Department of Physics

Name: DR. MANISHA PAL

Designation: Associate Professor E-mail: <u>manisha_pal67@yahoo.com</u> Qualification: M.Sc., B.Ed.,Ph.D. Address: Department of Physics Sarojini Naidu College for Women, 30, Jessore rd., Dumdum, Kolkata-700028

Educational Qualification:

Ph.D.: Indian Association for the Cultivation of Science (Jadavpur University), 1998M.Sc.: Calcutta University, 1991B.Sc.: Calcutta University, 1988

Additional Qualification:

Post Doc.: Visiting Research Scientist in Tokai University, Japan from April, 1999 to August, 2000 B.Ed: Calcutta University, 1993

Areas of Interest:

Structural, Electrical and Optical Properties of amorphous oxide glasses and thin films

Teaching Experience: 24+ years

- Heritage Institute of Technology: for the period August, 2001 to 21stNov., 2005
- Sarojini Naidu College for Women: from 22nd Nov., 2005 to till date

Biography:

Dr. Manisha Pal has joined in the Department of Physics on November, 2005. She was Assistant Professor in the Department of Physics, Heritage Institute of Technology, Kolkata from August, 2001 to 21st November,2005. She had completed M.Sc from University of Calcutta.

She Joined as Junior Research Fellow in Indian Association For the Cultivation of Science and was awarded Ph.D. from Jadavpur University in the year 1998.

She was **Visiting Research Scientist** in the Department of Chemistry, **Tokai University, Japan** from April,1999 to August, 2000

Professional Membership:

Life membership in Indian association for the Cultivation of science Administrative experience: Head of the Department

Publications:

- 21 papers in refereed Journals
- Participated 24 National/International seminars/workshops/webinars.

Research Publications:

1. Photophysical study of the interaction between ZnO nanoparticles and globularprotein bovine screen albumin in solution and layer by self assembled film,Manisha Pal J. Physics and Chemistry of solids, (2018)

Influence of doping on crystal growth, structure and properties of nanocrystalline CaTiO₃: a case study small angle neutron scattering: OindrilaMondal, Manisha Pal, J. Appl. Cryst.
48 (2015) 836

3. DC conductivity of Fe_2O_3 -TeO₂ amorphous films prepared by vapour deposition method

Manisha Pal, Beats of Natural Science, 1(2014) (ISSN No.-2348-7615)

4. Structural characterization of borate glasses containing zinc and manganeseoxide,

Manisha Pal. Baishakhi Roy and Mrinal pal; J. Modern Phys., 2 (2011)1062

5. Effect of iron substitution on structure and optical properties of Nano-crystalline $CaTiO_3$

A. Bandyopadhyay, S.Mondal, **M.Pal**, U.Pal and M.Pal; J. Nano Research **3** (2008) 123

6. Borate based spintronic materials in bulk form above room temperature.

Manisha Pal and M.Pal, J. Sur. Sci. Tech. 21 (2005)91

7. Nano-crystalline Mn doped ZnO by chemical route

Manisha Pal and M.Pal, Japn.J. Appl.Phys. 44 (2005) 6901

8. Transport and dielectric properties of V₂O₅-MnO-TeO₂ glasses.

Manisha Pal, K.Sega, B.K.Chaudhuri and H.Sakata; Phil Mag 83(11) (2003) 1379

9. Electrical and optical properties of as deposited V₂O₅-TeO₂ amorphous films and its annealing effect.

Manisha Pal, K.Hirota and H.Sakata, physica status solidi (a) **196**(2) (2003) 396

10. AC conductivity of BaTiO₃ containing (90V₂O₅-10P₂O₅) oxide glassesdispersed with nanocrystalline particles.

D.K.Modak, U.K.Mondal, **M.Sadhukhan** and B.K.Chaudhuri, J. Mat.Sci., **36** (2001) 2539

- 11. Structural and electrical properties of amorphous MoO₃-TeO₂ films. **Manisha Pal**, Y. Tsujigami, K.Hirota and H. Sakata, J. Phys.D, Appl. Phys., 34(2001)459
- 12. Electrical and Optical properties of MoO₃-TeO₂ amorphous films prepared byPVD method

Manisha Pal, Y. Tsujigami, A. Yoshikado and H. Sakata, physica status solidi (a),182 (2000)727

- Temperature dependence of elastic and dielectric properties of (1-x)Bi₂O₃XCuOoxide glassesJ. Phillip, N. Ridrigues, M.Sadhukhan, A.K.Bera and B.K.Chaudhuri, J. Mat. Sci, 35 (2000) 229
- 14. Study of microstructural behavior and non-adiabatic small polaron hopping conduction in BaTiO₃ doped lead vanadate glass and glass ceramics dispersed withferroelectric nano crystals.

