing and Application of Ceramics	2015	9 [4],
32	Characterization of Magnesium Substituted Nickel Ferrites Nano-Particles Synthesized Using Combustion Technique. Manojit De, Ganesh Bera and H. S. Tewari . Available at: www.researchpublish.com	International Journal of Mathematics and Physical Sciences Research	2015	3
33	Synthesis and Characterization of Nickel Substituted Bismuth Ferrite Nano-particles M De, R K Pal, H S Tewari	J. of Pure Applied and Industrial Physics	2015	5 (6),
34	Studies on Electrical Behavior of Multiferroic Based Double Doped Bismuth Ferrite System. H. S. Tewari , Aarti Mishra, and Manojit De. DOI: 10.1166/asl.2015.6391 .	Adv. Sci. Lett	2015	21
35	Studies on Synthesis and Dielectric Properties of Rare Earth Doped Pottasium Based Double Molybdates H S Tewari and M Sahu, ISSN :2229-7596/2319-7617	J. of Pure Appl. and Ind. Phys.	2014	4 (1),
36	Structural Characterization of $\text{Bi}_{1-x}\text{A}_x\text{FeO}_3$ ($x= 0.00, 0.05$ and $\text{A}= \text{Sr}$) Nano-particles Synthesized Using Combustion Technique H S Tewari , A Mishra, S Banerjee	J. of Pure Appl. and Ind. Phys.	2014	4 (2)
37	Dielectric Studies on B-site Double Mixed Barium Titanate System H S Tewari , S Chakraborty	J. of Pure Appl. and Ind. Phys	2012	2 (3),

38	Model Investigation of radiative lifetime and internal quantum efficiency of small scale silicon nanostructures. S K Ghoshal, H S Tewari and Sioma Debala DOI: 10.1063/1.3644457	ISST J. of Applied Physics	2011	2 (1),
39	Deposition and Characterization of SiO ₂ Films Using PECVD System D K Gautam R K Pandey, H S Tewari , A M Mahajan Publisher Marathawada University, Jalgaon	Proc. International (ICNEAC-2011),	June 2011	
40	Syntheses and Thermal Characterisation of Mixed (Sm-Y) Oxalates Prepared by Coprecipitation Method S K Ghoshal, H S Tewari and Presenjit Pauri	Material Sci. Res. India	2011	8 (1),
41	Model Investigation of Temperature and Concentration Dependent Luminescence of Erbium-doped Tellurite Glasses S K Ghoshal, M R Sahar, H S Tewari , M S Rohani	AIP Conference Proceedings	2011	1372 (1)
42	Nanophotonics for 21 Century and Beyond 21st Century Ghoshal S. K., Tewari H S , Pandey R. K., Sahar M. R. and Rohani M. S.,	Proc. Of Current Trends on Nanoscience and Nanotechnology-2011	2011	
43	Model investigation of Temperature and concentration dependent luminescence of erbium doped tellurite glasses, H S Tewari , M S Rohani, S K Ghoshal and S R Sahar (NSFD- XV)	AIP Proceeding	June 2011	
44	Photonic applications of Silicon nanostructures S K Ghoshal and H S Tewari	Material Sci. Res. India	2010	7 (2),
45	Dielectric characterization of the system Sr _{1-x} Gd _x Ti _{1-x} Co _x O ₃ (x = 0.10) using impedance spectroscopy H S Tewari and P K Sakharkar	Material Sci. Res. India	2010	7 (2),

46	The Optical Band Gap of Silicon Quantum Dots: The Influence of Surface Passivation S K Ghoshal, G A Desalegn, E A Abebe, H S Tewari , P K Bajpai	J. of Inter. Acad. of Physi. Sci	2009	13 (2)
47	Enhanced luminance efficiency of polymer light emitting diode by blending with ionic solid electrolyte. Sanjay Tiwari, H. S. Tewari and Devnath Dhirhe	Ionics	2007	13 (5),
48	Antiferroelectric phase transition in $\text{Pb}(\text{Mg}_{1/2}\text{X}_{1/2})\text{O}_3$ (X= Mo and W) R Palai, R N P Choudhary, H S Tewari	Materials chemistry and physics	2002	73 (1)
49	Structural and dielectric properties of $\text{Ba}_4\text{R}_2\text{Ti}_4\text{Nb}_6\text{O}_{30}$ (R= Y, Sm and Dy) ferroelectric ceramics R Palai, R N P Choudhary, H S Tewari	Journal of Phys. and Chem. of Solids	2001	62 (4),
50	Effect of Hg addition on synthesis of Bi-based superconductors V. Shelke, H. S. Tewari , N. K. Gaur, R. K Singh	Physica C: Superconductivity	1998	300 (3-4),
51	Synthesis and electrical characterization of the system $\text{Sr}_{1-x}\text{Gd}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$ using impedance spectroscopy H. S. Tewari , R.K. Singh	Asian Journal of Physics	1997	6
52	Synthesis and Electrical Characterizations of the System $\text{Sr}_{1-x}\text{Y}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$ H. S. Tewari , V. K. Shelke, N. K. Gaur, R. K. Singh	Materials Science Forum	1996	223
53	Electrical conduction in the system $\text{Sr}_{0.90}\text{La}_{0.10}\text{Ti}_{0.90}\text{M}'_{0.10}\text{O}_3$ (M'= Co, Ni or Cr) H. S. Tewari , R. K. Singh	Bulletin of Materials Science	1996	19 (6),
54	Enhancement of Tc up to 92 K in Hg added BiSrCaCuO system V Shelke, H. S. Tewari , N.K. Gaur, R.K. Singh	Proc.of the DAE solid state phys. symposium.	1995	V. 38C
55	Study of the electrical conduction behaviour of the $\text{Ba}_{1-x}\text{La}_x\text{Ti}_{1-x}\text{Ni}_x\text{O}_3$ ($x \leq 0.10$) system O. Parkash, H. S. Tewari , V. B. Tare, D. Kumar	J. of alloys and compounds	1993	190 (2),

56	Electrical conduction in calcium yttrium titanium cobalt oxide $\text{Ca}_{1-x}\text{Y}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$ ($x \leq 0.15$) O Parkash, H. S. Tewari , V B Tare, D Kumar	J. of Phys D: Appl. Physics	1993	26 (4),
57	The Electrical Conduction Behavior of the $\text{Ba}_{1-x}\text{La}_x\text{Ti}_{1-x}\text{Ni}_x\text{O}_3$ ($x < 0.10$) System O Parkash, H. S. Tewari , V.B. Tare, D. Kumar	Chem Inform	1993	24 (13)
58	Preparation and characterization of $\text{Sr}_{0.9}\text{Tb}_{0.1}\text{Ti}_{0.9}\text{Co}_{0.1}\text{O}_3$ O. Parkash, H. S. Tewari , P Peng	J. of Mater sci. letters	1992	11 (7),
59	Synthesis and structure of the system $\text{Ba}_{1-x}\text{La}_x\text{Ti}_{1-x}\text{Cu}_x\text{O}_3$ ($x \leq 0.50$) O Parkash, H. S. Tewari , C.D. Prasad, D. K. Agrawal	J. of Mater sci. letters.	1992	11 (10),
60	Study of Electrical Conduction Behavior of the System $\text{La}_{1-x}\text{Na}_x\text{Co}_{1-x}\text{Nb}_x\text{O}_3$ ($x \leq 0.50$) O Parkash, H. S. Tewari , V.B. Tare, D Kumar, L Pandey	J. of the American Ceramic Society	1992	75 (11),
61	Electrical conduction behavior of the system $\text{La}_{1-x}\text{Na}_x\text{Co}_{1-x}\text{Nb}_x\text{O}_3$ ($x > 0.5$) O Parkash, H. S. Tewari , V. B. Tare	J. of the American Ceramic Society	1992	75 (11),
62	Dielectric properties of the system $\text{Ca}_{1-x}\text{Y}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$ ($0 < x < 0.15$) H. S. Tewari , O Parkash, V.B. Tare	Journal of Materials Science	1990	25 (4),
63	Electrical conduction in calcium lanthanum titanium cobalt oxide, $\text{Ca}_{1-x}\text{La}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$ ($x \leq 0.50$) O. Parkash, D. Kumar, C. D. Prasad, H. S. Tewari	J. of Phys. D: Appl. Physics	1990	23 (3),
64	Dielectric relaxator behaviour of $\text{Sr}_{0.8}\text{La}_{0.2}\text{Ti}_{0.8}\text{Co}_{0.2}\text{O}_3$ O Parkash, L Pandey, H. S. Tewari , V. B. Tare, D Kumar	Ferroelectrics	1990	102 (1),
65	Dielectric properties of the system $\text{Ca}_{1-x}\text{Y}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$ ($0.00 \leq x \leq 0.15$) H S Tewari , O Parkash, V B Tare, D Kumar	Journal of Materials Science	1990	25 (4),

