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**Dr. Debopriya Bhattacharya, PhD.**

Department of Physics

Raja Rammohun Roy Mahavidyalaya, Radhanagr,

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❖ **Present Position:**

Assistant Professor, Department of Physics, Raja Rammohun Roy Mahavidyalaya, Radhanagr, Hooghly-712418, West Bengal, India.

❖ **Personal Profile:**

Date of Birth: 18.11.1988

Gender: Male

Nationality: Indian.

Fathers Name: Pradip Bhattacharya

Mothers Name: Debjani Bhattacharya

Permanent Address: Flat No.-1B, Maharaja Residency,34/2/1, Swami Vivekananda Road, Howrah-711101, West Bengal, India

❖ **Academic Profile:**

2021 **Ph.D. (Science)-Compound structured oxide nanomaterials- synthesis and applications.**

*Department of Physics, Indian Institute of Engineering Science and Technology, Shibpur, Howrah-711103, India*

**Thesis Title:** *Synthesis, Characterizations and Applications of Multifunctional Delafossite Type  $CuCo_{0.5}Ti_{0.5}O_2$  Material.*

**Supervisors:** Prof. Mousumi Basu and Prof. Sukhen Das

2011 **M.Sc.-Physics**

*Presidency College, University of Calcutta, Kolkata-700073, India*

**Marks:** 58.30%

2009 **B.Sc.-Physics (Honours), Mathematics and Computer Science (General)**

*Asutosh College, Kolkata, University of Calcutta, India*

**Marks:** 55%

- 2006      **Higher Secondary (10+2)**  
**Board:** West Bengal Council of Higher Secondary Education  
**Marks:** 72%
- 2004      **Madhyamik (10<sup>th</sup>)**  
**Board:** West Bengal Board of Secondary Education  
**Marks:** 75%

Awards and Fellowship:

<b>2011</b>	<i>National Eligibility Test (NET)</i>
<b>2016-2019</b>	<i>Junior Research Fellowship</i> (MHRD, Govt. of India) <b>Institute:</b> Indian Institute of Engineering Science and Technology, Shibpur <b>Field of research:</b> Synthesis, characterizations and probable applications of semiconductor nanomaterials.
<b>2019-2020</b>	<i>Senior Research Fellowship</i> (MHRD, Govt. of India) <b>Institute:</b> Indian Institute of Engineering Science and Technology, Shibpur <b>Field of research:</b> Applications of complex oxide nanomaterials.
<b>2020</b>	<i>State Eligibility Test(WB-SET)</i>

❖ **Experience:**

- July,2013-  
February,2015**      *Assistant Professor, Department of Physics, Ramakrishna Mission Vidyamandira (Residential College) Belur Math, Howrah, India*
- February,2020- June  
2023.**      *Assistant Professor, Department of Physics, Supreme Knowledge Foundation Group of Institutions, Hooghly, West Bengal, India*
- June, 2023 – November  
2023**      *Junior Assistant, Academic Section, Indian Institute Of Technology, Kharagpur, West Bengal, India*
- November,2023 - Present**      *Assistant Professor, Department of Physics, Raja Rammohun Roy Mahavidyalaya, Radhanagr, Hooghly-712418, West Bengal, India*

❖ **Research Areas:**

Structural analysis of complex oxide nanostructures, Energy storage devices, Microwave shielding, Piezoelectric and ferroelectric nanocomposites, Advanced functional materials, Electronic band structures investigation, ultrafast spectroscopy, restoration of heritage mortar using nanocomposites.

