

Resume

Dr. Kausik Mukhopadhyay, M.Sc., Ph.D.



❖ Personal Details

Sex- Male

Date of Birth: 02/04/1984

Nationality: Indian

Address:

Department of Physics, City College,
102/1, Raja Rammohan Sarani,
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❖ Current Position: Assistant Professor, Department of Physics, City College, 102/1, Raja Rammohan Sarani, Kolkata-700009. (Under Calcutta University).

❖ Membership details:

Junior Member: -

Life Member: Magnetics Society of India

❖ Member of Editorial Board:

❖ Educational qualifications:

Course	University
B.Sc. (Physics, Hons.), 2007	The University of Burdwan
M.Sc. in Physics with (Special paper: Solid State Physics), 2009	The University of Burdwan
Ph.D., Physics, Thesis topic (Preparation and Investigation of Magneto-Dielectric Properties of Some Nanocrystalline and Nanocomposite Multiferroics) 2015	The University of Burdwan
Post Doct., Topic, Country	-

❖ Technical, workshop & Academic Training :

Faculty Development programme:

On Scilab organized by Sidho Kanho Birsha University with Spoken Tutorial Project, IIT Bombay, from 03-09-2020 to 17-09-2020, (Online Mode).

Orientation Course:

4-Week Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education organized by Teaching Learning Centre (TLC), Ramanujan College, University of Delhi under PMMMNMTT scheme of MHRD, Govt. of India from 26-06-2020 to 24-07-2020, (Online Mode).

Workshop:

“Organic Optoelectronics & Spintronics: Fabrication, Modelling and Experimental Techniques”, organized by Centre for Organic Spintronics and Optoelectronics Devices (COSOD), Kazi Nazrul University held during 04-07-2020 to 19-10-2020, (Online Mode).

Refresher courses:

1. On Astronomy and Astrophysics organized by Teaching Learning Centre (TLC), IUCAA under PMMMNMTT scheme of MHRD, Govt. of India from 11-05-2020 to 12-06-2020, (Online Mode).
2. 2-Week Refresher Course in Physics organized by Teaching Learning Centre (TLC), Ramanujan College, University of Delhi under PMMMNMTT scheme of MHRD, Govt. of India from 27-10-2021 to 10-11-2021, (Online Mode).

❖ Previous working experience:

Sl. No.	Post	College, University and Organisation	Department	Duration
1	Assistant Professor	NSHM Knowledge Campus, Durgapur	Physics	September 2014- April 2017

❖ Area of expertise and Research Interest:

Solid State Physics, Material Science, Magnetism, Multiferroics, Spintronics, Nanocomposites, DFT

❖ Research Projects:

a) Completed: -

b) Ongoing Project: -

❖ Publication:**Papers:**

1. Priyanka Banerjee, K. Mukhopadhyay, Apurba Pal, P. Dey, Light-Dependent AC Transport Properties of Zinc Oxide (ZnO)/Reduced Graphene Oxide (rGO) Heterostructure Device: A Signature of Electrical Memory, Journal of Electronic Materials, 52, 4213, (2023).
2. Priyanka Banerjee, K. Mukhopadhyay, Electronic, magnetic and optical properties of transition metal doped Nd₂O₃: A DFT insight, Computational and Theoretical Chemistry 1220, 114016 (2023).
3. Priyanka Banerjee, Debarati Nath, K. Mukhopadhyay, Debajit Deb, P. Dey, Coexistence of photoresponse and light-induced memresistive characteristics in zinc oxide (ZnO)-reduced graphene oxide (rGO) bilayer thin film, Applied Physics A 128, 326 (2022).
4. K. Mukhopadhyay, Priyanka Banerjee, Electronic properties of Cr and Dy co-doped ZnO: A first-principles study, IJIP, Vol 4, Issue 1 (2022).
5. A. S. Mahapatra, K. Mukhopadhyay, M. Ghosh, P. K. Mallick, T. Matsumoto, A. Taguchi, Y. Tanioku, K. Yoshimura, P. K. Chakrabarti, Enhanced magneto-electric property and Raman spectroscopy of nanocrystalline Al_xGa_(1-x)FeO₃ (x= 0.05, 0.10 and 0.20), Ceramics International, 42, 15904-15912 (2016).
6. K. Mukhopadhyay, A. S. Mahapatra, P. K. Chakrabarti, Enhanced magneto-electric property and exchange bias effect of Zn substituted LaFeO₃ (La_{0.50}Zn_{0.50}FeO₃), Materials Letters, 159, 9-11 (2015).

