

## List of Publication

1. [Rajinder Kumar](#), [Dipti Rawat](#), [P. B. Barman](#) & [Ragini Raj Singh](#) “ *Experimental and theoretical verification of cation distribution and spin canting effect via structural and magnetic studies of NiZnCo ferrite nanoparticles*” Accepted in [Journal of the Australian Ceramic Society](#) (2021).
2. Ekta Sharma, P.B. Barman, Pankaj Sharma "Structural correlation of GeTeSeGa system by XRD and far-infrared spectroscopy" Applied Physics A, 127, Article number: 345(2021).
3. Rajinder Kumar, P.B. Barman and Ragini Raj Singh “An Innovative Direct Non-Aqueous Method for the Development of Co doped Ni-Zn Ferrite Nanoparticles” Materials Today Communications, Volume 27, June 2021, 102238.
4. Kanchan Kumari; Rajesh Kumar; Partha Bir Barman "Influence of applied magnetic field and heating on properties of Cobalt ferrite films" Journal of Materials Science: Materials in Electronics, 32(5) 2021.
5. Dipti Rawat , Jandeep Sethi , Simran Sahani , P.B. Barman , Ragini Raj Singh “Pioneering and proficient magneto fluorescent nanostructures: Hard ferrite based hybrid structures” Material Science & Engineering B 265(2021) 115017.
6. Shiv Kumar, Ragini Raj Singh & P. B. Barman “Reitveld Refinement and Derivative Spectroscopy of Nanoparticles of Soft Ferrites (MgNiFe)” J. Inorganic and organometallic Polymers and materials 31, pp 528–541(2021).
7. Pooja, P.B. Barman and S.K. Hazra, 'Hydrogen response of palladium nanoparticles washed with different solvents', Bulletin of Materials Science 44, Article number: 45 (2021).
8. Kanchan Kumari, Partha Bir Barman and Rajesh Kumar, “Tuning of structural, magnetic and optical properties of NiFe<sub>2</sub>O<sub>4</sub> films by implementing high magnetic fields” Thin Solid Films, Vol 31 October 2020, 138321 (2020).
9. Pooja, P.B. Barman and S.K. Hazra "Effect of capping-agent concentration on size and size dispersity of palladium nanoparticles for resistive-type hydrogen sensors" Journal of Electronic Materials 49, pp 6656–6670(2020).
10. Ekta Sharma, P.B. Barman, Pankaj Sharma, Evaluation of optical linear and non-linear parameters of thermally deposited GeTeSeGa thin films in NIR (1 μm -2.6 μm) wavelength range from their transmission spectra, Optik 219 (2020) 165181.
11. Kanchan Kumari, Partha Bir Barman, Rajesh Kumar, Magnetic field and temperature-dependent studies of structural and magnetic properties of NiFe<sub>2</sub>O<sub>4</sub> films Applied Physics A (6) (2020) 126.
12. Kanchan Kumari, Partha Bir Barman, Rajesh Kumar, “Formation of CoFe<sub>2</sub>O<sub>4</sub> and Nickel NiFe<sub>2</sub>O<sub>4</sub> films under the application of magnetic field for tuning the lattice oxygen” Accepted in **Materials Today: Proceedings** (2020).