66	Preparation, Structure, and Dielectric Properties of the System $Ba_{1-x}La_xTi_{1-x}Ni_xO_3$ O Parkash, H S Tewari , L Pandey, R Kumar, D Kumar	J. of the American Ceramic Society	1989	72 (8),
67	Preparation and structure of the system $(Ca_{1-x}Y_x)(Ti_{1-x}Co_x)O_3$ H. S. Tewari , O Parkash, V B Tare, D Kumar	J. of Mater sci. letters.	1988	7 (10),
68	Dielectric properties of the system $(Ca_{1-x}La_x)(Ti_{1-x}Co_x)O_3$, C D Prasad, H. S. Tewari , D Kumar, O Parkash	Bull. of Materials Science	1988	11 (4),

Conference/Seminar Presentations

1. Dielectric Relaxor Behaviour of $Sr_{0.80}La_{0.20}Ti_{0.80}Co_{0.20}O_3$, Om Prakash, H. S. Tewari, V. B. Tare and Devendra Kumar, Presented in INDO – US Workshop held at National Chemical Laboratory, Pune during Jan. 8-9, 1989.
2. Studies on Electric Behaviour of the System, $Ca_{1-x}Y_xTi_{1-x}Co_xO_3$ ($X < 0.15$) using Complex Plane Impedance Analysis, Om Parkash, H.S. Tewari, V.B. Tare and Devendra Kumar Presented in 1st Annual General Body Meeting of Materials Research Society of India held in Pune, Feb. 9-10, 1990.
3. Barrier Layer Formation in $Sr_{0.70}Nd_{0.30}Ti_{0.70}Co_{0.30}O_3$, Om Prakash and H.S. Tewari Presented in 2nd Annual Meeting of Materials Research Society of India held in National Physical Laboratory New Delhi, Feb. 9-10, 1991.
4. Electron Microscopic Investigation during the Study of Kinetics of Heterogeneous Reactions, V.B. Tare, J. S. Kachhawaha, Vikram Singh, B.D. Tripathi, U.S. Yadava, H.S.Tewari. Om Parkash and D.Kumar, Presented at the Workshop cum Seminar on Scanning Electron Microscopy held in Department of Metallurgy, Banaras Hindu University, Varanasi during Feb. 25-26 1991.
5. Effect of Cooling Rates on Dielectric Properties of the System $Sr_{0.70}Nd_{0.30}Ti_{0.70}Co_{0.30}O_3$ Om Parkash, H. S. Tewari and V.B. Tare, presented in 56th Annual Meeting of Indian Ceramic Society held in Bhilai (M.P.).
6. Studies on Electrical Conduction Behaviour of the System $Ba_{1-x}La_xTi_{1-x}Ni_xO_3$, Om Parkash, H. S. Tewari, V. B. Tare and D. Kumar, presented in 3rd Annual Meeting of Materials Research Society of India held in Indian Institute of Sciences, Bangalore, Feb. 9-10, 1992.
7. Effect of Ionic Radii on Properties of the System $Sr_{0.90}La_{0.1}Ti_{0.90}M_{0.1}O_3$ ($M = Cr, Ni \& Co$), H. S. Tewari, Presented as a Technical Paper during 57th Annual Session of the Indian Ceramic Society held in New Delhi Dec. 2-4, 1993.
8. Studies on Dielectric Properties of Ceramics using Complex Plane Impedance Analysis

- L. Pandey, Om Parkash, H. S. Tewari, O. P. Thakur and D. Kumar, Presented in 4th Annual Meeting of the Materials Research Society of India held at Regional Research Laboratory, Trivendrum Feb. 9-10, 1993.
9. Dielectric Properties of the System $\text{Ba}_{1-x}\text{La}_x\text{Sn}_{1-x}\text{Co}_x\text{O}_3$, H. S. Tewari, Om Parkash and V. B. Tare, Invited Presentation in National Seminar on “Materials for Marine Applications” organized by Naval Chemical and Metallurgical Laboratory, Defence Research and Development Organization (DRDO), Naval Dockyard, Bombay, March 3-4, 1994.
 10. Dielectric and Electrical Properties of Some Valence Compensate Perovskite Oxide
H. S. Tewari, Thesis presentation in Department of Atomic Energy Sponsored Solid State Physics Symposium – 94 held in University of Rajasthan, Jaipur during Dec. 27-31, 1994.
 11. Synthesis and Electrical Characterization of the System $\text{Ba}_{1-x}\text{La}_x\text{Sn}_{1-x}\text{Co}_x\text{O}_3$
H.S. Tewari, V.B. Tare and Om Parkash, Presented in 6th Annual Meeting of Materials Research Society of India held in Indian Institute of Technology, Kharagpur, Feb. 7-10, 1995.
 12. Studies on Synthesis and Dielectric Characterizations of Valence Compensated System $\text{Sr}_{1-x}\text{Gd}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$, H. S. Tewari, Presented in 59th Annual Meeting On Indian Ceramic Society organized by Anna University, Madras during Jan. 10-11, 1996.
 13. Electrical Properties of the System $\text{Sr}_{1-x}\text{Y}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$, H. S. Tewari, Vilas Shelke, N.K. Gaur and R.K. Singh, presented in an International Seminar on Disordered Materials organized by Kurukshetra University, Kurukshetra.
 14. Studies on Effect of Processing Parameters on Superconducting Behaviour of Hg doped Bi-2212 Ceramic, H. S. Tewari, Vilas Shelke and R.K. Singh, Presented in 15th National Symposium on Cryogenics (FNSC –96) organized by National Physical Laboratory, New Delhi and Indian Cryogenic Council during September 12-14, 1996.
 15. Dielectric Behaviour of the System $\text{La}_{1-x}\text{Na}_x\text{Co}_{1-x}\text{Nb}_x\text{O}_3$, H. S. Tewari and R.K. Singh
Presented in National Symposium of Ferroelectrics and Dielectrics (NSFD – IX) held at National Physical Laboratory, New Delhi on Oct. 8-11, 1996.
 16. Synthesis and Electric Characterization of the System $\text{Sr}_{1-x}\text{Gd}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$ using Impedance and Modulus spectroscopy, H. S. Tewari and R. K. Singh, Presented in DAE – BRANS Symposium on Electro ceramics, organised by Saurashtra University, Rajkot, March 13-15, 1996.
 17. Structural and Dielectric Characterisation of rare earth substituted perovskite oxide, $\text{Sr}_{0.9}\text{Ln}_{0.1}\text{Ti}_{0.9}\text{Co}_{0.1}\text{O}_3$ (Ln = La, Nd and Gd), H.S. Tewari, Anshuman Vyas and R. K. Singh
Presented in Xth National Seminar on Ferroelectrics and Dielectrics, Organised by Indian Institute of Technology, Madras, 1998.
 18. Effect of dopant concentration on the dielectric behaviour of alanine doped TGS crystals
P.K. Bajpai, N. K. Chandan, H. S. Tewari, T. Kundu and D. Chakravorthy, Presented in DAE sponsored Solid State Physics symposium organized by Indira Gandhi Atomic Research Centre, Kalpakkam during Dec. 27-31, 1999.
 19. Effect of rare earth substitution on Dielectric properties of the system $\text{Sr}_{0.9}\text{Ln}_{0.1}\text{Ti}_{0.9}\text{Co}_{0.1}\text{O}_3$

H. S. Tewari, G. D. Verma, P. K. Bajpai and R. K. Singh, Presented in the "National Seminar On Recent Trends in Materials Science" held in Shri Venkateswara University, Tirupati during Nov. 25-27, 1999.

20. Studies on dielectric properties of barium stannate based ceramics using impedance analysis, H.S. Tewari, Presented in XI National Seminar on Ferroelectrics and Dielectrics organized by Jammu University, Nov. 1-3, 2000.
21. Transport Properties of lanthanum cobaltate substituted barium stannate, H.S. Tewari, Presented in 64th annual Session of the Indian Ceramic Society held at Hyderabad during Jan. 28-31, 2001
22. Synthesis, Structure and Dielectric Characterization of lanthanum cobaltate substituted Barium stannate. H. S. Tewari, Presented in Vth conference of the International Academy of Physical Sciences held in Jhansi and organized by Bundelkhand University during April 7-9, 2002.
23. High Pressure studies of Titanium Carbide. Anurag Srivastava, P. Shiva Kumar, H. S. Tewari, and R. K. Singh, Presented in 45th DAE sponsored Solid State Physics symposium organized by Panjab University, Chandigarh (vol. 45, page 53) during Dec. 27-31, 2002
24. Effect of rare earth ions substitution on dielectric properties in strontium titanate based system. H. S. Tewari, Presented in National conference on current trends in Condensed Matter Research organized by Kakatiya University, Warangal during September 20 - 22, 2004.
25. Studies on dielectric properties of perovskite based $\text{Sr}_{1-x}\text{Gd}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$ System. Tewari H.S., Thirteenth National Seminar on Ferroelectrics and Dielectrics (NSFD-XIII), Nov 23-25, 2004, Delhi.
26. Synthesis, Structure and Electrical Behavior of Yttrium and Cobalt Doped Calcium Titanate. H. S. Tewari and Amit Godbole, International Conference on Emerging Frontiers in Physical Science, Dec 21-23, 2004, Allahabad.
27. Synthesis and Electrical Studies on Yttrium Cobaltite Substituted Strontium Titanate. Tewari H.S., Godbole Amit, Parkash O. and Kumar D., Thirteenth National Seminar on Ferro-electrics and Dielectrics (NSFD-XIII), Organised by Univ. of Del during Nov 23-25, 2004, Delhi.
28. Studies on dielectric properties of perovskite oxide based $\text{Sr}_{1-x}\text{Gd}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$ ($x < 0.50$) system, Tewari H. S., Thirteenth National Seminar on Ferro-electrics and Dielectrics (NSFD-XIII), Organised by Univ. of Delhi during Nov 23-25, 2004, Delhi.
29. Preparation and composition dependent dielectric properties of valence compensated solid solution, $\text{Sr}_{1-x}\text{Y}_x\text{Ti}_{1-x}\text{Co}_x\text{O}_3$. Tewari H. S. and Godbole Amit, Presented at National Seminar Organized by Manipur Central University during Feb. 17-18, 2005.
30. Synthesis and dielectric studies on sodium niobate substituted lanthanum cobaltate $\text{La}_{1-x}\text{Na}_x\text{Co}_{1-x}\text{Nb}_x\text{O}_3$. H. S. Tewari and Amit Godbole, Presented in National Seminar on Advanced Materials Science held in D D University, Gorakhpur during March 17-19, 2005.

