

CONTACT Homepage: <https://shikhararvind.github.io>  
 INFORMATION LinkedIn: <https://linkedin.com/in/shikhar-arvind-0b146b163>  
 ✉ E-mail: [shikhara@kth.se](mailto:shikhara@kth.se)

EDUCATION **KTH Royal University**, Stockholm, Sweden 2019–Present

- Masters in Nanotechnology, Nanoelectronics Track (in 2nd Year)
- Current GPA: **4.9/5** – via 90 credits. [Scale: A=5, B=4.5, C=4, D=3.5, E=3, F=fail]
- Relevant Courses - *Simulation of Semiconductor Devices, Fundamentals of Photonics, Compound Semiconductors and Photonic Devices, Nanofabrication techniques (CMOS process flow), Microsystem Technology (MEMS), Methods of analysis for nanomaterials, Design of Nano Semiconductor Devices (CMOS device physics)* .

**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

- **Investigation of GaN based HEMTs for power electronic applications (Master's Thesis)** January 2021 - Present

RISE Research Institutes of Sweden, Kista, Stockholm, Sweden

**Supervisor:** *Dr. Qin Wang*

The AlGa<sub>N</sub> (Aluminium Gallium Nitride) /Ga<sub>N</sub> (Gallium Nitride) HEMTs (High Electron Mobility Transistors) for power electronic applications will be focused in this project. As known, research on GaN based power devices have revealed their better efficiency compared to Si power devices, however, a limitation of GaN HEMTs is their low current rating. The master's thesis will involve in the device design, fabrication and characterization for different types of the HEMTs.

- **ZEISS Autumn School of Semiconductor Optics** September 2020  
Attendee of the ZEISS online autumn school. It included talks by industry leaders on the state of the art technology in Photolithography, DUV lithography, EUV lithography, High NA EUV, Photomasks for EUV and Metrology for semiconductor optics.

- **Encapsulation of Perovskite solar cells (PSC) [Bachelor's Thesis]** July 2018– Dec 2018

Institute of Microstructure, Karlsruhe Institute of Technology, 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.
- Microelectronics
- Optical and Photonic Devices , Photonic Integrated Circuits.

HONORS AND AWARDS	<ul style="list-style-type: none"> <li>• Recipient of the <a href="#">KTH Scholarship</a> for Master students.</li> <li>• Graduated Bachelors with Rank 1 in the respective major.</li> <li>• Fellow of <a href="#">KVPY (Kishore Vaigyanik Protsahan Yojana)</a>, 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.</li> </ul>
LANGUAGES	English, Hindi, Kannada.
HOBBIES	Programming, Calisthenics, Swimming, Trekking, Computers, Video Games, Open source software.
REFERENCES	Available on request.