13. Pooja, P.B. Barman and S.K. Hazra “*Shape dependent hydrogen response in palladium nanoparticle based sensors*” Accepted in **Materials Today: Proceedings** (2020).
14. Dipti Rawat, Partha Barman, and Ragini Singh “*Corroboration and efficacy of Magneto-Fluorescent (NiZnFe/CdS) Nanostructures Prepared using Differently Processed Core*” *Scientific Reports (Nature)*, 9 (2019) 15138.
15. Prashant Thakur, Rohit Sharma, Vineet Sharma, P.B. Barman, Manoj Kumar, Dipto Barman, S.C. Katyal, Pankaj Sharma, *<sup>3</sup>Gd<sup>3+</sup> doped Mn-Zn soft ferrite nanoparticles: Superparamagnetism and its correlation with other physical properties*, *Journal of Magnetism and Magnetic Materials*, 432, 208-15, 2017.
16. Rajender Singh, P. B. Barman and Dheeraj Sharma “*Synthesis, structural and optical properties of Ag doped ZnO nanoparticles with enhanced photocatalytic properties by photo degradation of organic dyes*” *Journal of Materials Science: Materials in Electronics (JMSE)*, **28** 2017, [8](#), 5705–5717.
17. Rajinder Kumar, Ragini Raj Singh and P. B. Barman “*Variation in magnetic and structural properties of Co doped Ni-Zn ferrite nanoparticles: A different aspect*”, *Journal of Sol-Gel Science and Technology*, 78, (3) 566-575, 2016.
18. Rajender Singh, P. B. Barman, Dheeraj Sharma, *Enhanced thermal properties of highly monodispersed ZnO nanoparticle / Poly(styrene co acrylonitrile) nanocomposite*, *POLYMER SCIENCE Series C*, July 2016, **58**, [4](#), 439–448.
19. D. Gupta, D. Dutta, P. B. Barman, S. Basu and S. K. Hazra, *A Review on Palladium with Low Dimensional Configurations for Chemical Gas Sensor Applications*, *Sensor Letters*, 14, 211-233(23), 2016.
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21. Rajinder Kumar, Hitanshu Kumar, Manoj Kumar, Ragini Raj Singh and P. B. Barman,,  
“*Enhanced saturation magnetization in cobalt doped Ni-Zn ferrite nanoparticles*” *Journal of Superconductivity and Novel Magnetism*, 28, 3557-3564(2015).
22. Ankush, P.B. Barman & Ragini Raj Singh, *Effects of La<sup>3+</sup>-Nd<sup>3+</sup> ions and pre-calcination on the growth of hexaferrite nanoparticles prepared by gel to crystallize technique: Non-isothermal crystallization kinetics analysis*, *Materials Chemistry and Physics*, 156, 29-37 (2015).
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25. Hitanshu kumar, Manoj Chauhan, P.B. Barman & Ragini Raj Singh, *Stable and luminescent wurtzite CdS, ZnS and CdS/ZnS core/shell quantum dots*, *Applied Physics A*, 117,(2014) 1249-58.

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27. Richa Khokhra,<sup>a</sup> Manoj Kumar<sup>b</sup> Nitin Rawat,<sup>c</sup> Partha Bir Barman,<sup>a</sup> Hwanchol Jang,<sup>c</sup> Heung-No Lee<sup>c</sup> and Rajesh Kumar, “*Enhancing the Numerical Aperture of Lenses Using ZnO Nanostructures-based Turbid Media*”, Journal of Optics, IOP 15(2013).
28. Anup Kumar, Pawan Heera, P. B. Barman and Raman Sharma, “*Optical Properties of Bi Doped Amorphous Se-Te Thin Films*”, AIP Conf. Proc. 1393, (2011) 329-330.
29. Anup Kumar, Pawan Heera, P. B. Barman and Raman Sharma, “*Dispersion Parameters and Optical Band Gap in Se<sub>80.5</sub>Bi<sub>1.5</sub>Te<sub>18-y</sub>S<sub>y</sub> Amorphous Thin Films*”, AIP Conf. Proc. 1512, (2013) 636-637.
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32. Ishu Sharma, S.K. Tripathi and P.B. Barman, “*Thickness-dependent optical properties and nonlinear refractive index of a-Ge–Se–In thin films*”, Phase Transitions, 2013, <http://dx.doi.org/10.1080/01411594.2013.820828>.
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34. P.B. Barman and Pankaj Sharma, “*Optical studies of Se-bi-Te-Sb thin films by single transmission spectrum*”, Glass Physics and Chemistry, 39, No.3, pp 276 - 278, (2013)
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36. Anup Kumar, P. B. Barman, Raman Sharma, “*Crystallization kinetics of Ag-doped Se–Bi–Te chalcogenide glasses*”, J. Thermal Analysis and Calorimetry(2013) DOI 10.1007/s10973-013-3055-x.
37. Ankush<sup>3+</sup> Thakur, R.R. Singh and P.B. Barman,” *Synthesis and Characterizations of Nd<sup>3+</sup> doped SrFe<sub>12</sub>O<sub>19</sub> Nanoparticles*”, Journal of Material Chemistry and Physics, (2013) Vol 141, 1 562-569.
38. Pawan kumar, Raj Kumar Singh, Nitin Rawat, P.B. Barman, S.C. Katyal, Hwanchol Jang, Heung-No Lee and Rajesh Kumar “*A novel method for controlled synthesis of nanosize hematite (α-Fe<sub>2</sub>O<sub>3</sub>) thin film on liquid-vapor interface*”, Journal of Nanoparticle Research (NANO) (2013) 15 (4), 1532.
39. Rajneesh Kumar, Pankaj Sharma, P. B. Barman, Vineet Sharma, S. C. Katyal, V. S. Rangra, “*Thermal stability and crystallization kinetics of Se–Te–Sn alloys*

