SOURATH JIJI HARIDASAN

Doctoral Student | Nanomaterials & Super-Resolution Microscopy

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PROFILE

PhD student specializing in nanomaterials with a focus on carbon nanotubes and super-resolution microscopy. Experienced in nanoscale characterization, electromagnetic simulations, and experimental data analysis for advanced materials and imaging applications.

EDUCATION

International School of Photonics, CUSAT — *Five-year Integrated MSc in Photonics*
2019–2024

National HSS Vattoli — *12th, Kerala Board of Higher Secondary Education*
2020–2023

RESEARCH EXPERIENCE

Nano-Bio Microscopy Lab, LP2N, Institut d'Optique / University of Bordeaux
Doctoral Student | 2024–Present
Supervisor: Prof. Laurent Cognet
• Correlative super-resolution microscopy revealing preferential localization of quantum defect formation in carbon nanotubes.

Medical Optical and Sensors Laboratory, IIT Hyderabad
Master's Thesis | 2024
Supervisor: Prof. Renu John
• Study of red blood cells using white-light diffraction phase microscopy.

Indian Institute of Science (IISc)
Research Intern | 2023
Supervisor: Dr. Manukumara Manjappa
• Terahertz metamaterial simulations using FDTD to extract effective permittivity and permeability of unit cells.

International School of Photonics (ISP)
Bachelor's Thesis | 2022
Supervisor: Prof. A. Mujeeb
• Synthesis and characterization of NiO nanomaterials.

PUBLICATIONS & PRESENTATIONS

• Poster: *In situ investigation of color center formation in luminescent carbon nanotubes using super-resolution microscopy in the short-wave infrared*, SMLMS 2025, Bonn, Germany.

• Oral Paper: *Thermal diffusivity measurement of NiO nanoparticles synthesized by the chemical precipitation method*, 31st National Laser Symposium, IIT Kharagpur.

TECHNICAL SKILLS

Programming & Tools: Python, MATLAB, C/C++, Zemax
Software: Lumerical FDTD, MS Office Suite
Expertise: Nanomaterial characterization, experimental data analysis, literature review

REFERENCES

Prof. Laurent Cognet
Professor, LP2N – Institut d'Optique Graduate School, CNRS
University of Bordeaux, France
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Dr. Priya Rose
Assistant Professor
International School of Photonics
Cochin University of Science and Technology, Kochi, India
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