

## CURRICULAM VITAE

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### **Dr. Manirupa Saha**

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Department of Physics

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### EDUCATIONAL QUALIFICATIONS

- **PhD** in Physics from **Indian Institute of Technology Guwahati**, Guwahati, October 2013.
- **M.Sc.** in Physics from **Gauhati University**, October 2007. Specialization in **Nuclear Physics and High Energy Physics**. (1<sup>st</sup> class first)
- **B.Sc.** in Physics from Alipurduar College, **North Bengal University**, June 2005.

### RESEARCH INTEREST

- ✚ Thesis title “*Study of modulation instability and solitary wave in nonlinear optical Systems*”. (*Theoretical Work*)
- ✚ Thesis Supervisor Dr. Amarendra Kumar Sarma.
- ✚ Research interest on Nonlinear optics, Metamaterials, Soliton in optical communication.

### TEACHING EXPERIENCE:

- Working as an Assistant Professor in Department of Physics, **Alipurduar College** from 30<sup>th</sup> July 2020.
- Worked as Guest Lecturer in the Department of Physics, **Cooch Behar Panchanan Barma University** from 19<sup>th</sup> April 2018 to 31<sup>st</sup> January 2020. I taught courses for M.Sc. and Ph.D. (course work).

- Worked as an Assistant Professor, Department of Physics at **The Oxford College of Science, Bangalore** affiliated to Bangalore University from September 2015-January 2018. I was handling theory papers for M.Sc. Physics students which include Mathematical Methods of Physics, Quantum Mechanics, Electrodynamics, Nuclear and Particle Physics, Laser and Optics, Atomic and molecular physics, Numerical Analysis and Computational Physics . I had also handled General Physics, Electronics, Optics Lab, Advanced Physics Lab, Computer lab for M.Sc. students.
- Worked as Assistant Professor in **National Institute of Science and Technology Calicut** from 2014 to 2015. I taught there for B.Tech and M.Sc. students.
- Worked as a Guest faculty in the Departmental of Physical Science, **Gauhati University Institute of Science and Technology** (Engineering College under Gauhati University) for the period August 2013 to June 2014.
- As a research scholar at **IIT Guwahati**, I handled Physics lab for B.Tech. students from 2008 to 2013 ( for 5 years).

#### **AWARDS/SCHOLARSHIPS**

- Cleared **JRF-NET** exam December 2008, conducted by CSIR-UGC, Govt. of India
- Qualified **GATE** (Physics) in 2008 with **93.64%** and AIR **364**.
- Qualified **WBCSC** 2018.

#### **SKILLS**

- ❖ **Operating Systems:** Windows XP, Vista, Linux, Ubuntu
- ❖ **Software Applications:** Mathematica, Matlab, Fortran, Python., Xmgrace  
GNU plot, latex

#### **PUBLICATIONS IN INTERNATIONAL JOURNALS**

1. **Manirupa Saha** and Amarendra K. Sarma, "Solitary wave solutions and modulation instability analysis of the nonlinear Schrodinger equation with higher order dispersion and nonlinear terms", Communications in Nonlinear Science and Numerical Simulation Vol.18,p.2420 (2013).
2. **Manirupa Saha** and Amarendra K. Sarma, "Modulation instability in nonlinear metamaterials induced by cubic-quintic nonlinearities and higher order dispersive effects" Optics Communications vol. 291, p.321 (2012).
3. Amarendra K. Sarma and **Manirupa Saha**, "Modulational instability of coupled nonlinear field equations for pulse propagation in a negative index material embedded into a Kerr medium" Journal of Optical Society of America B (JOSA-B) Vol. 28, No. 4, p.944 (2011)
4. Amarendra K.Sarma, **Manirupa Saha** and Anjan Biswas, "Optical Solitons with Power Law Nonlinearity and Hamiltonian Perturbations: An Exact Solution" Journal of Infrared, Millimeter and Terahertz waves Vol. 31, p.1048 (2010) (Springer)
5. Amarendra K.Sarma, **Manirupa Saha** and Anjan Biswas, "Effect of two-photon absorption on soliton propagation and soliton-soliton interaction in a silicon waveguide" Optical Engineering Vol.49, No.3, pp.035001-1, 2010 (SPIE)
6. **Manirupa Saha**, Amarendra K.Sarma and Anjan Biswas, "Dark Optical solitons in power law media with time-dependent coefficients" Physics Letters A Vol. 373 p. 4438(2009)

