Somnath Pandit

Curriculum Vitae

Kamarpukur
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DOB: May 30, 1999

Education

2023–Present **Doctor of Philosophy**, Nanoscience and Technology, Indian Institute of Technology Kharagpur.
Photonics

2020–2022 **Master of Science (Physics)**, **CGPA – 8.48**, Indian Institute of Technology Kharagpur.
Specialized in Optics & Photonics

2017–2020 **Bachelor of Science (Physics)**, **CGPA – 8.18**, West Bengal State University, Ramakrishna Mission Vivekananda Centenary College.

2015–2017 **Higher Secondary**, **Marks – 92.4%**, West Bengal Council of Higher Secondary Education, Goghat High School.

2015 **Secondary**, **Marks – 92.86%**, West Bengal Board of Secondary Education, Kamarpukur Ramakrishna Mission Multipurpose School.

Research Interest

Photonic sensors, Photonic crystal, Bloch Surface Wave sensing.

Experience

July 2022–April 2023 **Project Staff**, Photonic Systems Lab, IIT Kharagpur.
Worked on picosecond laser writing, photonic crystal Tamm laser, interferometric surface profiler, waveguides.

June 2022–July 2022 **Summer Intern**, Department of Physics, IIT Kharagpur.
Study of waveguiding in photonic crystals and Tamm states.

Sept 2021–April 2022 **M.Sc. Project**, Department of Physics, IIT Kharagpur, Supervisor: Dr. Shivakiran Bhaktha B.N., Associate Professor.
Study of One Dimensional Photonic Structures and Transfer Matrix Computation.

April 2020–July 2020 **FOSSEE Summer Fellow**, IIT Bombay, Mathematics with Python.
Created lucid notes on *Integrals of Multivariable Functions*, illustrated with animations generated with python MANIM library. Find at `https://fossee.in/fellowship/2020`

Confernces & Publications

CLEO 2023 S. M. L. S, **S. Pandit**, S. Patra, D. Banerjee, and S. B. B N, *"Tamm Mode-Aided Amplified Spontaneous Emission in One-Dimensional Photonic Crystal Super-Tamm Structure,"* in CLEO 2023, Technical Digest Series (Optica Publishing Group, 2023), paper FF2D.4.

NLS-31 Sarbojit Mukherjee, **Somnath Pandit**, R Hemant Kumar, Khanindra Pathak, Shivakiran Bhaktha B.N., *"Laser micromachined Moiré pattern strain sensors on polymer membrane"*, NLS-31, IIT Kharagpur.

COPaQ 2022 Sudha Maria Lis S, **Somnath Pandit**, Someprosad Patra, Debamalya Banerjee, and Shivakiran Bhaktha B N, *"Spectral Narrowing of Amplified Spontaneous Emission in One- Dimensional Photonic Crystal Super Tamm Structure"*, COPaQ 2022, IIT Roorkee.

Expertise & Skills

Experimental Photonic crystal fabrication, Waveguide characterization, UV-photolithography, Spectrometer, Focusing optics and filters, Picosecond and nanosecond laser, Spatial light modulator, Dip coater, Spin coater, 3D printer, High temperature furnace, Plasma cleaner, Ultrasonicator.

Technical proficiency PYTHON, MATLAB, GNU OCTAVE, SolidWorks, Comsol, GIT, LaTeX, Linux, Raspberry-Pi, Windows, MS Office.

Awards & Achievements

2023 NET(UGC) qualified, Physics, Rank-201

2023 GATE qualified, Physics, AIR-18, Score-841