Shikhar Arvind Last update: July 4, 2020

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EDUCATION KTH Royal University, Stockholm, Sweden

2019-Present

• Masters in Nanotechnology, Nanoelectronics Track (in 2nd Year)

• Current GPA: **4.9/5** – via 60 credits. [Scale: A=5, B=4.5, C=4, D=3.5, E=3, F=fail]

• Relevant Courses - Nanofabrication techniques, Semiconductor Devices, Solid State Physics, Quantum Materials and Devices, Methods of analysis for nanomaterials, Design of Nano Semiconductor Devices, Microsystem Technology.

Indian Institute of Science (IISc), Bengaluru, India.

2015 - 2019

- Bachelor in Science (Material Science and Engineering Major)
- GPA: **6.5/8** via 131 credits.

RESEARCH EXPERIENCE

• Encapsulation of Perovskite solar cells (PSC) [Bachelor's Thesis]

— July 2018—Dec 2018

Institute of Microstructure, Karlsruhe Institute of Techonology, Germany.

Supervisor: Dr. Ulrich W. Paetzold

PSC have made rapid progress in terms of efficiency and manufacturing methods in the past decade with the reported efficiencies over 20 %. Whilst this is great a thrust for the commercialization of PSC, there are still some major problems with regards to stability of the cells. Encapsulation is one of the methods to improve the stability and lifetime of PSC and this project involved testing different methods and encapsulants for the optimal encapsulation strategy for PSC. A baseline stability of over 100 h was obtained under accelerated climatic conditions compared to 1 h of bare cells.

• Synthesis of Lead Telluride(PbTe) nanotubes

May 2017– July 2017

Materials Research Center, Indian Institute of Science, Bengaluru, India.

Supervisor: Prof. N Ravishankar

PbTe is a thermoelectric material which has been shown to convert thermal energy with reasonable efficiency. Different methods are being employed to increase this efficiency and one such method is nanostructuring PbTe. In this project, we aimed at economical methods to synthesize PbTe nanotubes and understand its growth mechanism. Solvothermal techniques were used to synthesize the nanotubes and were further analysed using transmission electron microscope (TEM).

RESEARCH INTERESTS

- Micro and Nano fabrication and characterization techniques.
- Microelectronic and Optoelectronic devices.
- MEMS.

Honors and Awards

- Recipient of the KTH Scholarship for Master students.
- Graduated Bachelors with Rank 1 in the respective major.
- Fellow of KVPY (Kishore Vaigyanik Protsahan Yojana), a National Program of Fellowship in Basic Sciences, initiated and funded by the Department of Science and Technology, Government of India, to attract exceptionally highly motivated students for pursuing basic science courses and research career in science.

LANGUAGES English, Hindi, Kannada.

Hobbies Programming, Calisthenics, Swimming, Trekking, Computers, Video Games.

References Available on request.