#### **PARTICIPATION IN CONFERENCE / WORKSHOP / WEBINAR**

1. Attended workshop on "How to use information and communications technology in teaching learning and administrative works in higher education institutions." Organized by Bankura University, Bankura, West Bengal held on 29<sup>th</sup> & 30<sup>th</sup> September 2020.
2. Attended webinar on "Techno-Stress Management in contemporary pedagogy effective use of E-resources" organized by Central Library & IQAC, Alipurduar College held on 25<sup>th</sup> August, 2020.
3. Attended **Raman Research Institute Outreach Programme** "Workshop on Modern Optics." organized by the Department of Physics, St. Joseph College Bangalore held on 8<sup>th</sup> and 9<sup>th</sup> February 2016
4. **Manirupa Saha**, Amarendra K. Sarma, "Modulation Instability analysis in cubic-quintic non-Kerr media", XXXVII National symposium of Optical Society of India, Pondicherry University, Jan. 22-25, 2013.
5. **Manirupa Saha**, Amarendra K.Sarma, "Modulation Instability for coupled field

equations in nonlinear metamaterials”, International Conference on Fiber Optics and Photonics, IIT Guwahati, Dec. 12-15, 2010.

6. **Manirupa Saha**, Amarendra K.Sarma and Anjan Biswas, "Role of two-photon absorption on solitary wave propagation in a silicon waveguide", International Conference on Optics and Photonics, Central Scientific Instruments Organization, (CSIR), Chandigarh Oct. 30-Nov.1, 2009.

### **SHORT TERM COURSE ATTENDED**

- Attended one week training “Computer interfaced science experiments” held at Inter University Accelerator Center, New Delhi from 3<sup>rd</sup> -8<sup>th</sup> October 2016.
- DST sponsored SERC preparatory school on “Modern Optics” held at IIT Guwahati organized by Department of Physics, during 10-23<sup>rd</sup> November, 2010.
- A QIP AICTE Sponsored Short-Term Course short on “Non-Linear Phenomena in Physics and Engineering” held at IIT Guwahati organized by Department of Physics, during 01-05<sup>th</sup> December, 2008.

### **EVENT ORGANIZER**

- ✚ Workshop on **Recent Advances in Astrophysics & Cosmology** on 9-10<sup>th</sup> October 2018 held at **Cooch Behar Panchanan Barma University**. (as Treasurer)
- ✚ **National Science Day** celebration on 1<sup>st</sup> and 2<sup>nd</sup> March 2016 in the Oxford College of Science, Bangalore as Co-ordinator.
- ✚ **1<sup>st</sup> IITG OSA Student Chapter Workshop** on optics, IIT Guwahati held on 15-17<sup>th</sup> November, 2012 (as Secretary post).

### **PROFESSIONAL SOCIETY MEMBERSHIP**

- ✚ **Optical Society of America (OSA)** member from 2011.

### **ACADEMIC & ADMINISTRATIVE RESPONSIBILITY**

- PG paper setter for Cooch Behar Panchanan Barma University from 2018 to 2019.

- PhD course work paper setter for Research Methodology paper in 2019 under Cooch Behar Panchanan Barma University.
- External Examiner for B.Sc. UG part III (1+1+1) General Examination 2018.
- PG Class Coordinator for the 2016-2018 M.Sc. Physics Batch in the Oxford college of Science, Bangalore.
- **Secretary and advisor** of weekly journal club in the Oxford College of Science, Bangalore.
- Appointed as Residential Tutor (RT) in NIT Calicut Mega Ladies hostel for the academic year 2014-15.