7. K. Mukhopadhyay, A. S. Mahapatra, P. K. Chakrabarti, Modulated magneto-dielectric property and exchange bias effect of BiFeO₃ incorporated in (BiFeO₃)_{0.50}(Li_{0.30}Zn_{0.35}Fe_{2.35}O₄)_{0.50} nanocomposite, *Journal of Magnetism and Magnetic Materials*, 385, 347-357 (2015).
8. K. Mukhopadhyay, A. S. Mahapatra, P. K. Chakrabarti, Enhanced magneto-electric property of GaFeO₃ in Ga_(1-x)Zn_xFeO₃ (x= 0, 0.05, 0.10), *Physica B: Condensed Matter*, 448, 214-218 (2014).
9. K. Mukhopadhyay, M. Ghosh, P. K. Mallick, P. K. Chakrabarti, Enhanced electric property and magneto-capacitance co-efficient co-related with modulated Raman spectroscopy of GaFeO₃ in (GaFeO₃)_{0.50}(Ni_{0.40}Zn_{0.40}Cu_{0.20}Fe₂O₄)_{0.50}, *Materials Science and Engineering: B*, 189, 51-57 (2014).
10. K. Mukhopadhyay, A. S. Mahapatra, S. Sutradhar, P. K. Chakrabarti, Enhanced magnetic behavior, exchange bias effect, and dielectric property of BiFeO₃ incorporated in (BiFeO₃)_{0.50}(Co_{0.4}Zn_{0.4}Cu_{0.2}Fe₂O₄)_{0.5} nanocomposite, *AIP Advances*, 4, 037112 (2014).
11. A. S. Mahapatra, K. Mukhopadhyay, K. Mukhuti, P. K. Chakrabarti, Modulated Magnetoelectric Property of BiFeO₃ Incorporated in Co_{0.50}Fe_{0.50}Fe₂O₄, *AIP Conference Proceedings*, 1591, 445-447 (2014).
12. S. Sutradhar, K. Mukhopadhyay, S. Pati, S. Das, D. Das, P. K. Chakrabarti, Modulated magnetic property, enhanced microwave absorption and Mössbauer spectroscopy of Ni_{0.40}Zn_{0.40}Cu_{0.20}Fe₂O₄ nanoparticles embedded in carbon nanotubes, *Journal of Alloys and Compounds* 576, 126-133 (2013).
13. S. Mukherjee, K. Mukhopadhyay, S. Sutradhar, S. Pati, A. K. Deb, D. Das, P. K. Chakrabarti, Magnetic and Mössbauer studies of bare and encapsulated nanoparticles of [(Co_{0.2}Mn_{0.3}Zn_{0.5}Fe₂O₄)_(1-x)(ZnO/PVA)_x (x = 0 and 0.30)], *Journal of Physical Chemistry C* 117 (24) , 12787-12799 (2013).
14. K. Mukhopadhyay, A. S. Mahapatra, P. K. Chakrabarti, Multiferroic behavior, enhanced magnetization and exchange bias effect of Zn substituted nanocrystalline LaFeO₃ (La_(1-x)Zn_xFeO₃, x = 0.10, and 0.30), *Journal of Magnetism and Magnetic Materials* 329, 133-141 (2013).
15. S. Acharya, S. Sutradhar, J. Mandal, K. Mukhopadhyay, A. K. Deb, P. K. Chakrabarti, Sol-gel derived nanocrystalline multiferroic BiFeO₃ and R³⁺ (R= Er and Tm) doped therein: magnetic phase transitions and enhancement of magnetic properties, *Journal of Magnetism and Magnetic Materials* 324 (24), 4209-4218 (2012).
16. K. Mukhopadhyay, S. Sutradhar, S. Modak, S. K. Roy, P. K. Chakrabarti, Enhanced magnetic behavior of chemically prepared multiferroic nanoparticles of GaFeO₃ in (GaFeO₃)_{0.50}(Ni_{0.4}Zn_{0.4}Cu_{0.2}Fe₂O₄)_{0.5} nanocomposite, *Journal of Physical Chemistry C* 116 (8), 4948-4956 (2012).
17. A. Bandyopadhyay, A. K. Deb, K. Mukhopadhyay, S. K. Roy, P. K. Chakrabarti, Microstructural analysis and paramagnetic to ferromagnetic phase transition of chemically synthesized nanoparticles of Tb doped ZnO, *Journal of Materials Science* 47 (5), 2284-2293 (2012).