❖ **h-index:** 7

❖ **No. of Total citation:** 237

❖ **Google Scholar Link-**

<https://scholar.google.com/citations?user=VSEnxcEAAA&hl=en&oi=ao>

❖ **List of Publications**

(A) **Journal (SCI indexed):**

**2023**

16. D Mondal, **D Bhattacharya**, T Mondal, M Kundu, S Sarkar, TK Mandal, BK Paul, S Das, “Rare earth ion-infused  $\alpha$ -MnO<sub>2</sub> nano-rods for excellent EMI shielding efficiency: Experimental and theoretical insights”, **Sustainable Materials and Technologies** (Elsevier, **Impact Factor: 9.6**), 38, e00772 (2023)

15. I Mondal, Y Saha, P Halder, D Mondal, M Kundu, **D Bhattacharya**, PK Paul, BK Paul, A Ghosh, S Das, “Synchronization of theoretical and experimental studies on the enriched optical and dielectric properties of size modulated CoCr<sub>2</sub>O<sub>4</sub> quantum dots”, **Solid State Sciences** (Elsevier, **Impact Factor: 3.5**), 146, 107342 (2023)

14. B K Paul, D Mondal, **D Bhattacharya**, S Datta, M Kundu, I Mondal, P Halder, S Sarkar, A Ghosh, TK Mandal, S Das, “Transition metal impregnated nanostructured oxide material for broadband electromagnetic interference shielding: A theoretical and experimental insight”, **Chemical Engineering Journal** (Elsevier, **Impact Factor: 16.74**), 459, 141560 (2023).

**2022**

13. D Ghoshal, **D Bhattacharya**, D Mondal, S Das, N Bose, M Basu. “Flexible, H-bondmediated bromophenol blue/poly (vinyl alcohol) composite for efficient laser filter application”, **Optical and Quantum Electronics** (Springer, **Impact Factor: 2.18**) 54(1),1-8 (2022).

**2021**

12. D. Mondal, B. Kumar Paul, **D. Bhattacharya**, D. Ghoshal, S. Biswas, K. Das, and S. Das. "Copper Doped  $\alpha$ -MnO<sub>2</sub> Nano-sphere: A Metamaterial for Enhanced Supercapacitor and Microwave Shielding Applications." **Journal of Materials Chemistry C** (RSC, **Impact Factor: 7.059**), (2021).

11. D. Ghoshal, **D. Bhattacharya**, D. Mondal, S. Das, N. Bose\*, M .Basu\*, "Optical properties of Bromothymol Blue/PVA Composite: Development of flexible high performance Laser Filter", **Journal of Polymer Research** (Springer, **Impact Factor: 2.426**), **28**, 1-9 (2021).

#### 2020

10. **D. Bhattacharya**, D. Ghoshal, D.Mondal, B. K.Paul, J.Pal, B.Gupta, N.Bose, P.Nandy, M. Basu, S. Das, "Delafossite type  $CuCo_{0.5}Ti_{0.5}O_2$  composite structure: A futuristic ceramics for supercapacitor and EMI shielding application", **Ceramics International** (Elsevier, **Impact Factor: 3.83**), **47**, 9907-9922 (2020).

9. **D. Bhattacharya**, Debopriyo Ghoshal, Dheeraj Mondal, Santanu Das, Biplab Kumar Paul, Mousumi Basu, and Sukhen Das. "Colossal dielectric and room temperature ferromagnetic response in  $CCoTO$  delafossite type nanostructure." **Solid State Sciences** (Elsevier, **Impact Factor: 2.434**), **102**, 106136 (2020).

8. Debopriyo Ghoshal, **Debopriya Bhattacharya**, Dheeraj Mondal, SukhenDas, Navonil Bose, Mousumi Basu, "Flexible Alizarin Red/PVA Composites with Colossal Dielectric and High Power Laser Filtering Properties", **Applied Physics A** (Springer Nature, **Impact Factor: 1.81**), **126**, 28 (2020).

#### 2019

7. Debopriyo Ghoshal, **Debopriya Bhattacharya**, Dheeraj Mondal, Santanu Das, Biplab Kumar Paul, Mousumi Basu, and Sukhen Das. "Investigation of giant dielectric and room Temperature ferromagnetic response of facile  $CZTO$  nanostructure", **Journal of Materials Science: Materials in Electronics** (Springer, **Impact Factor: 2.22**), **30**, 13108-13117(2019).

