

Dr. MISHA HARI
Assistant professor
Department of Physics
Baselius College, Kottayam
Kerala | India| Ph: 0481-2566162 | 9.misha@gmail.com

EDUCATION

PhD (2008 –2016)

Title – Thermal and Nonlinear Optical Characterization of Metal Nanostructures for Photonic Applications.

International school of Photonics, Cochin University of science and technology.

Supervisors – Prof. P. Radhakrishnan and Prof. V. P. N. Nampoori

M.Phil. Physics (2006-2007) (CGPA-8.17/10)

Research Topic – Wavefront Correction Using Optical Phase Conjugation technique.

Dept. of Physics, University of Calicut, Kerala.

Supervisors – Prof. B. R. S. Babu and Prof. B. R. Prasad (IIA Bangalore, India)

M. Sc. Physics (2003-2005) (CGPA-8.02/10)

School of Pure and Applied Physics

Mahatma Gandhi University, Kerala.

B. Sc. Physics (2000-2003) (% of marks- 90.6%)

Nirmala College, Muvattupuzha

Mahatma Gandhi University, Kerala.

TEACHING EXPERIENCE

- FIP substitute at St. Xavier'S College for Women, Aluva(28/10/2012 – 28/02/2013)
- Asst. Professor, Dept. of Physics, Baselius College Kottayam (01/03/2013-present)

JOURNAL PUBLICATIONS

1. Saturable and reverse saturable absorption in aqueous silver nanoparticles at offresonant wavelength, **Misha Hari**, S. Mathew, B. Nithyaja, Santhi Ani Joseph, , V.P.N. Nampoori, P. Radhakrishnan, *Optical and Quantum Electronics*, 43: 49-58 (2012).

2. Linear And Nolinear Optical Properties Of Gold Nanoparticles Stabilized With Polyvinyl Alcohol, **Misha Hari**, Santhi Ani Joseph, Nithyaja Balan, Mathew S, Ravi Kumar, Giridhar Mishra, R. R. Yadhav, P. Radhakrishnan , V. P. N. Nampoori, *Journal of Nonlinear Optical Physics & Materials*, 20: 467-475(2011).

3. Thermal diffusivity of nanofluids composed of rod-shaped silver nanoparticles, **Misha**

- Hari**, Santhi Ani Joseph, S Mathew, B Nithyaja, V. P. N. Nampoori, P. Radhakrishnan, *International Journal of Thermal Sciences*, doi: 10.1016/j.ijthermalsci.2012.08.011. (2012).
4. Band-gap tuning and Nonlinear optical characterization of Ag-TiO₂ nanocomposites, **Misha Hari**, Santhi Ani Joseph, S Mathew, P. Radhakrishnan, V. P. N. Nampoori, *Journal of Applied Physics*, 112: 074307 (2012); doi: 10.1063/1.4757025.
5. Selective mode excitation in dye-doped DNA polyvinyl alcohol thin film, Nithyaja Balan, **Misha Hari**, and Vadakkedathu Parameswaran Narayana Nampoori, *Applied Optics*, Vol. 48, 19 (2009).
6. Effect of deoxyribonucleic acid on nonlinear optical properties of Rhodamine 6G polyvinyl alcohol solution, B. Nithyaja, **H. Misha**, P. Radhakrishnan, and V. P. N. Nampoori, *Journal of Applied Physics*, **109**, 023110 (2011).
7. Thermal Diffusivity of Rhodamine 6G Incorporated in Silver Nanofluid Measured Using Mode-matched Thermal Lens Technique, Santhi Ani Joseph, **Misha Hari**, Mathew S, Gourav Sharma; Soumya, Hadiya V M, Radhakrishnan P., Nampoori V. P. N., *Optics Communications*, Vol. 283, 313-317, 2010.
8. Laser induced Bessel beams can realize fast all-optical switching in gold nanosol prepared by pulsed laser ablation, Santhi Ani Joseph, Gourav Sharma, **Misha Hari**, S Mathew, P. Radhakrishnan, V. P. N. Nampoori, *Journal of Optical Society of America B*, 27:577-581 (2010).
9. Photothermal characterization of nanogold under conditions of resonant excitation and energy transfer, Santhi Ani Joseph, S Mathew, Gourav Sharma, **Misha Hari**, Achamma Kurian, P. Radhakrishnan, V. P. N. Nampoori, *Plasmonics*, 5:63-68 (2010).
10. Linear and Nonlinear Optical Properties of Silver Nanoparticles Stabilized by Bovine Serum Albumin, Nithyaja B, Yogeshwar Nath M, Amit Kumar S, **Misha H**, Nampoori VPN, *Journal of Nonlinear Optical Physics & Materials*, 20: 75(2011).
11. Optical Limiting in TeO₂-ZnO Glass from Z-Scan Technique, Thomas RL, Vasuja, **Hari M**, Nithyaja B, Mathew S, Rejeena I, Thomas S, Nampoori VPN, Radhakrishnan P, *Journal of Nonlinear Optical Physics & Materials*, 20:351 (2011).
12. Synthesis of microcrystalline zinc oxide microrods by wet chemical method for light confinement applications, Aparna Thankappan, **Misha Hari**, S Mathew, Santhi Ani Joseph, Erni Rolf, Debajeet Bora, Arthur Braun, V.P.N Nampoori, *Physica E*, 44: 2118-2123 (2012)
13. UV/Visible photoluminescence of TiO₂ nanoparticles prepared by hydrothermal method, S. Mathew, Amit kumar Prasad, Thomas Benoy, P. P. Rakesh, **Misha Hari**, T. M Libish, P. Radhakrishnan, V. P. N. Nampoori, C. P. G. Vallabhan, *J Fluoresc*, DOI 10.1007/s10895-012-1096-3(2012).

14. Synthesis of silver nanoparticles in DNA template and its influence on nonlinear optical properties, B. Nithyaja, **H. Misha**, V. P. N. Nampoory, *Nanoscience and Nanotechnology*, 2(4) : 99-103 (2012).

AREAS OF INTEREST

- Synthesis and characterization of semiconductor and metal nanostructures for various photonic applications.
- Nonlinear-optics of nanomaterials.
- Nano-fluids for heat transfer applications.
- Photoluminescence and lasing in fluorescent materials.
- Organic Light emitting Diodes.

AWARDS/ SCHOLARSHIPS/ACHIEVEMENTS

- Qualified CSIR/UGC NET Exam- June 2012
- KSCSTE Research Fellowship
- Secured 3rd Rank in M.Sc. degree examination-2005 of Mahatma Gandhi University, under the Faculty of Science.
- University Merit Scholarship for M.Sc.
- State Merit Scholarship for M.Sc.
- University Merit Scholarship for B.Sc.
- Prof. P. M. Kurian Award from Nirmala College, Muvattupuzha, Kerala, for securing Highest Position in B.Sc. Physics.

WORKSHOPS/TRAINING ATTENDED

- SERC school on Nano-optics held at NIT, Hamirpur (2010)
- Annual Photonics Workshop held at CUSAT (2012)
- Indo-UK workshop held at CUSAT (2008)

TECHNICAL PROFICIENCY

- Handled various instruments such as Laser systems, Spectrophotometer, Fluoremeter, CCD Spectrograph, Monochromator/PMT assembly, Digital oscilloscope, Vacuum coating unit, Centrifuge etc.
- Trained in setting-up various optics experiments such as Laser Ablation, z-scan, thermal lens and well versed with techniques for film fabrication such as Dip coating, Spin coating and Tape casting.
- Proficient in various Scientific Softwares such as C, C++, Matlab, LabVIEW, Origin, LaTeX.