## NAME Dr Apurba Kanti Deb.

## DESIGNATION Assistant Professor in Physics, Department of Physics, Raiganj University.

## QUALIFICATION

* B.Sc. degree in Physics (1997), North Bengal University, Raja Rammohunpur, Darjeeling, West Bengal
* M.Sc. degree in Physics (2000), Jadavpur University, Jadavpur, Kolkata., West Bengal

## Ph.D. in 2007, Department of Materials Science, IACS, Jadavpur, Kolkata, West Bengal

## LIST OF PUBLICATIONS

1. “Dependence of U, V, W and other profile shape related parameters on standard Si sample microstructure”

***A. K. Deb***, P. Chatterjee and S. P. Sen Gupta

*Ind. J. Phys.* (2004) 78 (7), 539-545.

2. “A novel method for the determination of grain-size distribution and microstrain in nanocrystalline materials from single X-ray diffraction peak”

P. Chatterjee, ***A. K. Deb*** and S. P. Sen Gupta

*Ind. J. Phys.* (2004) 78A (2), 205-209.

3. “An X-ray diffraction study on dislocation microstructure of as-prepared Al-Al2O3 composites”

***A. K. Deb***, P. Chatterjee and S. P. Sen Gupta

*Acta Mater.* (2004) 52, 2755-2764.

4. “Bimodal size distribution and shape anisotropy in ball-milled nano-sized α-Al2O3”

***A. K. Deb***, P. Chatterjee and S. P. Sen Gupta

*Mater. Manu. Proc.* (2006) 21, 641-643.

5. “Structural investigation of tetragonally stabilized ZrO2 in α-Al2O3 –

t-ZrO2 composites”

***A. K. Deb***, P. Chatterjee and S. P. Sen Gupta

*J. Appl. Cryst.* (2006) 39, 601-603.

6. “Synthesis and microstructural characterization of α-Al2O3­ - t-ZrO2 composite powders prepared by combustion technique”

***A. K. Deb***, P. Chatterjee and S. P. Sen Gupta

*Mater. Sc. Eng. A* (2007) 459, 124-131.

7. “Microstructural characterization of ball-milled α-Al2O3: bimodal size distribution and shape anisotropy”

***A. K. Deb***, P. Chatterjee and S. P. Sen Gupta

*J. Appl. Cryst.* (2007) 40, 33-39.

8. “Magneto-structural instability in Ni2Mn1.4Sb0.6 alloy”

S. Chatterjee, S. Giri, S. Majumdar, ***A. K. Deb***, S. K. De and V. Hardy

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9. “Transport, magnetic and structural investigations of Co-Ni-Al shape memory alloy”

S. Chatterjee, M. Thakur, S. Giri, S. Majumdar, ***A. K. Deb*** and S. K. De

*J. Alloys Comp.* (2008) 456, 96-100.

10. “Synthesis and room temperature ferromagnetism in Fe doped NiO nanorods”

S. Manna, ***A. K. Deb***, J. Jagannath and S. K. De

*J. Phys. Chem. C* (2008) 112 (29), 10659-10662.

11. “Global and Local Properties of Zinc Containing Peptide Deformylase through Molecular Dynamics Simulation in Vacuum and Aqueous Environment”

Shyamal Sharma, ***Apurba Kanti Deb*** and Asim Kumar Bothra

The Icfai University Journal of Biotechnology (2009) III (2), 41-49.

12. “Magnetic properties of Ni2+xMn1-xIn Heusler alloys: Theory and experiment”

S. Chatterjee, V. R. Singh, ***A. K. Deb***, S. Giri, S. K. De, I. Dasgupta and S. Majumdar

*J. Mag. Mag. Mat.* (2010) 322, 102-107.

13. “Microstructural, magnetic and crystal field investigations of nanocrystalline Dy3+ doped zinc oxide”

A. Bandyopadhyay, S. Modak, S. Acharya, ***A. K. Deb*** and P.K. Chakrabarti.

*Solid State Sciences* (2010) 12, 448-454.

14. “Structural stability and optical properties of nanocrystalline zirconia”

S. Manna, T. Ghoshal, ***A. K. Deb*** and S. K. De.

*J. Appl. Cryst.* (2010) 43, 780-789.