31. Optimization of efficiency of Polymer light emitting diodes, Devnath Dirhe, S. Tiwari and H S Tewari
Presented in National conference on Advances in Electronic materials and Devices Organised by Department of Pure & Applied Physics, Guru Ghasidas University, Bilaspur during March 5-6, 2006.
32. High Pressure elastic properties of $\text{TiC}_{1-x}\text{N}_x$. A Srivastava, K G Roy, H S Tewari, R K Singh and B D Diwan. Presented in National conference on Advances in Electronic materials and Devices Organised by Department of Pure & Applied Physics, Guru Ghasidas University, Bilaspur during March 5-6, 2006.
33. Effect of Pressure on elastic constants of GaP, Anurag Srivastava, Alka Singh, Ishwar, H S Tewari and R K Singh. Presented in National conference on Advances in Electronic materials and Devices, organized by Department of Pure & Applied Physics, Guru Ghasidas University, Bilaspur during March 5-6, 2006.
34. The Optical Band Gap of Silicon Quantum Dots: The Influence of Surface Passivation S. K. Ghoshal, H. S. Tewari, G. A. Desalegn & E. A. Abebe. Presented in International conference organised by International Academy of Physical Sciences (CONIAPS-X) at Guru Ghasidas University, Bilaspur during Dec. 17-19, 2007.
35. Microstructural studies on (Ba,Lu) (Sn,Co)O₃ ceramics using complex plane impedance spectroscopy, H S Tewari. Presented in International Conference on multifunctional oxide materials organized Department of Physics, Shimla University, Shimla during April 16-18, 2009.
36. Dielectric studies of double mixed perovskite oxide $\text{Ba}_{0.90}\text{La}_{0.10}\text{Ti}_{0.90}\text{Me}_{0.10}\text{O}$ T (Me=Co, Ni and Cr) Tewari H S and Alok Shukla. Presented in an International conference (CONIAPS – XI) of International Academy of Physical Sciences held in Allahabad at University of Allahabad during Feb. 19-21, 2010.
37. Studies on Dielectric properties of sodium and rare earth doped double Molybdates, H S Tewari and Manorama Sahu, International Conference on Advanced Materials (ICAM-2011) Department of Physics, PSG College of Technology, Coimbatore during Dec. 12-16, 2011.
38. Dielectric Studies on B-site substituted Barium Titanate System, Saikat Chakraborty and H S Tewari International Conference on Advanced Materials (ICAM-2011) Department of Physics, PSG College of Technology, Coimbatore during Dec. 12-16, 2011.
39. Synthesis and Characterisation of Multiferroic Materials” H S Tewari, Delivered invited talk in All India Conference on Advanced in Electrical and Electronics Engineering, organized by Chhatrapati Shivaji Institute of Technology, Durg an invited talk in during Jan. 28-29, 2011.
40. “Sol gel synthesis of Piezoelectric Materials” Invited talk delivered in All India Conference on Environmental Impact of Electrical and Electronics Engineering, organized by Chhatrapati Shivaji Institute of Technology, Durg during Jan. 20-21, 2012.

41. "Ion beam interaction on property modifications of perovskite based Piezoelectric oxides materials", presented in Two-day national workshop cum theme meeting on "Accelerator based interdisciplinary research in basic sciences," March 28-29, 2012 organized by Department of Pure & Applied Physics, Guru Ghasidas University, Bilaspur.
42. "Ion beam interaction on property modifications of perovskite based Piezoelectric" presented in Two-day national workshop cum theme meeting on "Ion beam induced Materials modifications & neutron generation using 3 MV Accelerator: Application in Physical, Chemical and Life sciences," Aug. 19- 20, 2013 organized by Department of Pure & Applied Physics, Guru Ghasidas University, Bilaspur.
43. Participated in Acquaintance Program of Inter University Accelerator Center, New Delhi, July 19, 2013 Pure & Applied Physics, Guru Ghasidas University, Bilaspur
44. "Synthesis and dielectric characterization of NaNbO₃ modified BiFeO₃ multi-ferroic materials", oral presentation in National Conference on Technical Advances in Materials Science and Research (NCTAMSR -2014) organized by Physics department, Sambalpur university during Feb. 13-15, 2014
45. "A Comparative picture of different Multi-ferroic Materials-Synthesis and Characterisation" oral presentation in National Conference on Technical Advances in Materials Science and Research (NCTAMSR -2014) during Feb. 13- 15, 2014 organized by Physics department, Sambalpur university.
46. Characterization of cadmium substituted nickel ferrite nano-particles synthesized using combustion technique, National Seminar on Ferroelectrics and Dielectrics, N S F D 2014 (Nov. 3-5, 2014), Department of Physics, Manipur University, Imphal.
47. Characterization of nickel substituted bismuth ferrite nano-particles synthesized using combustion technique in DAE BRNS National conference on Current trends in Advanced materials, (Nov. 19-21, 2014), Energy Variable Cyclotron Centre, Kolkata.
48. Poster presentation in One day National seminar on "Advances in Synthesis and characterization of Materials for Technological Applications (ASCMATA- 2015) on March 30, 2015 organized by Department of Pure & Applied Physics, Guru Ghasidas University, Bilaspur.
49. "A Comparative Study on Structural Characterization of Mg Substituted on A/B sites in NiFe₂O₄ Nano-particles Using Auto-Combustion Method ", delivered an invited talk in 3rd International E-workshop/conference on Computational Condensed Matter Physics and Materials Science (IWCCMP-2015); 18-22 October, 2015 organized by ABV-IIITM Gwalior, India.
50. Delivered an invited talk on "Processing of Ceramic Materials" in National Research Seminar on Space Science and Environment; 20-21 November, 2015 organized by Rajeev Gandhi Govt. P. G. College, Ambikapur (Sarguja).
51. Delivered an invited talk in 11-13 December, 2015. First International Conference on Advanced Materials for Power Engineering (ICAMPE -2015); organized by Mahatma Gandhi University, Kottayam, Kerala.

52. Chaired a session in 3rd International E-workshop/conference on Computational Condensed Matter Physics and Materials Science (IWCCMP-2015); 18-22 October, 2015 organized by ABV-IIITM Gwalior, India.
53. Chaired a session in National Research Seminar on Space Science and Environment; organized by Rajeev Gandhi Govt. P. G. College, Ambikapur (Sarguja), during 20-21 November, 2015.
54. Delivered an invited talk on “Novel Processing and characterizations of Perovskite based Ceramics” in an International Conference Emerging Trends in Science and Engineering Research (ETSER – 2015) organized by department of Basic Sciences and Humanities, National Institute of Technology, Manipur during December 2-4, 2015.
55. Chaired a session in First International Conference on Advanced Materials for Power Engineering (ICAMPE -2015); organized by Mahatma Gandhi University, Kottayam, Kerala during 11-13 December, 2015.
56. Presented a talk on “Synthesis, Structure and Electrical Properties of BaSnO_3 based double doped perovskites”, in an International Conference on New Scintillations on Materials Horizon (ICNSMH – 2016) organized by department of Applied Physics, Faculty of Engineering & Technology, Mahatma Jyoti Phule Rohilkhand University, Bareilly, India during Oct. 21 – 23, 2016.
57. Delivered an invited talk on “Multiferroic Bismuth Ferrite Based solid solutions for next generations photovoltaic applications” in 4th International Workshop/ Conference on computational condensed matter physics and materials science (IWCCMP- 2016), Materials for energy and environment during Nov 18- 20, 2016 organized by ABV – Indian Institute of Information Technology and Management, Gwalior
58. Delivered an invited talk entitled “Synthesis and Characterization of Pure & substituted Nickel Ferrite Nanoparticles” in National Conference on Research challenges in Nano Science & Technology organized by Bhilai Institute of Technology, Durg on March 28, 2017.
59. Delivered talk as resource person for a Faculty Development Program on “Green Future Resources & Sustainable Development” held at Shri Shankaracharya Technical campus on June 15-16, 2019 under TEQIP – III.
60. Delivered an invited talk on “Perovskite Oxide Based Advance Materials: Synthesis, Characterization and Applications” H. S. Tewari, Rashmi Tiwari and Manojit De in a national Conference on Advanced Materials & Environmental Sciences (NCAMES- 2019) organized by department of Physics, Kalinga University, Naya Raipur during Oct. 14-15, 2019.
61. Delivered an invited talk on “Perovskite Oxide Based Advance Materials: Synthesis, Characterization and Applications” H. S. Tewari, Rashmi Tiwari and Manojit De in a national Conference on Advanced Materials & Environmental Sciences (NCAMES- 2019) organized by department of Physics, Kalinga University, Raipur during Oct. 14-15, 2019.
62. Delivered an invited talk on “Advance Materials Based on Perovskite Oxide: Synthesis, Characterization and Applications” in National Seminar on Advance Materials for

Sustainable Industrial and Social Applications (NSAMSISA-2020), January 17-18, 2020, faculty of science, Govt. Pt. Shyamacharan Shukla College Dharsiwa Raipur, (CG).

