

SRITOMA PAUL

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EDUCATION

Bachelor of Technology in Electronics and Communication Engineering 2015 - 2019
Kalyani Government Engineering College, Nadia, India

GPA: 8.99/10 (batch topper)

Ph.D. 2020 - ongoing

University of Michigan Ann Arbor, MI

GPA: 4/4

TEST SCORES

GRE: 325 (Quant:168 Verbal:157 AWA:5)

TOEFL: 117

RESEARCH EXPERIENCE

PhD (pre-candidate) Aug 2020 - present

Department of Electrical and Computer Engineering, University of Michigan Ann Arbor

- Involved in a project aimed at exhibiting AlN based ring resonator platform for different non-linear applications.
- Worked on the project aimed at developing high efficiency InGaN based microLEDs for red wavelength emission.

Summer Research Intern May 2018 – Sep 2018

Department of Electrical Engineering, Indian Institute of Technology Bombay

- Performed theoretical investigation of novel heterojunction ZnO based thin-film transistors for high-speed display application.

Research Assistant Aug 2019 – Mar 2020

Department of Electrical Engineering, Indian Institute of Technology Bombay

- Involved in the project entitled “Design, Development, Test and Delivery of Indigenous Infrared Focal Plane Arrays”.
- Worked on the project entitled “An Investigation on the Optical, Electrical and Spectral Characteristics of Strain-Coupled InAs/GaAs-based Nano-Scale Quantum Dot Heterostructure Devices”.
- Conducted material and device characterization of InAs/GaAs based quantum dot infrared photodetectors.
- Collaborated on a project aimed at the development and optimization of ZnO based thin-films and devices.

SKILLS

Experimental

- Nanofabrication (including but not restricted to various methods of etching, deposition, photolithography, e-beam lithography etc.)
- Scanning Electron Microscopy imaging
- X-Ray Diffraction measurements
- Photoluminescence measurements

Software

- Silvaco TCAD
- Matlab
- Lumerical FDTD, MODE
- Comsol Multiphysics

LEADERSHIP/TEAMWORK EXPERIENCE

- Member, ECE Graduate Student Council Jul 2021 – present
- Co-Lead, ECE BuddEEs mentorship program Jul 2021 – present
- Vice Chairperson, KGEC IEEE Electron Devices Society Student Branch Chapter Aug 2017 – Jul 2018
- Board member, SPIE Apr 2019 – Mar 2020

PUBLICATIONS

1. S. Paul, S. Mondal & A. Sarkar, “Characterization and analysis of low-noise GaN-HEMT based inverter circuits”, Microsystem Technologies, 2019 <https://doi.org/10.1007/s00542-019-04592-z>
2. S. Mondal, S. Paul, MJ Alam, S. Sushama, S. Chakrabarti, “Effects of carrier confinement in MgZnO/CdZnO thin-film transistors: Towards next generation display technologies”, Superlattices and Microstructures, Volume 134, 2019, 10622 <https://doi.org/10.1016/j.spmi.2019.106220>
3. S. Dongre, S. Paul, S. Mondal, R. Kumar, D. Panda, S. Gazi, D. Das, R. Kumar, S. R. Shriram, M. R. Mantri, B. Tongram & S. Chakrabarti, “In-situ tailoring of vertically coupled InAs p-i-p quantum dot infrared photodetectors: Towards homogenous dot size distribution and minimization of In-Ga intermixing”, ACS Applied Electronic Materials, <https://doi.org/10.1021/acsaelm.0c00054>
4. S. Dongre, S. Paul, S. Mondal, D.P. Panda, S.R. Shriram, M.R. Mantri, S.A. Gazi, D. Das, R. Kumar, B. Tongram & S. Chakrabarti, “Optimization of vertical strain coupling in InAs/GaAs p-i-p quantum dot infrared photodetectors with applied growth strategy”, Journal of Luminescence, <https://doi.org/10.1016/j.jlumin.2020.117499>
5. V.P. Debiprasad, S. Mondal, S. Paul, B. Tongram, D. Das, D.P. Panda, & S. Chakrabarti, “Incorporation of Quaternary (In_{0.22}Al_{0.22}Ga_{0.56}As) Capping in p-i-p QDIPs for Efficient Minimization of Hole-Assisted Dark Current”, Infrared Physics & Technology. <https://doi.org/10.1016/j.infrared.2019.103079>
6. V.P. Deviprasad, D.P. Panda, S. Paul, S. Mondal, J. Saha, D. Das, B. Tongram, K.D. Gupta, S. Chakrabarti, “Room temperature operation and low dark current of In_{0.15}Ga_{0.85}As/InAs/In_{0.15}Ga_{0.85}As dot-in-well short-wave infrared photodetector: Experimental and theoretical correlation”, Superlattices and Microstructures, <https://doi.org/10.1016/j.spmi.2020.106715>
7. V.P. Deviprasad, D. Das, B. Tongram, D.P. Panda, S. Paul, S. Mondal & S. Chakrabarti, “Spatial Optimization of Modulation Doping in PIP QDIPs: Towards Achieving Higher Operating Temperature”, IEEE Transactions on Nanotechnology <https://doi.org/10.1109/TNANO.2019.2937093>
8. M.J. Alam, P. Murkute, H. Ghadi, S. Sushama, S. Dwivedi, A. Ghosh, C. Ghosh, A. Mondal, S. Paul, S. Mondal & S. Chakrabarti, “Enhancing responsivity and detectivity in Broadband UV–VIS photodetector by ex-situ UV–ozone annealing technique”, Superlattices and Microstructures, <https://doi.org/10.1016/j.spmi.2019.106333>
9. M.J. Alam, P. Murkute, S. Sushama, H. Ghadi, S. Paul, S. Mondal & S. Chakrabarti, “Improving optical properties and controlling defect-bound states in ZnMgO thin films through ultraviolet-ozone annealing”, Thin Solid Films, <https://doi.org/10.1016/j.tsf.2020.138112>
10. D. Das, J. Saha, D.P. Panda, P. Raut, R. Ramavath, S. Mondal, S. Paul & S. Chakrabarti, “Vertically coupled hybrid InAs submonolayer on InAs Stranski–Krastanov quantum dot heterostructure: towards next generation broadband IR detection”, IEEE Transactions on Nanotechnology, <https://doi.org/10.1109/TNANO.2019.2958930>

(complete list can be viewed here: [Google Scholar Profile](#))