

Assistant Professor (Stage – II) in Physics

**Address for correspondence:** Dept. of Physics, B. N. Mahavidyalaya  
Itachuna, Hooghly - 712147

**E-mail Id:** [dalal.madhumita@gmail.com](mailto:dalal.madhumita@gmail.com)



### **Academic qualifications**

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| 2018 | PhD in Physics<br>“Magnetic and Mössbauer Studies of Some Bare and Encapsulated Nanoparticles of Spinel Ferrites”<br>The University of Burdwan, West Bengal, India |
| 2008 | Master of Science (M.Sc.) in Physics<br>IIT Roorkee, Uttarakhand, India<br>Percentage secured: 86.90   |
| 2006 | Bachelor of Science (B.Sc.) in Physics<br>The University of Burdwan, West Bengal, India<br>Percentage secured: 70  |

### **Academic and Administrative Experience**

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- Date of joining:** 1<sup>st</sup> April, 2010 (Ramananda College, Bishnupur, Bankura)  
5<sup>th</sup> April, 2019 (B. N. Mahavidyalaya, Itachuna, Hooghly)
- Courses taught:** UG (Honours and General)

- 1) Served as NSS Programme Officer, Ramananda College, Bishnupur from 26<sup>th</sup> February, 2012 to 31<sup>st</sup> March, 2013.
- 2) Examiner of B.Sc. Honours & General Course Examinations (Theoretical & Practical) in Physics conducted By The University of Burdwan.
- 3) Worked as Treasurer in the State Level Seminar on “Nanomaterials: Synthesis and Applications”, held on 8th September, 2010, Organized by the Dept. of Physics, Ramananda College, Sponsored by University Grants Commission.
- 4) Acted as a member of Leave committee and Purchase committee at Ramananda College, Bishnupur.
- 5) Acting as member of Leave committee and INO NSP at B. N. Mahavidyalaya, Itachuna.

## **Research Activities**

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### ***Participation in Conferences, Symposia, Seminars and Workshops:***

- 1) Participated in Summer School in Condensed Matter Physics at Harish Chandra Research Institute (HRI) during May 28 – June 15, 2007 organized by the Harish Chandra Research Institute, Allahabad.
- 2) Participated in the National Seminar on “Emerging Trends in Biophysical Researches”, held on September 12 - 13, 2011 Organized by the departments of Biological Sciences (Botany, Zoology, Physiology and Nutrition) and the department of Physics, Ramananda College, Bishnupur, Bankura, Sponsored by University Grants Commission.
- 3) Attended UGC sponsored Third National Seminar on Recent Trends in Condensed Matter Physics Including Laser Application from March 05-07, 2013 organized by the Dept. of Physics, Burdwan University.
- 4) Presented Poster in UGC sponsored National Seminar on “Condensed Matter, LASER and Communications (NSCMLC 2015)”, held on February 27-28, 2015 Organized by The University of Burdwan.
- 5) Presented Poster in National Thematic Workshop on “Recent Advances in Materials Sciences”, held on March 8-9, 2016 Organized by UGC-DAE CSR, Kolkata Centre and The University of Burdwan.
- 6) Presented Poster in 62nd DAE Solid State Physics Symposium held on December 26 – 30, 2017 at BARC, Mumbai.
- 7) Delivered Oral Presentation in 2<sup>nd</sup> International Conference on “Frontiers in Biological, Environmental and Medical Sciences” held on March 7-9, 2019 organized by The University of Burdwan.

### ***Publication of Research Papers:***

- 1) M. Dalal, A. Mallick and P. K. Chakrabarti, “Microwave absorption of  $\text{Mn}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$  nanoparticles integrated in multi-walled carbon nanotubes”, J. Australian Ceramic Society (2018); DOI: 10.1007/s41779-018-0221-4.
- 2) M. Dalal, A. Das, D. Das, R. S. Ningthoujam and P. K. Chakrabarti, “Studies of Magnetic, Mössbauer Spectroscopy, Microwave Absorption and Hyperthermia behavior of Ni-Zn-Co-ferrite nanoparticles encapsulated in multiwalled carbon nanotube”, J. Magn. Magn. Mater. 460 (2018)12-27.
- 3) M. Dalal, R. S. Ningthoujam and P. K. Chakrabarti, “Structural, magnetic, microwave and ac induction heating study of  $\text{Li}_{0.35}\text{Zn}_{0.30}\text{Co}_{0.05}\text{Fe}_{2.3}\text{O}_4$  integrated in multi-walled carbon nanotube matrix”, AIP Conference Proceedings 1942 (2018) 050019.

- 4) M. Dalal, J.M. Greneche, B. Satpati, T. B. Ghzaïel, F. Mazaleyrat, R. S. Ningthoujam and P. K. Chakravarti, "Microwave absorption and the magnetic hyperthermia applications of  $\text{Li}_{0.3}\text{Zn}_{0.3}\text{Co}_{0.1}\text{Fe}_{2.3}\text{O}_4$  nanoparticles in multi-walled carbon nanotube matrix", *ACS Appl. Mater. Interfaces* 9 (2017) 40831-40845.
- 5) M. Dalal, A. Mallick, J.M. Greneche, D. Das and P. K. Chakrabarti, "Correlation of cation distribution with the hyperfine and magnetic behaviour of  $\text{Ni}_{0.3}\text{Zn}_{0.4}\text{Co}_{0.2}\text{Cu}_{0.1}\text{Fe}_2\text{O}_4$  nanoparticles and their microwave absorption properties when encapsulated in multi-walled carbon nanotubes", *J. Phys.: Condens. Matter* 29 (2017) 085803 (12pp).
- 6) M. Dalal, A. Mallick, A. S. Mahapatra, A. Mitra, A. Das, D. Das and P. K. Chakrabarti, "Effect of cation distribution on the magnetic and hyperfine behaviour of nanocrystalline Co doped Ni-Zn ferrite ( $\text{Ni}_{0.4}\text{Zn}_{0.4}\text{Co}_{0.2}\text{Fe}_2\text{O}_4$ )", *Mater. Res. Bull.* 76 (2016) 389-401.
- 7) B. J. Sarkar, J. Mandal, M. Dalal, A. Bandyopadhyay and P. K. Chakrabarti, "Room temperature ferromagnetism of nanocrystalline  $\text{Nd}_{1.90}\text{Ni}_{0.10}\text{O}_{3-\delta}$ " *Applied Physics A* 124 (2018) 393.
- 8) B. J. Sarkar, M. Dalal, A. Mitra, J. Mandal, A. Bandyopadhyay and P. K. Chakrabarti, "Room temperature antiferromagnetic ordering in chemically prepared nanocrystalline Co doped neodymium oxide ( $\text{Nd}_{1.90}\text{Co}_{0.10}\text{O}_{3-\delta}$ )", *J. Alloys Com.* 752 (2018) 448-454.
- 9) B. J. Sarkar, J. Mandal, M. Dalal, A. Bandyopadhyay, B. Satpati and P. K. Chakrabarti, "Microstructural investigation, Raman and magnetic studies on chemically synthesized nanocrystalline Ni-doped gadolinium oxide ( $\text{Gd}_{1.90}\text{Ni}_{0.10}\text{O}_{3-\delta}$ )", *J. Electron. Mater.* 47 (2018) 1768-1779.
- 10) J. Mandal, M. Dalal, B. J. Sarkar and P. K. Chakrabarti, "Room temperature antiferromagnetic ordering of nanocrystalline  $\text{Tb}_{1.90}\text{Ni}_{0.10}\text{O}_3$ ", *J. Electron. Mater.* 46 (2017) 1107-1113.