

Deepak Pradeep

International School of Photonics
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OBJECTIVE *Seeking for a job position to make opportunities to learn and explore my skills in the field of optics and photonics.*

EDUCATION **5 Year Integrated M.Sc. in Photonics**
Currently studying in 10th semester
Expected May, 2020 *Overall CGPA: 8.39/10.00*

Gayathri Central School
Class XII (Senior Secondary Examination), CBSE
April 2014 *Aggregate 90%*

Gayathri Central School
Class X (Secondary Examination), CBSE
April 2012 *CGPA: 9.5/10*

TECHNICAL SKILLS ***Languages :*** *Python, C++, C*
Familiar : *Matlab, Lab view, Origin, MS Office*

EXPERIENCE ***Department of Physical Sciences,***
Indian Institute of Science Education and Research,
Kolkata, India ***May 20 - July 15, 2019***

Summer Research Fellowship offered by IISER, Kolkata
• Study on Dissociative Electron Attachment to Oxygen molecule : velocity map imaging
Guide: Dr. Dhananjay Nandi, Associate Professor, IISER

The electrons get attached to the oxygen molecule results in oxygen anions forming a newton sphere on the detector, their kinetic energy and angular distribution were measured and studied using velocity map imaging.

Physisco-Mechanical Metrology Division,
National Physical Laboratory, Delhi, India ***May 22 - July 17, 2018***

Summer Research Fellowship offered by Indian Academy of Sciences, Bangalore
• Calculation of Luminous Flux and Color Coordinates for different Lamps from first principle using Integrating Sphere
Guide: Dr. Parag Sharma, Senior Scientist, NPL

The objective of the work was to calculate the luminous flux, color temperature and color coordinates of certain luminaires (incandescent, fluorescent, led, etc.) using Integrating Sphere.

PROJECTS ***Growth of Nd and Cr co-doped YVO4 single crystal and investigation of self Q-switching*** ***Dec 2019 - Present***

Master Thesis Project in last semester at RRCAT, Indore
Guide: Dr. Indranil Bhaumik, Scientific Officer (G), Laser Functional and Material Division, Raja Ramanna Centre for Advanced Technology

Yttrium ortho-vanadate(YVO4) doped with rare earth Nd is widely used for compact diode pumped solid state lasers. A lot of research has focused on the development of laser crystals with multi-functionality, such as the self-frequency-doubling, self mode locking, self Q-switching, etc., as these can lead to compactness, low loss, and simplicity in the laser design. In the context of self Q-switching, Nd and Cr co-doped YVO4 has been identified as efficient material. In this work Nd/Cr co-doped crystals are grown by Optical floating zone technique and self Q-switching are investigated.

Performance Evaluation of Fiber Optic-Silver Coated Plasmonic Sensors

Dec 2017 - April 2018

Academic project in 6th semester

Guide: Dr. P Radhakrishnan, Emeritus Professor, International School of Photonics, Cochin University of Science and Technology

The objective of the work was to fabricate silver coated plasmonic sensor surfaces under different coating preparations. The performances of these sensors were compared to see the changes in the sensing performances in each coating configurations. The sensor surfaces were also subjected to multiple uses and the sensing wavelength changes were evaluated.

RELEVANT COURSES

- Optoelectronics • Laser Physics • Nanophotonics
- Fiber Optics • Quantum Optics
- Non-Linear Optics • Applied Optics
- Atomic and Molecular Spectroscopy.

ADDITIONAL ACTIVITIES

- Member and Treasurer of SPIE student chapter 2018-19(Society of Photo optical Instrumentation Engineers).
- Organizing committee of IONS KOCHI 2017(International OSA Network of Students).
- Attended Annual Photonics Workshop (APW) and National Photonics Symposium (NPS) conducted at International School of Photonics, CUSAT.
- Active participation in Optics Fair 2016 and 2017 organized by OSA student chapter, International School of Photonics.
- Qualified NEST (Nationwide Education and Scholarship Test) 2017 conducted by SEMCI, Shrimanjis Event Management Centre India.

REFERENCES

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