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  42. A. Sharma, P.B. Barman, “Transport properties of amorphous  $Ge_{20}Te_{80-x}Bi_x$  glassy alloys”, Physics Procedia 32 (2012) 144 – 151.
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  49. Anup Kumar, P. B. Barman , Raman Sharma “Study of the physical properties with compositional dependence of Bi content in Te-Se-Bi glassy system” Journal of Advances in Applied Science Research 1(2), (2010) 47-57.
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#### National & International Conferences Attended

1. National Conference on Characterization of Semiconductor Materials for Device Applications GNDU, Amritsar 1998, India.
2. 4<sup>th</sup> International Conference on Electronic Materials IUMRS-ICEM – 98 at Korea.
3. Eight National Seminar on Crystal Growth, Anna University, Chennai, India.
4. MRS, 1999, Fall Meeting – Boston, USA. Nov 29 - Dec 3 ' 99( Abstract accepted - Growth & Characterisation of Ga<sub>x</sub>In<sub>1-x</sub>Sb thin films).
5. National Seminar on Recent Trends in Material Science(NSRTMS-99) Nov.25-27,2000 at Sri Venkateswara University, Tirupati.
6. National Seminar on Material Science-Trends & Future(MSTF-2000) Feb24-25,2000 at Sant Longowal Institute of Engg. & Technology, Punjab.
7. Ishu Sharma, S. K. Tripathi and P.B. Barman, “*Effect of Bi on the Electrical Properties of a-Ge-Se-In Thin Films*” DAE-SSPS (2009) Accepted .
8. Ishu Sharma, S. K. Tripathi and P. B. Barman, “*Thickness Dependent Optical Behavior of a-Ge-Se-In-Bi Thin Films*” DAE-SSPS Vol. 53 (2008) 717.
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11. Ishu Sharma, Pankaj Sharma, S. K. Tripathi and P.B. Barman, “*Effect of Indium Incorporation on the Optical Parameters of Germanium Selenide*” International Conference on IT, 19-21 March, 2007 (HIT, Haldia, W.B.).
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16. Ambika Sharma, P B Barman, Magnesium oxide films as temperature sensor. AMRP Abstract Book 2009.
17. Ambika Sharma, P B Barman “Determination of optical band gap of amorphous  $\text{Ge}_{20}\text{Te}_{80-x}\text{Bi}_x$  thin films using their transmission and reflection spectra”. ICMOM Abstract Book 2009.
18. Ishu Sharma, S. K. Tripathi and P. B. Barman, Effect of Bi on the Electrical Properties of a-Ge-Se-In Thin Films, 54th DAE Solid State Physics Symposium 2009, BARC.
19. P.B. Barman, Non-linear refractive index of *a*-Ge-Se-In-Bi glassy thin films, 18<sup>th</sup> International Vacuum Congress, Beijing, China, August 23-27,2010.
20. P.B. Barman, STUDY OF THE PHYSICAL PROPERTIES WITH COMPOSITIONAL DEPENDENCE OF Bi CONTENT IN Te-Se-Bi GLASSY SYSTEM, National conference on Recent Advances in Materials Science & Engineering, JIET, Guna, Oct, 23-24, 2010.
21. Anup kumar, Pawan Heera, Pankaj Sharma, P.B. Barman and Raman Sharma, Optical constant and optical band gap in amorphous Sb doped Se-Bi-Te thin films, International Conference and workshop on Nanostructured Ceramics and other Nanomaterials, March 13-16, 2012, University of Delhi.
22. Anup kumar, Pawan Heera, Pankaj Sharma, P.B. Barman and Raman Sharma, Investigative Study of Optical Parameters of  $\text{Se}_{80.5}\text{Bi}_{1.5}\text{Te}_{18-y}\text{Ag}_y$  Thin Films. International Conference and workshop on Nanostructured Ceramics and other Nanomaterials, March 13-16, 2012, University of Delhi.



