Curriculum Vitae

Dr. Pinaki Laha
Assistant Professor,
Department of Physics,
L.N.D. College
A constituent unit of B.R. Ambedkar
Bihar University
Motihari, East Champaran
Bihar-845401, INDIA
Email ID:lahapinaki007@gmail.com
Contact No.-+918709043980

Educational Background

- M.Sc.-Physics, Vidyasagar University (2008)
- Ph.D.- Birla Institute of Technology, Mesra, Ranchi (2013)

Professional Background

- Postdoc., S.N.Bose National Center for Basic Sciences, Kolkata, India, 2012-13
- Assistant Professor, K.K.College of Engg.& Management, Dhanbad, India, 2014-2017
- Assistant Professor, L.N.D.College,Motihari,India,2017-till date

Important Award and Fellowship

- Research Fellowship, Birla Institute of Technology, Mesra, Ranchi
- Postdoctoral Fellowship, S.N. Bose National Center for Basic Science, Kolkata,India
- FAST-SF 2018 Fellowship by Indian Academy of Sciences,India

Main Area of Research Work

- Magnonic Devices
- Spintronic Devices
- Semiconductor Devices
- Nanomagnetism
- Plasma Spectroscopy
- Irradiation Effects on materials

Teaching Assignments

- Physics I-II
- Material Science
- Laser
- Plasma Physics

Ph.D. Thesis Title

Synthesis of nano structured multilayer metal oxide thin films for optical and electronic applications and characterization of surface and interface properties

Research Skill

I. Electrical Characterization Techniques :
Four Probe Resistivity measurement Hall Voltage
Capacitance-Voltage (C-V) measurement by
Impedance Analyzer
Current-Voltage (I-V) measurement by Source meter

II. Optical Characterization Techniques:
UV-Visible spectrophotometer. Ellipsometer
PL Spectroscopy

III. Instruments handling experience:
RF Magnetron sputtering system
VNA FMR,TR MOKE

IV. Nanoparticle and Nanowire Synthesis by chemical route & Electro deposition Methods

Publications

[1] "Study of bactericidal efficiency of magnetron sputtered TiO2 films deposited at varying oxygen partial pressure"; A. B. Panda, Pinaki Laha, Harish K., Bisatrish Sarkar, P K Barhai, A K Das and S K Mahapatra, I. Banerjee (Surface & Coating Technology 205(2010) 1611-1617) ISSN 02578972, JCR Impact Factor: 2.56

[2] "Effect of leakage current and dielectric constant on single and double layer oxides in MOS structure"; Pinaki Laha, A.B. Panda, S. Dahiwale, K. Date, K.R. Patil, P.K. Barhai, A.K.Das, I. Banerjee , S.K. Mahapatra (Thin Solid Films 519 (2010) 1530-1535); ISSN 00406090, JCR Impact Factor:1.890

[3] "6 MeV electron irradiation effects on electrical properties of Al/TiO2/n-Si MOS capacitors"; P. Laha, S. S. Dahiwale, I. Banerjee, S. K. Pabi, V. N. Bhoraskar, P. K. Barhai and S. K. Mahapatra (Nuclear Instruments and Methods in Physics Research

B 269 (2011) 2740-2744); ISSN 0168-583X, JCR Impact Factor:1.211

[4] "Development of rf plasma sputtered Al2O3-TiO2 multilayer broad band anti reflecting coatings and its correlation with Plasma parameters"; P. Laha, A. B. Panda, S. K.Mahapatra, P. K. Barhai, A. K. Das, and I. Banerjee (Applied Surface Science 258 (2012) 2275-2282) ISSN 01694332, JCR Impact Factor:3.387

[5] "Irradiation effects of 6 MeV electron on electrical properties of Al/Al2O3/n-Si MOS capacitors"; P. Laha, I. Banerjee, A. Bajaj, P. Chakrabarty, P. K. Barhai, S. S. Dahiwale, A.K. Das, V .N. Bhoraskar, D. Kim and S. K. Mahapatra (Radiation Physics and Chemistry 81 (2012) 1600-1605); ISSN 0969-806X, JCR Impact Factor: 1.315

[6]"Effects of 6 MeV electron irradiation on electrical properties of Al/Al2O3/TiO2/n-Si MOS capacitors"; P. Laha, I. Banerjee, P. K. Barhai, A. K. Das, V. N. Bhoraskar and S.K.Mahapatra (Nuclear Instruments and Methods in Physics Research B, 283 (2012) 9–14); ISSN 0168-583X, JCR Impact Factor:1.211

[7] "Influence of rf power on the electrical and mechanical properties of CN thin films deposited by reactive RF magnetron sputtering"; I Banerjee, Neelam Kumari, Mukesh Kumar, Pinaki Laha, A B Panda, S K Mahapatra, P.K Barhai (Thin Solid Films 518(2010) 7240-7244); ISSN 00406090, JCR Impact Factor:1.890

[8] "Study of Titanium Dioxide Nanotube Array for the application in Dye-sensitized Solar cells"; Swati Bhardwaj, Tushar Rana, Pinaki Laha, Anjan Barman, and Subhayan Biswas (International Journal of Materials, Mechanics and Manufacturing,Vol.2 No.1 February 2014)