M.Sadhukhan, D.K.Modak and B.K.Chaudhuri; J. Appl. Phys., 85 (1999) 3477

15. Non-linear physical properties of some non-conventional semiconducting Bi-Pd-Ba-o glasses

D.K.Modak, G.Banerjee, M.Karar, , M.Sadhukhan, A.K.Bare and

- B.K.Chaudhuri, J.Mat. Res. 13 (1998) 2328
- 16. Frequency dependent electrical conductivity and dielectric relaxation behaviorin amorphous 90V₂O₅-10Bi₂O₃ oxide semiconductors doped with SrTiO₃

17. AC transport mechanism and high dielectric constant of BatiO₃ doped phosphateglasses **M.Sadhukhan**, and B.K.Chaudhuri, the 9th International Meeting on ferroelectricity (August 1997) Seoul, South Korea

18. Anomalous specific heat and other properties of amorphous Ba_{1-x}Li_xBiO₃₋

□ oxides around semiconductor-metal-semiconductor like transition

G. Banerjee, **M. Sadhukhan**, A.K.Bera, M.Karar and B.K.Chaudhuri, J. Mat. Sci.Lett, **15** (1996) 2008

19. Electrical Properties of semiconducting (1-x)(90V₂O₅-10P₂O₅) +x BaTiO₃ glassand glass

S. Chakraborty, **M.Sadhukhan**, B.K.Chaudhuri, H.Mori, H.Sakata, MaterialsChemistry and Physics, 50(3) (1997) 219

ceramics

M. Sadhukhan, D.K.Modak and B.K.Chaudhuri, J. Chem Phys., 105 (1996)11326

- 20. Non-adiabatic small polaron hopping conduction in SrTiO₃ doped 90V₂O₅-10Bi₂O₃ glassy semiconductors
- M. Sadhukhan, S. Chakraborty, D.K.Modak and B.K. Chaudhuri, Phil. Mag.B, 74 (1996) 139
- 21. Non-adiabatic polaron hopping conduction in semiconducting V₂O₅–Bi₂O₃ oxide glasses doped with BaTiO₃
- S. Chakraborty, **M. Sadhukhan**, D.K.Modak and B.K.Chaudhuri; J. Mat.Sci., **30** (1995) 5139

OP/RC/STC

- 1. Orientation Programme; ASC-JU, July, 2009
- 2. Refresher Course: "Modern Aspects of Physics"; ASC-CU, 09.07.12-28.07.12
- **3. Refresher Course**: "Recent Development of Nanoscience and Technology";ASC-JU, 10.9.13-30.9.13

4. Short Term Course: Soft Skills development & stress management; SarojiniNaidu College for Women and Centre for counseling services & studies in Development, JU; 04.02.15-10.02.15

5. Refresher Course: "Environmental Hazards and Disaster managemen"t on 18th Feb,2017-10th march,2017; organized by Departmental of Environmental Science Department of Geology & The UGC Human Resource Development Centre, University of Calcutta

6. **Short Term certificate course**: Computational Methods in Physics using Python, Comp-Py 2021: Organized by department of Applied Science, Indian institute of Information technology, Allahabad, 15th May to 11th July, 2021

7. **Summer School** on recent Advancement in Physics and Bio-Physics (12th July to 19th July, 2021: organized by Jhargram Raj college sponsored by DBT Star College Scheme

8. **Faculty Development Programme:** Research Methodology and Budgetting, (13th Sept. to 17th Sept., 2021) organized by Geethanjali College of Engineering and Technology