23. Ankush Thakur, R.R. Singh and P.B. Barman, A study on the formation of nanocrystalline strontium hexaferrite produced via a citric acid and glycine as a chelating agent. IUPAC sponsored 6<sup>th</sup> International Symposium on Macro and Supramolecular Architectures and Materials(MAM-12): Nano systems and Applications 21-25 November 2012, Coimbatore.
24. Ankush Thakur, R.R. Singh and P.B. Barman, Influence of La<sup>3+</sup>-Nd<sup>3+</sup> ions on the growth of hexaferrite nanoparticles, 19<sup>th</sup> International Vacuum Congress, Paris, France, September 9-13, 2013.
25. Ankush Thakur, R.R. Singh and P.B. Barman, Preparation of citric-assisted PbFe<sub>12</sub>O<sub>19</sub> hexaferrite nanoparticles, 3<sup>rd</sup> National conference on advanced Materials & Radiation Physics (AMRP-13), Nov. 22-23, 2013, SLIET, Longowal, Punjab.
26. Richa Khokhra, P.B. Barman & Rajesh Kumar, Synthesis of ZnO nanostructures on silicon wafer by wet chemical method, 3<sup>rd</sup> National conference on advanced Materials & Radiation Physics (AMRP-13), Nov. 22-23, 2013, SLIET, Longowal, Punjab.
27. D.Gupta, P.B. Barman and S.K. Hazra, Synthesis of palladium nanoparticles for selective hydrogen sensor, International Conference on Electron Microscopy and XXXV Annual Meeting of Electron Microscope Society (EMSI), July 9-11, 2014, University of Delhi, Delhi 110007, India.
28. Hitanshu Kumar, P.B. Barman & R.R. Singh, CdS/ZnS, ZnS/CdS and ZnS/CdS/ZnS Quantum dots: Growth and characterization, International Conference on Electron Microscopy and XXXV Annual Meeting of Electron Microscope Society (EMSI), July 9-11, 2014, University of Delhi, Delhi 110007, India.
29. Ankush Kumar, R.R. Singh & P.B. Barman, Effect of substitution and calcination on the morphological and magnetic properties of Pr<sup>3+</sup> doped Hexaferrite Nanoparticles, International Conference on Electron Microscopy and XXXV Annual Meeting of Electron Microscope Society (EMSI), July 9-11, 2014, University of Delhi, Delhi 110007, India.
30. Rajender Kumar, R.R. Singh & P.B. Barman, Synthesis and characterization of Emerging Ferrites, International Conference on Electron Microscopy and XXXV Annual Meeting of Electron Microscope Society (EMSI), July 9-11, 2014, University of Delhi, Delhi 110007, India.
31. XRD analysis of undoped and Fe doped TiO<sub>2</sub> nanoparticles by Williamson Hall method, Bandna Bharti, P. B. Barman, and Rajesh Kumar, AIP Conference Proceedings 1675, 030025 (2015); doi: 10.1063/1.4929241.
32. Structural analysis of emerging ferrite: Doped nickel zinc ferrite, Rajinder Kumar, Hitanshu Kumar, Ragini Raj Singh, and P. B. Barman, AIP Conference Proceedings 1675, 030003 (2015); doi: 10.1063/1.4929219.
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