63. Received certificate of achievement for attending International Webinar Series on COVID – 19 Outbreaks during May 15- 17, 2020 organized by Jiwaji university, Gwalior.

64. Participated in the International level COVID 19 Pandemic webinar on Functional materials for electrochemical sensors and energy storage devices on May 15, 2020 organized by Thiagarajar college, Madurai and Ming Chi university of technology, New Taipei, Taiwan.

3. Prof. Parijat Thakur

4. Prof. K.N. Singh

5. Prof. Arun Kumar Singh

6. Dr. Jai Singh

1) Details of Publication: 128 SCI Journals

2) Patents: 01

3) Consultancy Projects: nil

4) Ongoing Projects: two

5) Applied Projects: one

7. Dr. R.K. Pandey

8. Dr. Rajesh Sharma

9. Dr. Goverdhan Reddy Turpu

1) Details of Publication 60 international (Scopus)

2) Patents: NIL

3) Consultancy Projects: NIL

4) Ongoing Projects: 01

5) Applied Projects: 01

10. Dr. P. Rambabu

Projects:

1. Funding Agency: **DST-SERB, Government of India (#EEQ/2023/000179)**

Title of The Project: **Exploring novel topological phases in magnetic Heusler alloys for future spintronic technologies through first principles calculations**

Total Grant: **36.14 Lakhs**

Duration: 3years (**Jan2024 onwards**)

2. Funding Agency: **DST-SERB, Government of India (#CRG/2023/006003)**

Title of The Project: **Energy Harvesting in Heusler Alloys based on Anomalous Nernst Effect through First Principles Calculations**

Total Grant: **30.94 Lakhs**

Duration: 3years (**March2024 onwards**)

Publications (*List of papers published in SCI Journals, in year wise descending order*).

1. Sanand Kumar Pradhan, Sharadnarayan Pradhan, Priyanath Mal, **P. Rambabu**, Archana Lakhani, Bipul Das, Bheema Lingam Chittari , Rajib Mondal, V. K. Malik, G. R. Turpu , and Pradip Das. “Dirac nodal line behavior in a Zintl-phase CaZn_2Sb_2 single crystal” *Phys. Rev. B*. 111, 195115 (2025).
2. Ripan Pradhan, Monika Rana, Anurodh Sharma, Srinivasa Rao Pathipati, G R Turpu, Pradip Das, Bheema Lingam Chittari and P Rambabu. “Ab-initio study of anomalous Hall and Nernst effects in equiatomic quaternary heusler alloy CoFeVGe .” **Phys. Scr.** 100 (2025) 035947.
3. Neha, Shrikanti Kavita, Anshu Andola, Ravi R. Pandey, Rakesh K. Pandey, G. Padmaja, **P. Rambabu**, Pradip Das, Iqra Rabani, G. R. Turpu. “rGO and $\text{g-C}_3\text{N}_4$ as synergistic additives in SnS_2 - MoS_2 hybrid nanocomposites for photocatalytic and electrochemical applications: a detailed study.” **Emergent Materials** (2024): 1-15.
4. Sharadnarayan Pradhan, Sanand Kumar Pradhan, Priyanath Mal, **P. Rambabu**, Archana Lakhani, Bipul Das, Bheema Lingam Chittari, G. R. Turpu, and Pradip Das. “Topological nodal line features in NiSe semimetal: Insights from electronic transport and density functional theory studies.” **Phys. Rev. B**. 110 (2024) 195153
5. Sanand Kumar Pradhan, Sharadnarayan Pradhan, Priyanath Mal, **P Rambabu**, Archana Lakhani , Bipul Das, Bheema Lingam Chittari, G R Turpu and Pradip Das. “Endless Dirac nodal lines and high mobility in kagome semimetal $\text{Ni}_3\text{In}_2\text{Se}_2$: a theoretical and experimental study.” **J. Phys.: Condens. Matter** 36 (2024) 445601
6. Neha, Anshu Andola, Ravi R Pandey, Rakesh K Pandey, **P Rambabu**, Pradip Das, Iqra Rabani, GR Turpu. “Studies into the Synergy Between MoS_2 -rGO- gC_3N_4 for Photocatalytic and Supercapacitor Applications.” **Journal of Electronic Materials** <https://doi.org/10.1007/s11664-024-11258-8>
7. Neha, Young Soo Seo, Sobia Nisar, R. Vijaya Kumar, **P. Rambabu**, Chandra S. Perugu, S. Banerjee, Pradip Das, Iqra Raban and G. R. Turpu. “Photocatalytic Drug Degradation

and Supercapacitor Applications of FeVO_4 and rGO-FeVO_4 Nanocomposite.” *ChemNanoMat* e202400106 . doi.org/10.1002/cnma.202400106

8. Sanand Kumar Pradhan, Priyanath Mal, Sharadnarayan Pradhan, Archana Lakhani, Dinesh Kumar, Bipul Das, Bheema Lingam Chittari, **P. Rambabu**, G. R. Turpu, and Pradip Das. “Investigation of magnetotransport properties of topological surface states in SnBi_4Te_7 single crystal.” **Journal of Materials Science: Materials in Electronics** 35 (2024) 1-11.
9. Sanand Kumar Pradhan, Priyanath Mal, Sharadnarayan Pradhan, Archana Lakhani, Bipul Das, **P Rambabu**, G R Turpu and Pradip Das. “Structural and electronic transport properties of Zn- and Ga-doped $\text{Bi}_{2-x}\text{Sb}_x\text{Te}_{3-y}\text{Se}_y$ topological insulator single crystals.” **J. Phys.: Condens. Matter** 36 (2024) 315702.
10. P. Rambabu, **Anusree C.V. , M. Manivel Raja, V. Kanchana**. "Anomalous transverse effects in nodal line compounds Co_2TaX (X= Al, Ga)." **Journal of Magnetism and Magnetic Materials** 562 (2022): 169766.
11. P. Rambabu, **Anusree C.V. , M. Manivel Raja, V. Kanchana**. "Anomalous Hall and Nernst Conductivities in Co_2NbGa : A first principles study." **Journal of Magnetism and Magnetic Materials** 538 (2021): 168303.
12. P. Rambabu, Giuseppe Zollo, V. Kanchana. “Electronic topological transitions and vibrational properties of A-15 type X_3Y (X= V, Cr and Mo; Y= Os, Ir and Pt) compounds: A first-principles study.” *Journal of Physics and Chemistry of Solids* 152 (2021) 109953.
13. Priyanath Mal, Bipul Das, G. Bera, **P. Rambabu**, G. R. Turpu, C. V. Tomy, and Pradip Das. "Observation of 2D transport in Sn-and In-doped $\text{Bi}_{2-x}\text{Sb}_x\text{Te}_{3-y}\text{Se}_y$ topological insulator." **Journal of Applied Physics** 129.9 (2021): 095702.
14. Antu Laha, **P. Rambabu**, V. Kanchana, L. Petit, Z. Szotek, and Z. Hossain. “Experimental and theoretical study of the correlated compound YbCdSn : Evidence for large magnetoresistance and mass enhancement.” **Physical Review B** 102.23 (2020): 235135.