Seminar / Conference/Workshop Presented/Attended

- Anomolous electrical property of Bi(1-x)PbxO(3-□) (x= 0-0.8) oxide glasses like semiconductor-metal-semiconductor transitions: M.Sadhukhan, G. Banerjee, P.K.Pal and B.K.Chaudhuri, DAE Solid State Symposium, 1995, Calcutta, India
- Non-adiabatic small polaron hopping conduction in SrTiO3 doped 90V2O5-10Bi2O3 typevanadate glasses: M.Sadhukhan, S. Chakraborty and B.K.Chaudhuri, Condensed Matterdays, Bhubaneswar, India
- AC transport mechanism and high dielectric constant of BaTiO3 doped phosphate glasses: M.Sadhukhan and B.K.Chaudhuri, the 9th International Meeting on Ferroelectricity, August, 1997, Seoul, South Korea
- DAE Solid State Physics Symposium 1997, Kochin University of Science and Technology, Kerala, 27th -31st Dec., 1997
- Structural and electrical properties of amorphous MoO3-TeO2 films, Manisha Pal, Y. Tsujigami, A. Yoshikado and H.Sakata, 38th Ceramic Society Meeting (Jan 2000), Okyama, Japan
- 6. Structural and electrical transport properties of amorphous MoO3-TeO2 films prepared byPVD method: **Manisha Pal**, Y. Tsujigami, A. Yoshikado and H.Sakata, International

Conferences Materials and Technologies, May, 2000, Venice, Italy

- Electrical properties of Fe2O3-TeO2 based amorphous films prepared by vapour depositionmethod: Manisha Pal; "One day seminar on Materials Physics" conducted by Materials Research Society of India at Saha Institute of Nuclear Physics on 19th Sept., 2005
- "Effect of Ultra violet radiation on earth" by Manisha Pal: UGC sponsored state Level Seminar "Progress of Science vis-à-vis Environment"10-14th Jan, 2013, Sarojini Naidu College for Women, Kolkata
- 9. Workshop on "Review of Engineering Degree Curriculum of Physics" conducted by West Bengal University of Technology from 26th July to 30th July, 2004
- AICTE sponsored HRD (Human Resource Development) programme conducted by Indian Heritage Academy in association with Heritage Institute of Technology, Kolkata from 13th Oct. -16th Oct. 2004
- 11. "UGC-DAE-IUC workshop on high magnetic field" conducted by IUC in Jadavpur University 2nd campus on 6th Sept., 2005
- "Research opportunities available in research Institute/University" an orientation workshop for Physics College Teachers, at Satyendranath Bose National Centre for Basic Sciences, Kolkata, 30th Aug. 2006
- 13. "Effect of Ultra violet radiation on earth" by Manisha Pal: UGC sponsored state Level Seminar "Progress of Science vis-à-vis Environment" 10-14th Jan, 2013, Sarojini Naidu College for Women, Kolkata
- 14. "UGC-DAE-CSR workshop on Radiation Applications: Basic and Applied Sciences" conducted by IUC and Jadavpur University in Jadavpur University from 9th -10th Feb., 2004
- 15. The Joy of Computing using Python, two days state level **Workshop** and hands on Training, organised by IQAC, Bhairab Ganguly College, participated ,19th-20th Aug, 2019
- 16. Online Workshop on "Working with Python Programming" held on 15th May -21stMay,2020; organized by Department of Computer science & IQAC, East CalcuttaGirls' College in collaboration with Department of computer Science, WBSU.

17. Online **Workshop** on "Mapping and Data Analysis using Python Libraries & Statistical Tools" held on 2nd June to 8th June; organized by Department of ComputerScience & IQAC, East Calcutta Girls' College

18. Online **workshop** on "Python Computing" held on 12th June to24th June, 2020; organized by Teach Python in association with Indian Institute of Science Education and Research IIISER)

- **19. National seminar**: Saha equation 100 held on 23rd to 25th September, 2019, organized by University of Calcutta
- **20. Indraprastha National Level Webinar series**: "Role of Science, Technology and Innovation in the current scenario"; held on 26th -29th May, 2020; organized by University School of Basic and Applied Science, Guru Govind Singh Indraprastha University, new Delhi
- **21. International** Webinar on "Covid-19 and its preventive Measures", held on 2nd and 3rdJune, 2020 organized by NSS units, Midnapur College, West Bengal
- **22. National** level Webinar on "Environmental protection through Biodiversity Conservation", 5th June, 2020; organized by Department of Zoology and IQAC,SNCW
- **23. National** level Webinar on "Virtual Learning: Layers and Players" held on 25th June,2020; organized by Central Library & IQAC, SNCW
- **24. National Level Webinar** on "Scope of Virtual Labs in UG Physics and Chemistry teaching" on 29th and 30th June, 2020; organized by Department of

Physics and Chemistry and IQAC,SNCW;