[9]"Effects of Antidot Shape on the Spin-wave spectra of Two dimensional Ni80Fe20 antidot lattices"; Ruma Mandal, Pinaki Laha, Kaustav Das, Susmita Saha, Saswati Barman, Arup Kumar Raychaudhuri, and Anjan Barman (Applied Physics Letters,103,(2013)262410); ISSN 1077-3118, JCR Impact Factor:3.890

[10] "Brillouin light scattering study of spin waves in NiFe/Co exchange spring bilayer films"; Arabinda Haldar, Chandrima Banerjee, Pinaki Laha, and Anjan Barman (Journal of Applied Physics, 115 (13), 133901,2014); ISSN 0021-8979, JCR Impact Factor:2.064

[11] Single-Step Synthesis and Optical Properties of Bimetallic Fe–Ag Nanoparticles, RN Gayen, P Laha, (Journal of Nanoscience and Nanotechnology 17 (1), 666-670,2017) JCR Impact Factor:1.483

[12] Fabrication and Characterization of 2-D Magnetic Antidot Arrays for Application in Magnonic Crystals, N Porwal, D Polley, S Pal, P Laha, A Barman, PK Datta, International Conference on Fibre Optics and Photonics, M4A. 71

Book chapter

[1] "Study of growth mechanism of plasma induced TiO2/Al2O3 multilayer thin films and its correlation with its transport properties"; P Laha, A B Panda, S K Mahapatra, P K Barhai, A K Das, and I Banerjee; 2014. Advanced Nano materials, Apple Academic Press, Toronto.

Conference & Workshop

[1] "Leakage current and dielectric constant dependencies on single and double layer of oxides in MOS structure''; Pinaki Laha, A. B. Panda, S. Dahiwale, K. Date, A.K. Das, I. Banerjee P K Barhai and S. K. Mahapatra, ICMCTF 2010, San Diego, USA

[2] "Surface modification of Al2O3/TiO2 multilayer by incorporating oxygen for applications in self cleaning and improved corrosion resistance coating"; Pinaki Laha, A. B. Panda, S. K. Mahapatra, P. K. Barhai , and I. Banerjee, International conference on radiation physics,2010, Burdwan University, West-Bengal, INDIA

[3] "7th International conference on Industrial Tribology (ICIT 2010)" One day education course on Wear Resistant Materials & Coatings on 1st December,2010 at R&D Center for Iron & Steel ,Steel Authority of India Limited,Ranchi, Jharkhand.

[4] "In-situ plasma diagnosis during reactive rf magnetron sputtered deposition of Al2O3/TiO2 thin film"; P Laha, A B Panda, S K Mahapatra, P K Barhai, and I Banerjee International Conference on Plasma Processing of Organic Materials and Polymers (PPOMP 2011), Kerala, INDIA

[5] "Reactive rf magnetron sputtering used for Al2O3/TiO2 multilayer thin film deposition and its correlation with plasma parameter"; P. Laha, A. B. Panda, S. K. Mahapatra, P. K. Barhai and I. Banerjee, International Conference on Functional Oxides and New Carbon Materials, May 6-8, 2012, S N Bose National Centre for

Basic Sciences, Kolkata, INDIA.

[6]"Fabrication and Characterization of 2-D magnetic Antidot Arrays for Application in Magnonic Crystals." 6th India Singapore Joint Physics Symposium on Physics of Advanced Materials (ISJPS) held at IIT Kharagpur, INDIA during 25th –27th Feb. 2013.

[7]"Brillouin light scattering study of nanoscale interfacial exchange coupling in NiFe/Co magnetic bilayer films"; Chandrima Banerjee, Arabinda Haldar, Pinaki Laha, and Anjan Barman; ICONSAT organized by INST, 3-5 March,2014 at Chandigarh.

[8]"Brillouin light scattering study of spin waves in NiFe/Co exchange spring bilayer films"; Arabinda Haldar, Chandrima Banerjee, Pinaki Laha, and Anjan Barman; IEEE International Magnetic Conferenceorganized by IEEE Magnetic Society, 4-8 May,2014 at Dresden,Germany.

Workshop/National Conference Attended:

[1] Workshop on data acquisition system organized by IAPT at University of Acceleration Centre (2007) at Midnapore College, Midnapore, W.B.

[2] DST SERC School on Processing Plasmas, 15-27th December, 2008, BIT, Mesra, Ranchi.

[3] School on Pulse Power Technology, 17-21st March, 2009, organized by Power Beam Society of India at BARC, Mumbai.

[4] National symposium on Advanced ceramics & composites organized by Indian Ceramic Society, Jamshedpur Chapter, 7-8th May, 2009 at NML, Jamshedpur (oral presentation)

[5] National level workshop on Modeling and Precision, 15-16th February, 2010 organized by BIT, Mesra, Ranchi (oral presentation)

[6] National level workshop on Modeling and Precision, 2011 BIT, Mesra, Ranchi (oral presentation)

[7] National seminar and workshop on Engineering Materials, 2011 BIT, Mesra, Ranchi (oral presentation)

Research Experience in other Laboratory in country
• S.N. Bose National Center for Basic Sciences, Saltlake, Kolkata • Anna University, Chennai • Pune University, Pune • Indian Institute of Technology, Kharagpur • Saha Institute of Nuclear Physics, Kolkata
Software Known
• OOMMF (Object Oriented Micromagnetic Framework), • COMSOL Multiphysics • SHRIM/TRIM (Heavy Ion Interaction with materials) • Origin • MS Office • Avasoft 7.2