15. Aradhya Mishra, Archana Panigrahi, Priyanath Mal, Santosh Penta, G. Padmaja, Ganesh Bera, Pradip Das, **P. Rambabu**, Goverdhan Reddy Turpu. "Rapid photodegradation of methylene blue dye by rGO- V₂O₅ nano composite." **Journal of Alloys and Compounds** 842 (2020) 155746.
16. Priyanath Mal, Bipul Das, G Bera, **P Rambabu**, G R Turpu, C V Tomy and Pradip Das. "Spin splitted topological surface states in PbBi₄Te₇." **Journal of Physics D: Applied Physics** 53.48 (2020): 484003.
17. **P. Rambabu**, B. Anuroopa, M. Manivel Raja, V. Kanchana. "Enhanced Curie temperature and spin polarization in Co-based compounds under pressure: A first principles investigation." **Solid State Sciences** 105 (2020) 106257.
18. Ganesh Bera, Aradhya Mishra, Priyanath Mal, Pradip Das, G. Padmaja, **P.Rambabu** and G. R. Turpu. "Methylene Blue Dye Degradation by Bulk, Nano FeVO₄ and rGO-FeVO₄." **AIP Conference Proceedings** 2220 (2020) 080070.
19. Ganesh Bera, V. R. Reddy, P. Rambabu, P. Mal, P. Das, G. Padmaja and G. R. Turpu. "Low temperature synthesis of FeVO₄ through mechano milling assisted solid state reaction method." **AIP Conference Proceedings** 2115, (2019) 030110.
20. Antu Laha, Sudip Malick, Ratnadwip Singha, Prabhat Mandal, **P Rambabu**, V Kanchana, Z Hossain. "Magnetotransport properties of the correlated topological nodal-line semimetal YbCdGe." **Physical Review B** 99.24 (2019): 241102.
21. Swati Deswal, Sachin Kumar Singh, **P Rambabu**, Priyangi Kulkarni, G Vaitheeswaran, B Praveenkumar, Satishchandra Ogale, Ramamoorthy Boomishankar. "Flexible Composite Energy Harvesters from Ferroelectric A₂MX₄-Type Hybrid Halogenometallates." **Chemistry of Materials** 31.12 (2019): 4545-4552.
22. **P. Rambabu**, V. Kanchana. "Electronic Topological Transitions in CuNiMnAl and CuNiMnSn under pressure from first principles study." **Solid State Sciences** 80 (2018) 92-100.
23. Ganesh Bera, V. R. Reddy, **P. Rambabu**, P. Mal, Pradip Das, N. Mohapatra, G. Padmaja, and G. R. Turpu. "Triclinic–monoclinic–orthorhombic (T-M-O) structural

transitions in phase diagram of $\text{FeVO}_4\text{-CrVO}_4$ solid solutions.” **Journal of Applied Physics** 122 (2017) 115101.

24. Priyanath Mal, G Bera, **P Rambabu**, G R Turpu, Brahmananda Chakraborty, Lavanya M Ramaniah, R P Singh, Pintu Sen and Pradip Das. “Electronic, magnetic and spectroscopic properties of doped $\text{Mn}_{(1-x)}\text{A}_x\text{WO}_4$ (A = Co, Cu, Ni and Fe) multiferroic: an experimental and DFT study.” **J. Phys.: Condens. Matter** 29 (2017) 075901.
25. Priyanath Mal, **P. Rambabu**, G. R.Turpu, A. K. Gupta, Brahmananda Chakraborty, Pintu Sen and Pradip Das. “Energy band gap and spectroscopic studies in $\text{Mn}_{1-x}\text{Cu}_x\text{WO}_4$ ($0 \leq x \leq 0.125$).” **AIP Conference Proceedings** 1728 (2016) 020323.
26. **P. Rambabu**, Sunil. K. Srivastava, Pradip Das and Goverdhan Reddy Turpu. “rGO-SnO₂ Composites for Supercapacitor Applications.” **IOP Conf. Series: Materials Science and Engineering** 149 (2016) 012169.
27. Ganesh Bera, Sourav Sinha, **P. Rambabu**, P. Das, A. K. Gupta, and G. R. Turpu. “Structural characterization of FeVO_4 synthesized by co-precipitation method.” **AIP Conference Proceedings** 1728 (2016) 020284.
28. **P. Rambabu**, S. K. Srivastava, and G. R. Turpu. “Study of photo catalytic degradation of an industrial dye Ujala Supreme and Methyl Orange using $\text{SnO}_2\text{-rGO}$ composites.” **AIP Conference Proceedings** 1728 (2016) 020375.
29. M Hayne, R J Young, E P Smakman, T Nowozin, P Hodgson, J K Garleff, **P Rambabu**, P M Koenraad, A Marent, L Bonato, A Schliwa and D Bimberg. “The structural, electronic and optical properties of GaSb/GaAs nanostructures for charge-based memory.” **J. Phys. D: Appl. Phys.** 46 (2013) 264001.
30. E. P. Smakman, J. K. Garleff, R. J. Young, M. Hayne, **P. Rambabu**, and P. M. Koenraad. “GaSb/GaAs quantum dot formation and demolition studied with cross-sectional scanning tunneling microscopy.” **Appl. Phys. Lett.** 100 (2012) 142116.

Conferences/Invited lectures:

1.Title of the Paper presented: Electronic Structure Studies of Unstrained and Strained Li_2MnO_3 . International conference on ACCMS-2016 organized by SRM University, Chennai on 22/09/2016.

2. Title of the Paper presented: Metallization of Antiferromagnetic semiconductor NaMnBi under Pressure. International conference on ICMAGMA-2018 organized by NISER, Bhubaneswar, India on 09/12/2018.

3. Title of the Paper presented: Intrinsic Anomalous (Hall, Nernst) effects in Half-metallic Co₂ZrAl from First Principles Calculations. International conference on FIMTA-2022 organized by CSIR-IMMT Campus, Bhubaneswar, India on 03/08/2022.

4. Invited Lecture: Hands on Training: Density Functional Theory (DFT). 7 Days Workshop on “Material Characterization Techniques” Under the Scheme Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI-2022) organized by Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur, India on 01/11/2022.

5. Invited Lecture: Hands-On-Training on “DFT Modelling of Materials for Different Applications” Organized by Department of Physics, Mahatma Gandhi Central University, Motihari, Bihar on 15/03/2024.

6. Invited Lecture: “Berry curvature induced Anomalous Hall and Nernst effects in nearly half-metal CoFeVGe: A first principles study” in the conference on “Emerging trends in Quantum Condensed Matter Physics (EQCMP-2024)” from 21-23 August, 2024 held at Institute of Physics (IOP) Bhubaneswar, India.

National/International Collaborations:

1. Dr. Bheema Lingam Chittari, Department of Physical Sciences, IISER Kolkata, India.
2. Dr. Goverdhan Reddy Turpu, Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Koni, Bilaspur 495009, C. G., India.
3. Dr. Pradip Das, Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Koni, Bilaspur 495009, C.G., India.

Administrative Experience:

1. Incharge, Departmental website, Pure and Applied Physics, GGV: 2019- till date
2. Member, Board of Studies (BOS), Pure and Applied Physics, GGV: 2021- 24
3. Member, Departmental Research Committee (DRC), Pure and Applied Physics, GGV:2023-24
4. Assistant Center Superintendent, Exams, GGV: 2015, 2016 and 2023
5. Member, Physical Verification Committee, GGV: 2023 and 2024

11. Dr. Pradip Das

12. Dr. M.P. Sharma

13. Dr. S.P. Patel

1) Details of Publication

Research Publications (Journals) = 47

Research Publications (Proceedings) = 09

Book Chapter=01

- 2) **Patents =Nil**
- 3) **Consultancy Projects =03**
- 4) **Ongoing Projects =01**
- 5) **Applied Projects =Nil**

14. Dr. Dinesh Uthra

List of Publications:

1. Fabrication and Ameliorating the Features of (PMMA-SiC-NiO) Multifunctional Nanostructures for Flexible Optoelectronics Applications. J Inorg Organomet Polym Kiran Thakur Hashim, A., Kareem, A., **Uthra D.** Ibrahim, H. , et al. (2025). <https://doi.org/10.1007/s10904-025-03830-4>
2. Optimising Electrical Performance in PVA/TiO₂-SiC Polymer Nanocomposites for Cutting-Edge Photonic and Electronic Nanodevices Thakur, K., **Uthra, D.** & Hashim, A.. Trans. Electr. Electron. Mater. (2025). <https://doi.org/10.1007/s42341-025-00621-z>
3. Synthesis and ameliorating the microstructure and optical features of tantalum carbide nanostructures doped PVA/PVP for versatile optoelectronics devices. J Opt. A.Hashim , H..Ibrahim, **D.Uthra** et al (2025) <https://doi.org/10.1007/s12596-025-02479-z>
4. Production, structural and tunable optical properties of ternary PVA/TiO₂-SiC nanosystems for multifunctional optoelectronics fields. J Opt. <https://doi.org/10.1007/s12596-025-02508-x> K .Thakur ,**D.Uthra** ,A . Hashim (2025)
5. Synthesis and Characterization of co -precipitated Hematite - α -Fe₂O₃ Nanoparticles (AIO-NPs **Dinesh Uthra**, Krishna Patel, Jai Narayan Sahu, M.Z. Khan,),Springer -Advances in Science , Technology & Innovation (ASTI) ,49-54 ,(2024).
6. Synthesis and Study of Nano filled Polyvinyl Alcohol (PVA)based Nanocomposites, Odissa Research Conclave (ORC) Sambalpur University(2023) Kiran Thakur , **Dinesh Uthra**
7. Enhancement of magnetoresistance with the variation of particlesize in La_{0.68-x} Y_x Ca_{0.32}MnO₃ , x= 0.0,0.4, 0.5,0.6, **Dinesh Uthra** ,Jai Narayan Sahu, M.Z. Khan , Materials Today :Proceedings (2023)
8. EPR study of CeO₂ Nanoparticles, **Dinesh Uthra**, MP Sharma., Material Science Forum ,1048 (2022)130
9. Cloud Computing: A Qualitative Approach of Implementation, Prashant Vaishnav,**Dinesh Uthra** CRC press ,44,(2022)