15. “Enhanced magnetic behavior of Al substituted LaFeO3 (La(1-x)Alx FeO3 , x=0.10 and 0.30)”

S. Acharya, ***A. K. Deb***, D. Das and P.K. Chakrabarti.

*Materials Letters* (2011) 65, 1280-1282.

16. “Microstructural analysis and paramagnetic to ferromagnetic phase transition of chemically synthesized nanoparticles of Tb-doped ZnO”

A. Bandyopadhyay, ***A. K. Deb***, K. Mukhopadhyay, S. K. Roy and P.K. Chakrabarti.

*J. Mater. Sci.* (2012) 47, 2284-2293.

17. “Vacancy mediated room temperature ferromagnetism in Co-doped Dy2O3”

A. Bandyopadhyay, S. Sutradhar, B. J. Sarkar, ***A. K. Deb***, and P.K. Chakrabarti.

*Appl.Phys. Lett.* (2012) 100, 252411-1 – 252411-5.

18. “Sol-gel derived nanocrystalline multiferroic BiFeO3 and R3+ (R= Er and Tm) doped therein: Magnetic phase transitions and enhancement of magnetic properties”

S. Acharya, S. Sutradhar, J. Mandal, K. Mukhopadhyay, ***A. K. Deb*** and P.K. Chakrabarti.

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19. “Sb concentration dependent structural and resistive properties of  
polycrystalline Bi-Sb alloys”

K. Malik, Diptasika Das, D. Mondal, D. Chattopadhyay, **A. K. Deb**, S. Bandyopadhyay and Aritra Banerjee.

*J.Appl. Phys.* (2012) 112, 083706 – 083706-6.

20. “Magnetic and Mössbauer Studies of Bare and Encapsulated Nanoparticles of [(Co0.2Mn0.3Zn0.5Fe2O4)(1-x) (ZnO/PVA)x (x = 0 and 0.30)]”

S. Mukherjee , K. Mukhopadhyay , S. Sutradhar , S. Pati , **A. K. Deb** , D. Das , and P.K Chakrabarti.

*J. Phys. Chem. C* (2013) 117, 12787-12799.

21. “Temperature dependent structural property and power factor of n type thermoelectric Bi0.90Sb0.10 and Bi0.86Sb0.14 alloy”

K. Malik, Diptasika Das, S. Bandyopadhyay, P. Mandal, **A. K. Deb**, Velaga Srihari and Aritra Banerjee.

*Appl. Phys. Lett.*  (2013) 103, 242108-1 – 242108-5.

22. “Room temperature ferromagnetism in Fe-doped europium oxide (Eu1.90Fe0.10O3-δ)”

A. Bandyopadhyay, ***A. K. Deb***, S. Kobayashi, K. Yoshimura and P.K. Chakrabarti.

*J. Alloys Comp.* (2014) 611, 324-328.

23. “Magnetic phase transition of nanocrystalline Fe-doped samarium oxide (Sm1.90Fe0.10O3)”

J. Mandal, B.J. Sarkar, ***A. K. Deb***, and P.K. Chakrabarti.

*J. Mag. Mag. Mat.* (2014) 371, 35-42.

24. “Defect induced structural and thermoelectric properties of Sb2Te3 alloy”

Diptasika Das, K. Malik, **A. K. Deb**, Sandip Dhara, S. Bandyopadhyay and Aritra Banerjee.

*J.Appl. Phys.* (2015) 118, 045102 – 045102-7.

25. “The effect of quenching from different temperatures on Bi0.88Sb0.12 alloy”

Kartik Malik, Diptasika Das, S.K. Nogi, **A. K. Deb**, Arup Dasgupta, S. Bandyopadhyay and Aritra Banerjee.

*J Phys Chem Solids* (2016) 91, 7-12.

26. “Paramagnetic to ferromagnetic phase transition of Co doped Gd2O3 prepared by chemical route”

B.J. Sarkar, A. Bandyopadhyay, J. Mandal, ***A. K. Deb***, and P.K. Chakrabarti.

*J. Alloys Comp.* (2016) 656, 339-346.

27. “XRD, HRTEM, Raman and magnetic studies on chemically prepared nanocrystalline Fe-doped gadolinium oxide (Gd1.90Fe0.10O3-δ) annealed in vacuum”

B.J. Sarkar, ***A. K. Deb***, and P.K. Chakrabarti.