Books: -

❖ **Awards:**

1. Name of the Award:

Congress/workshop: -

Organizer: -

Title of paper/work: -

❖ List of Participation in Seminar, Conference and Workshop

Invited Lectures:

1. Conference: International Conference on Advanced Physics (IEMPHYS-2022)
Organiser: IEM Society of Physics Student Chapter (AIP) and Smart Society, the USA, September 22-24, 2022, (Online Mode)
Title of paper: Electronic properties of Cr and Dy co-doped ZnO: A first-principles study
2. Conference: 65th DAE Solid State Physics Symposium
Organiser: Bhaba Atomic Research Centre Mumbai, December 15-19, 2021, (Online Mode)
Title of paper: First-principles study of Co and Ho co-doped ZnO
3. Conference: International Conference on Advanced Physics (IEMPHYS-2021)
Organiser: IEM Society of Physics Student Chapter (AIP) and Smart Society, the USA, April 01-03, 2021, (Online Mode)
Title of paper: Magnetoelectric properties of Co doped LaFeO₃: A first-principles study
4. Conference: CMDAYS-2018: A National Conference on Condensed Matter Physics
Organiser: Department of Physics, University of Burdwan, Burdwan (India), August 29-31, 2018
Title of paper: Improved magneto-electric property of Co substituted nanocrystalline LaFeO₃

International/National:

2023

1. Conference: Two-day Workshop on Material Characterization Techniques
Organiser: CSIR-CGCRI, Kolkata 700032, India, February 02-03, 2023
Title of paper: -

2022

1. Conference: International Conference on Contemporary Researches in Engineering, Science, Management & Arts (ICRESMA 2022)
Organiser: Centre for Research and Training (CRT), National Foundation for Entrepreneurship Development (NFED), Coimbatore, Tamil Nadu, India on January 27-29, 2022. (Online Mode)
Title of paper: - First-Principles Studies of Cr and Nd co-doped ZnO

2021

1. Conference: International Conference on Current Trends in Materials Science and Engineering (CTMSE-2021)
Organiser: Department of Basic Science and Humanities, Institute of Engineering & Management, Kolkata in association with American Institute of Physics, IEM Society of Physics Students (SPS) Chapter, Smart Society, USA on March 11-13, 2021. (Online Mode)
Title of paper: - Variation of Impedance Spectroscopy of ZnO/rGO Bilayer Thin Film over Illumination of Light

2020

1. Conference: Nonlinear Dynamics and Applications (NDLA-2020)
Organiser: Dept. of Mathematics, Jadavpur University, Kolkata, India, March 13, 2020.
Title of paper: -

2019

1. Conference: National Conference on Future India: Science and Technology
Organiser: City College Kolkata in association with ISCA Kolkata Chapter, February 27-28, 2019
Title of paper: -

2018

1. Conference: National Conference on Research Trends in Multifunctional and Hybrid Nanomaterials (CRMN 2018)
Organiser: Dept. of Physics, Kazi Nazrul University, Asansol, India, June 21, 2018
Title of paper: -