10. Effect of Chromium (III) ion doping in the Crystal chemistry and Raman phonon modes in sol-gel synthesized $\text{CoFe}_{2-x}\text{Cr}_x\text{O}_4$ spinel ferrites, Ayan Roy, Anirban Panda, Hitendra Sahu, Neeraj Jaiswal, M.P.Shrama , Jai Singh , **Dinesh Uthra** , H.S. Tewari, Chhattisgarh Journal of Science and Technology , Volume 19, issue 1,251(2022)
11. Synthesis and characterization of CeO_2 nano particles, **Dinesh Uthra**, M P Sharma and H S Tewari, AIP Conf. Proc. 2352, (2021) 040028
12. Synthesis and characterization of cerium substituted cobalt ferrite, M P Sharma, **Dinesh Uthra** and H S Tewari, AIP Conf. Proc., 2352, (2021) 020058
13. EPR study of Mn site substituted Pr based Doped Rare Earth Manganites, **Dinesh Uthra** and M P Sharma, J. Phys.: Conf. Ser. 2070 (2021) 012035
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15. Synthesis and Characterization of SrMoO_4 , **Dinesh Uthra**, Satnam Singh, H.S. Tewari, Jai Singh and M. P. Sharma, Chhattisgarh Journal of Science and Technology, Volume 18, Issue 4, 2021.
16. Investigation on AC Electrical Conductivity of Double Doped Barium Stannate Complex
17. $\text{Ba}_{1-x}\text{La}_x\text{Sn}_{1-x}\text{Co}_x\text{O}_3$ ($x < 0.10$) HS Tewari, MP Sharma, **Dinesh Uthra**, Alka Singh, Jai Singh. Chhattisgarh Journal of Science and Technology, Volume 18, Issue 4, 2021.
18. Low temperature synthesis of pure and substituted Barium Titanate ($\text{Ba}_{0.9}\text{R}_{0.1}\text{TiO}_3$ (R=Co and Cr)) Ferroelectric System, HS Tewari, MP Sharma, **Dinesh Uthra**, Alka Singh, Jai Singh, Chhattisgarh Journal of Science and Technology 15, 15(2), 15-17.
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21. Characterisation of Doped Rare Earth Manganites $\text{La}_{0.68-x}\text{A}_x\text{Ca}_{0.32}\text{MnO}_3$ Where $\text{A}=\text{Y}, \text{Gd}$ ($x=0.00, 0.08$) **D. Uthra** ,Bulg.J.Phys.35,(2008)135
22. Various Mechanism of Magneto resistance in Manganites, **D. Uthra**, S K Singh, R K Singh, Research Link Journal 16,III-6,7,2004

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24. Annealing and Substitutional Dependent Magnetoresistance in Polycrystalline $(\text{La-R})_{1-x}\text{Ca}_x\text{MnO}_3$, $\text{R}=\text{Y}, \text{Gd}$ Perovskites **Dinesh Uthra**, SK Singh, RK Singh, Proceeding of the Solid State Physics Symposium 42, (1999), 593

Books Published:

- Digital Electronics Online Teaching Slides, Kindle Edition, Kindle ebook, 76 pages amazon.com, 440 Terry Avenue North Seattle, WA 98109 USA, (2021), **Dinesh Uthra**.
- Dictionary of Physics, LAP Lambert Academic Publication, 53 pages, Republic of Moldova, Chisinau- 2068, (2021), **Dinesh Uthra**.

Research Supervision:

- Ph.D.: Registered: 02
- M.Phil.: 08, M.Sc. Physics :12, M.Sc. Electronics :12 B.Sc. Electronics /Physics.: 30
- Short term courses /Conferences/Workshops /Seminars Symposium /Webinars attended: 30
- Seminars / Workshops/Conferences Organized :03

Patents :01 Filed

Applied Projects :01

15. Dr. Alka Singh

RESEARCH PUBLICATIONS

Research Paper 20, Conference 7.

Applied Projects :012

1. A Research Proposal Submitted to “CSIR-ASPIRE: A Special Call for Research Grants for Women Scientists in 2023.
2. A Research Proposal Submitted to “SERB-Core Research Grant” 2023.

16. Dr. Shalinta Tigga

Name of the Faculty	Title of Journal Paper	Name of the Journal	Year Issue Volume
Dr. Shalinta Tigga	Electrochemical, Photocatalytic and Photoluminescence properties of BaWO_4	Current Applied Physics	Volume 58, February 2024, Pages 79-90

	and rGO-BaWO ₄ nano-composites: A Comparative study		
Dr. Shalinta Tigga	Luminescence investigation of CaY ₂ A ₁₄ SiO ₁₂ :Dy ³⁺ phosphor synthesized by sol-gel method	Luminescence: The Journal of Biological and Chemical Luminescence	Volume 38, Issue 5 May 2023, Pages 576-584
Dr. Shalinta Tigga	Comparative Electrochemical, Photocatalytic, and Photoluminescence Studies in SrWO ₄ and rGO-SrWO ₄ Nanocomposites	Journal of Electronic Materials	Volume 52, pages 3759–3773, (2023)

17. Dr. Vijaya Kumar

- 1) Details of Publication -NIL
- 2) Patents - 01
- 3) Consultancy Projects - NIL
- 4) Ongoing Projects - NIL
- 5) Applied Projects - NIL

Patents:

Title: SOLAR-POWERED DRIP IRRIGATION CONTROLLING DEVICE

Design No: 448155-001

Date: 14/02/2025

Authors:

1. Dr. Balasaheb Hanumantrao Patil
2. Dr. G. Ganesh
3. Dr. R. Vijaya Kumar
4. Mr. S. Vigneshkannan
5. Dr. M. Srisankar
6. Dr. Ramyadevi Ramasamy
7. Ms. S.V. Saveeithaa
8. Dr. Hari Mohan Rai

18. Dr. Awadesh Kumar Dubey

Ongoing Project: Seed Money Grant by GGV

Publications

1. Granular gases under resetting, Anna Bodrova, A. V. Chechkin and **Awadhesh K. Dubey**, **Physical Review E 111 (1), 015405 (2025).**
2. **Pattern dynamics of density and velocity fields in segregation of fluid mixtures**

Prasenjit Das, **Awadhesh K. Dubey** and Sanjay Puri, **The Journal of Chemical Physics**, **160**, **15** (2024).

3. Scaling theory of mechanical properties of amorphous nano-films, **Awadhesh K. Dubey**, H. George E. Hentschel, Prabhat K. Jaiswal, Chandana Mondal, Yoav G. Pollack, Itamar Procaccia, **Thin Solid Films**, **669**, **80** (2019).
4. Avalanches dynamics in reaction fronts in disordered flows, T. Chevalier, **A. K. Dubey**, S. Atis, A. Rosso, D. Salin, and L. Talon, **Phys. Rev. E**, **95**, **042210** (2017).
5. Dynamical scaling for underdamped strain order parameters quenched below first-order phase transitions, N. Shankaraiah, **Awadhesh K. Dubey**, Sanjay Puri and Subodh R. Shenoy, **Phys. Rev. B**, **94**, **224101** (2016).
6. Statistics of Plastic Events in Post-Yield Strain-Controlled Amorphous Solids, **Awadhesh K. Dubey**, H. George E. Hentschel, Itamar Procaccia and Murari Singh, **Phys. Rev. B**, **93**, **224204** (2016).
7. Elasticity in Amorphous Solids: Nonlinear or Piece-Wise Linear? **Awadhesh K. Dubey**, Itamar Procaccia, Carmel ABZ Shor, and Murari Singh, **Phys. Rev. Lett.**, **116**, **085502** (2016).
8. Modeling Barkhausen Noise in Magnetic Glasses with Dipole-Dipole Interactions **Awadhesh K. Dubey**, H. George E. Hentschel, Prabhat K. Jaiswal, Itamar Procaccia, Chandana Mondal, and Bhaskar Sen Gupta, **EPL (Europhysics Letters)**, **112**, **1** (2015).
9. Experimental Evidence for Three Universality Classes for Reaction Fronts in Disordered Flows, Severine Atis, **Awadhesh K. Dubey**, Dominique Salin, Laurent Talon, Pierre Le Doussal and Kay Jorg Wiese, **Phys. Rev. Lett.**, **114**, **234502** (2015).
10. Strong pinning of propagation fronts in adverse flow, Thomas Gueudre, **Awadhesh K. Dubey**, Laurent Talon and Alberto Rosso, **Phys. Rev. E**, **89**, **041004(R)** (2014).
11. Velocity distribution function and effective restitution coefficient for a granular gas of viscoelastic particles, **Awadhesh K. Dubey**, Anna Bodrova, Sanjay Puri and Nikolai Brilliantov, **Phys. Rev. E**, **87**, **062202** (2013).
12. Intermediate Regimes in Granular Brownian Motion: Superdiffusion and Subdiffusion Anna Bodrova, **Awadhesh K. Dubey**, Sanjay Puri and Nikolai Brilliantov, **Phys. Rev. Lett.**, **109**, **178001** (2012).

