Resume

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

❖ Personal Details

Date of Birth: 02/04/1984
Sex: Male
Nationality: Indian

Address:
Department of Physics, City College,
102/1, Raja Rammohan Sarani,
Kolkata-700009, West Bengal, India

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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. (Phyics, 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, IJIIP, 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 $Al_xGa_{(1-x)}FeO_3$ (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 $LaFeO_3$ ($La_{0.50}Zn_{0.50}FeO_3$), 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 $(BiFeO_3)_{0.50}$ ($Li_{0.30}Zn_{0.35}Fe_{2.35}O_4$)$_{0.50}$ 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 $GaFeO_3$ in $Ga_{(1-x)}Zn_xFeO_3$ (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 $GaFeO_3$ in $(GaFeO_3)_{0.50}$ ($Ni_{0.40}Zn_{0.40}Cu_{0.20}Fe_2O_4$)$_{0.50}$, 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 $BiFeO_3$ incorporated in $(BiFeO_3)_{0.50}$ ($Co_{0.4}Zn_{0.4}Cu_{0.2}Fe_2O_4$)$_{0.5}$ nanocomposite, AIP Advances, 4, 037112 (2014).
11. A. S. Mahapatra, K. Mukhopadhyay, K. Mukhuti, P. K. Chakrabarti, Modulated Magnetoelectric Property of $BiFeO_3$ Incorporated in $Co_{0.50}Fe_{0.50}Fe_2O_4$, 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 $Ni_{0.40}Zn_{0.40}Cu_{0.20}Fe_2O_4$ 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 $[(Co_{0.2}Mn_{0.3}Zn_{0.5}Fe_2O_4)_{(1-x)}(ZnO/PVA)_x$ (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 ($La_{(1-x)}Zn_xFeO_3$, 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 $BiFeO_3$ and R^{3+} (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 $GaFeO_3$ in $(GaFeO_3)_{0.50}$ ($Ni_{0.4}Zn_{0.4}Cu_{0.2}Fe_2O_4$)$_{0.5}$ 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**

Oral Presentation:

1. Conference: International Conference on Natural Sciences and Engineering for Sustainable Development (NSESD2024)
   Organiser: Centre for Organic Spintronics and Optoelectronics Devices (COSOD) in association with the Department of Physics, Kazi Nazrul University, Asansol, March 06-07, 2024, (Online Mode)
   Title of paper: First-principle Studies of Transition Metal Substituted Dysprosium Sesquioxide (Dy_2O_3)

2. 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

3. Conference: 65^{th} 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

4. 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 $LaFeO_3$: A first-principles study

5. 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 $LaFeO_3$

International/National:

2024

1. Conference: International Conference on Natural Sciences and Engineering for Sustainable Development (NSESD2024)
   Organiser: Centre for Organic Spintronics and Optoelectronics Devices (COSOD) in association with the Department of Physics, Kazi Nazrul University, Asansol, March 06-07, 2024, (Online Mode)
   Title of paper: First-principle Studies of Transition Metal Substituted Dysprosium Sesquioxide (Dy_2O_3)

2023

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

2022

1. Conference: International Conference on Contemporary Researches in Engineering, Science, Management & Arts (ICCRESMA 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 Inia: 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 Physis, 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 $LaFeO_3$ [$La_{(1-x)}Co_xFeO_3$, 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 $GaFeO_3$ in $Ga_{(1-x)}Zn_xFeO_3$ (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 $LaFeO_3$ ($La_{(1-x)}Zn_xFeO_3$, 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 Pr^{3+}, Eu^{3+}, Er^{3+}, Tm^{3+}, Sm^{3+}, and Yb^{3+} in the single crystalline host trifluro 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 SiO_2 coated nanoparticles of $Mn_{0.5}Zn_{0.5}Fe_2O_4$ 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 Precission 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