*RSC Advances* (2016) **6**, 6395-6404.

28. “Tuning of thermoelectric properties with changing Se content in Sb2Te3”

D. Das, K. Malik, **A. K. Deb**, V.A. Kulbachinskii, V.G. Kytin, S. Chatterjee, D. Das, S. Dhara, S. Bandyopadhyay and A. Banerjee.

*EPL* (2016) **113**, 47004-p1 - 47004-p6.

29. “Evidence of iso-structural phase transition in rhombohedral Bi-Sb alloy”

K. Malik, D. Das, **A. K. Deb**, V.A. Kulbachinskii, V. Srihari, S. Bandyopadhyay and A. Banerjee.

*EPL* (2016) **115**, 58001-p1 - 58001-p6.

30. “Microstructure investigation, optical properties and magnetic phase transition of Tm3+ substituted nanorods of ZnO (Zn0.95Tm0.05O)”

A. Bandyopadhyay, S. Sutradhar, B.J. Sarkar, ***A. K. Deb***, S. Kobayashi, K Yoshimura and P.K. Chakrabarti.

*RSC Advances* (2016) **6**, 101818-101826.

**INTERNATION/ NATIONAL WORKSHOPS/CONFERENCES**

1. Attended II International School on Powder Diffraction: ISPD’2001, **January 20-23**, **2002**, IACS, Kolkata, India.
2. Attended National Seminar on Science and Technology of Nanomaterials, **March 6-7**, **2003**, CGCRI, Kolkata, India.
3. Attended and presented paper in 46th Annual DAE Solid State Physics Symposium, **December 26-30**, **2003**, Jiwaji University, Gwalior, India.
4. Attended International Conference on “Nano-materials: Synthesis, Characterization and Application”, **November 4-6**, **2004**, Kolkata, India.
5. Attended and presented paper in 34th National Seminar on Crystallography, **January 10-12**, **2005**, Guwahati University, Guwahati, India.
6. Attended and presented paper in XX Congress of the International Union of Crystallography, **August 23-31**, **2005**, Florence, Italy.
7. Attended and presented paper in One Day Symposium on “Materials Physics” organized by Materials Research Society of India, **September 19**, **2005**, Saha Institute of Nuclear Physics, Kolkata, India.
8. Attended and presented paper in Joint Conference of the Asian Crystallographic Association and the Crystallographic Society of Japan, **November 20-23**, **2006**, Tsukuba, Japan.
9. Attended National Seminar on “Biodiversity and Sustainable Development And Sesquicentennial Birth-year Celebration of Acharya Prafulla Chandra Ray”; sponsored by WB-DST, **January 10-11**, **2011**, Raiganj College (University College), Raiganj, India.
10. Attended and presented paper in National Seminar on “X-Ray Diffraction: A Convenient Pathway Towards Structure”; sponsored by UGC, **August 23 - 24**, **2013**, Gour Mahavidyalaya, Malda, India.
11. Attended and presented paper in National Workshop on “Application of Radiation in Physical, Chemical and Life Sciences”; **September 04 - 06**, **2013**, Technology Campus, University of Calcutta, Kolkata, India.
12. Attended and presented paper in National Seminar on “Condensed Matter Days 2014”; **August 27 - 29**, **2014**, Department of Physics, CRNN, University of Calcutta, Kolkata, India.
13. Attended and presented paper in National Seminar on “Trends and Developments in Science, Social Science & Humanities”; **August 22**, **2015**, Islampur College, Islampur, West Bengal, India.
14. Attended and presented paper in National Seminar on “The Importance of intermolecular interactions in solid-state X-ray crystal structures”; **September 07 - 08**, **2015**, Mugberia G Mahabidyalaya, Purba Medinipur, West Bengal, India.
15. Attended and presented paper in International Seminar on “Environmental Degradation due to Human Interference”; **2016**, Department of Geography, Raiganj University, Raiganj, West Bengal, India.
16. Attended and presented paper in International Seminar on “Exploring Chemistry for the Development of North Bengal”; **2016**, Department of Chemistry, Raiganj University, Raiganj, West Bengal, India.

Attended and presented paper in National Seminar on “Current Trends in Physics”; **March 14**, **2017**, Department of Physics, Raiganj University, Raiganj, West Bengal, India.