List of Publications

Journals

1. **Invited Paper;** Mandeep Singh, Debanuj Chatterjee, **Suchita**, Sugeet Sunder, Karamdeep Singh, Mrudula Krishna, Sameer Ahmad Mir , and Deepa Venkitesh, " Advancements in Optical Communication Research: A Review of India's Progress ", *IEEE Photonics Journal*, VOL. 1c, 2024 .
2. **Invited Paper;** Debanuj Chatterjee, Sugeet Sunder, Mrudula Krishna, **Suchita Yadav**, Alexej Sysoliatin, Konstantin Gochelashvili, Sergey Semjonov, Deepa Venkitesh and Andrey Konyukhov, "A Comprehensive Study on Phase Sensitive Amplification and Stimulated Brillouin Scattering in Nonlinear Fibers with Longitudinally Varying Dispersion", *MDPI Photonics*, Vol. 3, 2024.
3. Archana Kaushalram, **Suchita** and Asha Bhardwaj, "Enhancing single-mode guidance using avoided crossings in anti-resonant hollow-core fibers with five nested cladding tubes", *Optics Communications*, vol. 551, pp. 13003c 1-S, 2024.
4. Archana Kaushalram, **Suchita** and Asha Bhardwaj, "Optimization of hollow-core fibers with elliptical tubes for improved single-mode guidance", *Optical Fiber Technology*, vol. 81, pp. 10354c 1-8, 2023.
5. **Suchita**, Archana Kaushalram and Asha Bhardwaj, "Study of Macro-Bending Loss Dependence on Design Parameters of Anti-Resonant Hollow Core Fibers", *Optical and Quantum Electronics*, vol. 55, pp. 540 1-15, 2023.
6. Sudip K. Chatterjee, Archana Kaushalram, **Suchita** and Asha Bhardwaj, "Designing hollow core nested anti-resonant fiber with ultra-low loss using finite difference eigen mode solver", *Journal of Optics*, vol. 24, pp. 115801 1-10, 2022.
7. **Suchita**, Sudip K. Chatterjee, Archana Kaushalram and Asha Bhardwaj, "Parametric study of anti-resonant fiber designs with nesting elements for ultra-low loss over visible band", *Optical Fiber Technology*, vol. 71, pp. 102S10 1-10, 2022.
8. A I Konyukhov, P A Mavrin, **Suchita**, A Sobhanan, D Venkitesh, K S Gochelashvili and A A Sysoliatin, "Phase-sensitive amplification in dispersion oscillating fibers", *Laser Physics*, vol. 31, pp. 085402 1-8, 2021.
9. **Suchita**, Balaji Srinivasan, Govind P. Agrawal and Deepa Venkitesh, "Role of the Modal Composition of Pump in the Multi-peak Brillouin Gain Spectrum in a Few-Mode Fiber", *Optics Communications*, vol. 4S4, pp. 127052 1-7, 2021.
10. Karamdeep Singh, Priyanka Sharma, **Suchita**, Awakash Dixit, Balaji Srinivasan, R. David Koilpillai and Deepa Venkitesh, "Theoretical and experimental investigation of the sources of

error in stochastic parallel gradient descent based digital modal decomposition technique”, *OSA Continuum*, vol. 4, pp. 1S1c-1S32, 2021.

11. **Suchita** and R. Vijaya, “Demonstration of phase correlation between the spectral lines of a broadband fiber laser”, *IEEE Journal of Quantum Electronics*, vol. 54, no. 5, pp. 1c00508 1-8, 2018.
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13. **Suchita** and R. Vijaya, “Effect of source spectral width and its temporal coherence in the interference pattern of a Mach Zehnder interferometer,” *Optics Communications*, vol. 402, pp. 478–482, 2017.
14. **Suchita** and R. Vijaya, “Temporal coherence of a low-power erbium-doped fiber laser with spectrally broadened output,” *Journal of Optical Society of America A*, vol. 34, no. c, pp. 1004-1010, 2017.
15. **Suchita Yadav**, Govind Kumar, and R. Vijaya, “Spectral features of anti-Stokes and Stokes modes generated by stimulated Raman scattering in liquid toluene,” *Applied Physics B*, vol. 122, no. 10, pp. 257 1-10, 201c.
16. **Suchita**, Soham Sarbadhikari, and R. Vijaya, “Spectral broadening due to intra-cavity four-wave mixing at low pump powers in erbium-doped fiber ring laser,” *International Journal of Modern Physics B*, vol. 28, no. 12, pp. 1442008 1-14, 2014.

Conference Proceedings

1. **Suchita**, Archana Kaushalram, and Asha Bhardwaj, "Optimization of Bending Loss for Higher Order Modes of Anti-Resonant Hollow Core Fibers", Conference on Lasers and Electro-Optics/Europe (CLEO/Europe 2023) and European Quantum Electronics Conference (EQEC 2023), Technical Digest Series (Optica Publishing Group, 2023), paper ci_p_9.
2. Archana Kaushalram, **Suchita**, Vishal Sharma, and Asha Bhardwaj, “Investigation of Avoided-Crossings in Five-Tube Hollow-Core Fibers in Visible Wavelength Band”, Frontiers in Optics + Laser Science 2022, Technical Digest Series (Optica Publishing Group, 2022), paper JW4A.44.
3. Sudip K. Chatterjee, **Suchita** and Asha Bhardwaj, “Low-loss hollow core silica fiber with anti-resonant tubes for quantum state transmission in the visible regime”, Frontiers in Optics+ Laser Science, Technical Digest series (Optical Publishing Group, 2021), Paper JTU1A.47.
4. **Suchita**, Balaji Srinivasan, Deepa Venkitesh, “Higher Order Acousto-Optic Interaction in Two Mode Fiber in case of Intramodal and Intermodal Brillouin Scattering”, OSA

Advanced Photonics Congress (AP) 2020 (IPR, NP, NOMA, Networks, PVLED, PSC, SPPCom, SOF) JTU3F.14 (2020)

5. Karamdeep Singh, **Suchita**, Deepa Venkitesh, “Mode resolved bending loss measurement of few-mode fiber utilizing digital modal decomposition”, OSA Advanced Photonics Congress (AP) 2020 (IPR, NP, NOMA, Networks, PVLED, PSC, SPPCom, SOF) JTU3F.13 (2020)
6. G. K. Shaw, Shyam S., Foram S., **Suchita**, S. Swain, D. Venkitesh, A. Prabhakar, “Random Number Generation with Few Mode Fibres”, Quantum 2.0 Conference 2020 © OSA 2020
7. **Suchita**, Smaranika Swain, Balaji Srinivasan, Deepa Venkitesh, “Demonstration of mode dependent stimulated Brillouin scattering in graded-index few mode fibers”, Proceedings of the International Conference on Optics and Electro-Optics, Dehradun, India (ICOL 2019), 258, Chapter-49 (2020)
8. **Suchita** and R. Vijaya, “Laser line selection from a broadband erbium doped fiber ring laser using a versatile intra-cavity filter”, Frontiers in Optics, Washington, Sep. 17-21, 2017.
9. **Suchita** and R. Vijaya, “Temporal coherence of a broadband fiber laser studied using a Mach-Zehnder interferometer,” PHOTONICS 2016, IIT Kanpur, Dec. 5-8, 2016.
10. **Suchita**, Govind Kumar, and R. Vijaya, “Stimulated Raman scattering in toluene for efficient new wavelength generation,” PHOTONICS 2014, IIT Kharagpur, Dec. 13-16, 2014.
11. Ankita Jain, **Suchita**, K. Pradeep Kumar and R. Vijaya “Pump suppressed four-wave mixing in optical fibers for correlated photon generation using feedback technique” SPIE Photonics West, San Francisco, Feb.1-6, 2014.