2017

1. Conference: 2nd International Conference on Emerging Materials: Characterization and Application
Organiser: Centre of Excellence in Advanced Materials and Dept. of Physics, NIT Durgapur, India, March 15-17, 2017.
Title of paper:

2016

1. Conference: National Thematic Workshop on Recent Advances in Materials Sciences
Organiser: UGC-DAE Consortium for Scientific Research, Kolkata and Dept. of Physics, The University of Burdwan, India, March 08-09, 2016
Title of paper: -

2015

1. Conference: National Seminar on Condensed Matter, Laser and Communication (NSCMLC 2015)
Organiser: Department of Physics, The University of Burdwan, India, February 27-28, 2015.
Title of paper: Enhanced magneto-electric property of Co substituted nanocrystalline LaFeO₃ [La_(1-x)Co_xFeO₃, x=0, 0.05, and 0.10]

2014

1. Conference: International Conference on Magnetic Materials and Applications
Organiser: Dept. of Physics, IIT Guwahati, Assam, India
Title of paper: Enhanced magnetoelectric property of GaFeO₃ in Ga_(1-x)Zn_xFeO₃ (x= 0, 0.05, 0.10).

2013

1. Conference: Third National Seminar on Recent Trends in Condensed Matter Physics Including LASER Application (TNSCMPLA-2013)
Organiser: Department of Physics, The University of Burdwan, India
Title of paper: Multiferroic property of Zn substituted LaFeO₃ (La_(1-x)Zn_xFeO₃, x=0.50).

2012

1. Conference: National Seminar on Recent Trends in Condensed Matter Physics Including LASER Application
Organiser: Department of Physics, The University of Burdwan, India
Title of paper: Magnetic and Crystal field investigations of Pr³⁺, Eu³⁺, Er³⁺, Tm³⁺, Sm³⁺, and Yb³⁺ in the single crystalline host trifluoro methanesulfonates nanohydrates: a comparative study.

2011

1. Conference: International Conference on Laser, Material science, and Communication (ICLMSC-2011)
Organiser: Department of Physics, The University of Burdwan, India
Title of paper: Paramagnetic to ferromagnetic phase transition of Co-doped neodymium oxide nanoparticles prepared by chemical co-precipitation method.

2010

1. Conference: International Conference on Radiation Physics and Its Applications (ICRPA-2010)
Organiser: Department of Physics, The University of Burdwan, India
Title of paper: XRD, HRTEM, MOSSBAUER Spectroscopy, and magnetic studies of SiO₂ coated nanoparticles of Mn_{0.5}Zn_{0.5}Fe₂O₄ in core/shell structure.

❖ Workshops/Events organized.

1. Seminar on Nuclear Physics and Applications organized by Dept. of Physics on December 20, 2022.

2. Seminar on Recent Progress in Renewable Energy Organised by Dept. of Physics & IQAC, City College on September 06, 2022.
3. Seminar on Nanomaterials and Applications organized by Dept. of Physics on April 27, 2022.
4. A National Webinar Organised by Dept. of Physics & IQAC, City College on June 29, 2020.

❖ Additional activities: -

Proficient with Instrumental/Computational Experiences

1. XRD (Model D8, BRUKER AXS)
2. HRTEM (JEOL JEM 2100 HRTEM, Japan)
3. Quantum design SQUID Magnetometer (Quantum Design MPMS7)
4. HyMAC-III ac magnetic hysteresis loop tracer (Metis Instruments and Equipments NV, Belgium)
5. PE loop tracer (Multiferroic Precision Premier – II, Radiant Technologies Inc., USA)
6. LCR Meter (HIOKI 3532-50 LCR HiTESTER)
7. Magneto coupling set up (LAB Made)
8. Faraday Magnetometer (LAB Made, temperature range of 300–14 K)
9. ORIGIN
10. Labview
11. QUANTUM ESPRESSO
12. PYTHON
13. MATHEMATICA
14. C
15. Scilab