6. Dheeraj Mondal, Santanu Das, Biplab Kumar Paul, **Debopriya Bhattacharya**, Debopriyo Ghoshal, Ananda Lal Gayen, Kaustuv Das, and Sukhen Das. "Size engineered Cu-doped  $\alpha$ -  $MnO_2$  nanoparticles for exaggerated photocatalytic activity and energy storage application." **Materials Research Bulletin** (Elsevier, **Impact Factor: 4.019**), **115**, 159-169(2019).

5. **Debopriya Bhattacharya**, Debopriyo Ghoshal, Dheeraj Mondal, Biplab Kumar Paul, Navonil Bose, Sukhen Das, Mousumi Basu, "Visible Light Driven Degradation of Brilliant Green Dye using Titanium Based Ternary Metal Oxide Photocatalyst", **Results in Physics** (Elsevier, **Impact Factor: 4.019**), **12**, 1850-1858 (2019).

4. **D. Bhattacharya**, D. Ghoshal, S. Bhattacharya, D. Mondal, B.K. Paul, **N. Bose\***, P.K. Datta, S.Das, M.Basu, “ *Third Order Optical Nonlinearity of CuCo<sub>0.5</sub>Ti<sub>0.5</sub>O<sub>2</sub> Nanostructure under 120 fs Laser Irradiation*”, **Applied Optics** (OSA, **Impact Factor:1.961**), **58**, 9163-9171 (2019).

3. Debopriyo Ghoshal, **Debopriya Bhattacharya**, Dheeraj Mondal, Sukhen Das, **Navonil Bose\***, Mousumi Basu, “*MethyleneBlue/PVA composite film for flexible, wide-scale UV- VIS laser cut-off filter*”, **Materials Research Express** (IOP Publishing, **Impact Factor:1.929**) ,**6**, 075332 (2019).

2. Preetha Bhadra, Biplab Dutta, **Debopriya Bhattacharya**, Sampad Mukherjee, “*Cuo and Cuo@ Sio2 As A Potential Antimicrobial and Anticancer Drug*”, **Journal of Microbiology, Biotechnology and Food Sciences (Faculty of Biotechnology and Food Sciences, Slovak University of Agriculture)** 9 (1) 63-69 (2019).

### **2018**

1. Dheeraj Mondal, Biplab Kumar Paul, Santanu Das, **Debopriya Bhattacharya**, Debopriyo Ghoshal, Papiya Nandy, Kaustuv Das, and Sukhen Das. “*Synthesis and Property of Copper- Impregnated  $\alpha$ -MnO<sub>2</sub> Semiconductor Quantum Dots*”, **Langmuir** (ACS, **Impact Factor: 3.557**),**34**, 12702-12712 (2018).

### **❖ Books and Book Chapters:**

1. “**Industrial Chemicals And Environment**”, Mr. Rohit Madhukar Nikam, Mr. Anupal Chowdhury, **Dr. Debopriya Bhattacharya**, Dr. Debopriyo Ghoshal, ACADEMIC GURU PUBLISHING HOUSE, ISBN-10:9395936665, ISBN-13: 978-9395936668
2. **BOOK Chapter: “Processing of Thin-Film Electrode Based Supercapacitors: Progress during the last decade”**, Comprehensive Materials Processing, Second Edition, B.K. Paul, D. Mondal, **D. Bhattacharya**, A. Ghosh, S. Das, October 2023  
DOI:[10.1016/B978-0-323-96020-5.00071-6](https://doi.org/10.1016/B978-0-323-96020-5.00071-6), 2e (pp.1-12), Publisher: ELSEVIER

### **References:**

1. Prof. Mousumi Basu(Ph.D. Supervisor)  
Professor, Department of Physics, Indian Institute of Engineering Science and Technology, Shibpur Howrah-711103, West Bengal, India, **E-mail**:mousumi.basu@gmail.com

2. Prof. Sukhen Das  
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