Ongoing Project: -

S.No .	Title of Proposal Sanctioned	Project ID	Starting date	Name of PI & Department	Funding Agency	Amount
1.	Foster Innovation in Fiber Design For Wired THz	TTDF/6G/512	December 2024	Dr. Suchita, Department of Pure and	Telecom Centres of Excellence (TCoE), Department of	2.861364 Crore

	Communicati on For 6G Technologies			Applied Physics	Telecommunicati on India	
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20. Dr. Gayatri Sarkar

Publications

Peer-Reviewed Journal Articles

1. Decay aspects of the compound nuclei formed via CF and ICF path in $^{12}\text{C}+^{52}\text{Cr}$ reaction - **GAYATRI SARKAR**, NEHA GROVER, MANOJ K. SHARMA, AND MOUMITA MAITI, NUCL. PHYS. A 94, 044603 (2021).
2. Decay analysis of $^{197}\text{Tl}^*$ compound nucleus formed in $^{16}\text{O}+^{181}\text{Ta}$ reaction at above barrier energy $E_{c.m.} \sim 100$ MeV - **GAYATRI SARKAR**, AMANDEEP KAUR, MANOJ K. SHARMA AND MOUMITA MAITI, NUCL. PHYS: MAT. SCI. RAD. APP. 95, 064602 (2021).
3. A theoretical study on the impact of centrifugal potential and fragment identification in the decay of compound nuclei ($A_{CN}=60$ & 100) - **GAYATRI SARKAR**, AMANDEEP KAUR, MOUMITA MAITI, AND MANOJ K. SHARMA, PHYS. E 31, 10 & 11 (2022). INT. J MOD.
4. Fragmentation analysis of various compound nuclei formed in mass region 200 and associated entrance channel effects - **GAYATRI SARKAR**, AMANDEEP KAUR, MOUMITA MAITI, AND MANOJ K. SHARMA, PRAMANA-J. PHYS., (2023) 97:74.
5. Binary fragmentation within a clusterization approach based on temperature dependent binding energies - **GAYATRI SARKAR**, MOUMITA MAITI, AND MANOJ K. SHARMA, Communicated to Publishing House.
6. Understanding of the reaction dynamics involving the weakly bound induced reaction - **GAYATRI SARKAR**, MOUMITA MAITI, AND PAVNEET KAUR, Communicated to Publishing House.
7. Examination of deformations and noncoplanarity in the fusion reaction $^{37}\text{Cl}+^{68}\text{Zn}$ using the dynamical cluster-decay model - **GAYATRI SARKAR** AND POOJA KAUSHAL, PHYS. REV. C 111, 014610 (2025).
8. Evaporation residue cross section in $^{37}\text{Cl}+^{68}\text{Zn}$ fusion reaction near the Coulomb barrier - AMIT CHAUHAN, RINKU PRAJAPAT, **GAYATRI SARKAR**, MOUMITA MAITI, RISHABH KUMAR, MALVIKA, GONIKA, JAGDISH GEHLOT, S. NATH, A. PARIHARI, AND N. MADHAVAN, PHYS. REV. C 102, 064606 (2020).
9. Erratum: Evaporation residue cross section in the $^{37}\text{Cl}+^{68}\text{Zn}$ fusion reaction near the Coulomb barrier [Phys. Rev. C 102 , 064606 (2020)]
10. Study of excitation functions and insights into the reaction mechanisms of ^6Li fusion in Cu - RISHABH KUMAR, MOUMITA MAITI, **GAYATRI SARKAR**, MALVIKA, PAVNEET KAUR, RINKU PRAJAPAT, T.N. NAG, AND S. SODAYE, EUR. PHYS. J A, 57:209, 1, (2021).
11. Asymmetric and symmetric fission of excited nuclei of $^{180,190}\text{Hg}$ and $^{184,192,202}\text{Pb}$ formed in the reactions with ^{36}Ar and $^{40,48}\text{Ca}$ ions - A. A. BOGACHEV, E. M. KOZULIN, G. N. KNYAZHEVA, I. M. ITKIS, M. G. ITKIS, K. V. NOVIKOV, D. KUMAR, T.

- BANERJEE, I. N. DIATLOV, M. CHERALU, V. V. KIRAKOSYAN, Y. S. MUKHAMEJANOV, A. N. PAN, I. V. PCHELINSTEV, R. S. TIKHOMIROV, I. V. VOROBIEV, M. MAITI, R. PRAJAPAT, R. KUMAR, **G. SARKAR**, W. H. TRZASKA, A. N. ANDREYEV, I. M. HARCA, AND E. VARDACI, PHYS. REV. C 104, 024623, (2021).
12. Fission of $^{180,182,183}\text{Hg}^*$ and $^{178}\text{Pt}^*$ nuclei at intermediate excitation energies - E. M. KOZULIN, G. N. KNYAZHEVA, I. M. ITKIS, M. G. ITKIS, Y. S. MUKHAMEJANOV, A. A. BOGACHEV, K. V. NOVIKOV, V. V. KIRAKOSYAN, D. KUMAR, T. BANERJEE, M. CHERALU, M. MAITI, R. PRAJAPAT, R. KUMAR, **G. SARKAR**, W. H. TRZASKA, A. N. ANDREYEV, I. M. HARCA, A. MITU, AND E. VARDACI, PHYS. REV. C 105, 014607 (2022).

Conference Proceedings

1. Fission of $^{182,183}\text{Hg}$ nuclei at energies around the Coulomb Barrier- M. CHERALU, Y. S. MUKHAMEJANOV, I.M. ITKIS, T. BANERJEE, I.N. DIATLOV, D. KUMAR, N.I. KOZULINA, K.V. NOVIKOV, A.N. PAN, I.V. PCHELINTSEV, R.S. TIKHOMIROV, I.V. VOROBIEV, M. MAITI, R. PRAJAPAT, R. KUMAR, **G. SARKAR**, W.H. TRZASKA, P.P. SINGH, R.N. SAHOO, E. VARDACI, A. ANDREEV, A. MITU, AND I. HARCA, ACTA PHYSICA POLONICA B PROCEEDINGS SUPPLEMENT 14, 741 (2021).
2. Study of the decay of compound nucleus $^{64}\text{Zn}^*$ within the Dynamical Cluster-decay Model - **GAYATRI SARKAR**, MOUMITA MAITI, SAHILA CHOPRA, HEMDEEP, POOJA KAUSHAL, AND RAJ K. GUPTA, PROCEEDINGS OF THE DAE SYMPOSIUM ON NUCLEAR PHYSICS, VOL. 63, PG. 552 (2018).
3. Study of decay dynamics of the compound nucleus $^{160}\text{Er}^*$ formed via ^{16}O -induced reaction - **GAYATRI SARKAR**, MOUMITA MAITI, AND MANOJ K. SHARMA, PROCEEDINGS OF THE DAE SYMPOSIUM ON NUCLEAR PHYSICS, VOL. 64, PG. 377 (2019).
4. Impact of static and dynamic deformations in the decay of $^{197}\text{Tl}^*$ compound nucleus- **GAYATRI SARKAR**, AMANDEEP KAUR, MOUMITA MAITI AND MANOJ K. SHARMA, PROCEEDINGS OF THE DAE SYMPOSIUM ON NUCLEAR PHYSICS, VOL. 65, PG. 269 (2021).
5. $^7\text{Li}+^{93}\text{Nb}$: Investigation of complete and incomplete fusion with dynamical cluster decay model - **GAYATRI SARKAR**, MOUMITA MAITI, AND MANOJ K. SHARMA, 55TH ZAKOPANE CONFERENCE ON NUCLEAR PHYSICS, ZAKOPANE, POLAND, PG. 43 (2022).
6. The Alpha+LBE reaction Upto 37.5 MeV/A - **GAYATRI SARKAR**, DEEPAK KUMAR, AND MOUMITA MAITI, PROCEEDINGS OF THE APPLICATION OF RADIOTRACERS AND ENERGETIC BEAMS IN SCIENCES (ARCEBS), VOL. 5, PG. 169 (2018).
7. Decay analysis of light mass compound nucleus $^{70}\text{As}^*$ formed in ^6Li induced reaction - **GAYATRI SARKAR** AND MANOJ K. SHARMA, ZAKOPANE CONFERENCE ON NUCLEAR PHYSICS, ZAKOPANE, POLAND, ACCEPTED FOR POSTER PRESENTATION.

8. Production of ^{68}Ga from the ^7Li -induced reaction on Cu - RISHABH KUMAR, RINKU PRAJAPAT, **GAYATRI SARKAR**, AMIT CHAUHAN, MOUMITA MAITI, T. NAG, AND S. SODAYE, PROCEEDINGS OF THE DAE SYMPOSIUM ON NUCLEAR PHYSICS, VOL. 64, PG. 383 (2019).
9. Probing fission fragments of $^{182,183}\text{Hg}$ nuclei at energies around Coulomb Barrier M. CHERALU, E. KOZULIN, I. ITKIS, D. KUMAR, G. KNYAZHEVA, M. ITKIS, K. NOVIKOV, T. BANERJEE, N. KOZULIN, I. DIALTOV, I. PCHELINTSEV, R. TIKHOMIROV, I. VOROBIEV, A. N. PAN, M. MAITI, R. PRAJAPAT, R. KUMAR, **G. SARKAR**, P. SINGH, R. SAHOO, E. VARDACI, A. ANDREY, A. MITU, AND I. HARCA, LXX INTERNATIONAL CONFERENCE "NUCLEUS-2020", SAINT PETERSBURG, RUSSIA, PG. 89 (2020).
10. Decay analysis of light mass compound nucleus $^{70}\text{As}^*$ formed in ^6Li induced reaction - **GAYATRI SARKAR** AND MANOJ K. SHARMA, PROCEEDINGS OF THE DAE SYMPOSIUM ON NUCLEAR PHYSICS, VOL. 68, PG. 405 (2024).

Grants & Projects

Title of Project – ## To be available soon.
