ANAND KUMAR

M.Sc. + M.Tech. IIT Bombay

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in anandkumar13rb Webpage

EDUCATION

M.S. + M.Tech. Physics, Material Science
IIT Bombay, Mumbai, India

July 2016 – June 2020

B.Sc. (with Honours) in Physics
Banaras Hindu University (BHU), Varanasi, India

July 2013 – June 2016

Central Hindu School (Class XII CBSE)
BHU, Varanasi, Inida

July 2011 – May 2013

PROJECTS

Excitons in 2D Materials

July 2018 – Prsent

Supervisor: *Prof. Anshuman Kumar, IIT Bombay, India*

- Studying **Excitons** in 2D materials and selective excitation of various kind of excitons in 2D materials using large scale plasmonincs Nanocones array.
- Studying strain induced on 2D material by periodic array of nanocone array.
- Studying robust **Superhydrophobicity** nature of nanocone array using **Contact Angle Measurement**.

FET Fabrication and Nanopatterning

May 2019 (Summer Internship)

Supervisor: *Dr. Kiran Shankar Hazra,* ***(INST)****, Mohali, India*

- Fabrication of MoS_2 based **FET** device and effect of nanopatterning such as Nano-Ribbons on its electrical characterization. Patterning was done using Laser Patterning Technique.

Virtual Oculus

December 2016

Guide: Prof. Tapanendu Kundu, IIT Bombay

(Presented at Techfest-2016, IIT Bombay, Asia's Largest Science and Technology Festival)

- This project developed a prototype with the objective to provide an aid to the visually impaired person to recognize a person using **Face Detection** and **Face Recognition** technique.
- **Python Libraries** is used for face detection and recognition in real time and a text-to-speech interface is provided to the user.

ACHIEVEMENTS

- Qualified **JRF(Junior Research Fellowship) CSIR-(NET)** and Ranked 218^{th} in December-2017 and 215^{th} in December-2019.
- Awarded First Prize by Department of Science and Technology (DST) for best poster presentation at Nano India 2019 | Biennial National Conference.
- Secured AIR 144^{th} rank in **IIT-JAM Physics** in 2016.
- Secured AIR 223^{th} (94.65 Percentile) in 2016 and AIR 369^{th} (94.95 Percentile) in 2018 in **JEST** (Joint Entrance Screening Test) exam.

SKILLS

Python | C | C++ | Fortran | Lumerical | COMSOL | Origin Pro | MS Office | Windows | Linux

COURSE PROJECT

Quantum Tunneling

2017 – Autumn Semester

Instructor: Prof. P.P. Singh, IIT Bombay

- Animate the phenomena of transmission and reflection of **Plane** wave impinging on step potential and a **Gaussian wave packet** impinging on square potential barrier using **Python Libraries**.

Crystal Structure Determination

2017 – Spring Semester

Instructor: Prof. P.P. Singh, IIT Bombay

- Studied the various techniques used for determination of crystal structure and analyzed data obtained for powdered sample from **XRD**.

FIELD OF INTEREST

- Experimental Physics
- Nanophotonics
- Quantum Optics
- Quantum Cryptography
- 2D Materials

EXTRA-CURRICULAR

RC Plane Designing

Workshop – ***Aeromodelling Club, IIT Bombay***

2016

- Worked in a group of four student and designed a RC Plane with successful execution.

Language

Hindi, English, Spanish

Interest

Coding and Scripting, Rubik's, Badminton, Swimming

Full CV on request