Sourangsu Banerji

PhD Student
Department of Electrical & Computer Engineering
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Academic Background	**University of Utah** Salt Lake City, USA Ph.D. – Electrical Engineering (*Ongoing*) Advisor: Dr. Berardi Sensale-Rodriguez **West Bengal University of Technology** Kolkata, India B.Tech. – Electronics & Communication Engineering (*2010-2014*) Thesis: *Study of Electronic and Electromagnetic Properties of One-Dimensional Photonic Crystal* Advisor: Dr. Arpan Deyasi
Professional Experience	**Graduate Research Assistant** University of Utah, Salt Lake City, USA *August '16 - Present* **Graduate Teaching Assistant** University of Utah, Salt Lake City, USA *August '16 – May '17* **Programmer Analyst** Cognizant Technology Solutions Pvt. Ltd., Kolkata, India *January '15 – May '16* **Associate Software Engineer** Tech Mahindra Pvt. Ltd., Pune, India *October '14 – December '14* **Visiting Research Student** Indian Statistical Institute, Kolkata, India *March '13 – August '14* **Undergraduate Research Intern** Variable Energy Cyclotron Center, Kolkata, India *December '12 – January '13*
Awards and Honors	**Best Student Paper Award** Awarded By: Electronics Materials Society (MRS) *June '17* **SPIE Optics+Photonics Travel Grant Award** Awarded By: International Society of Optics and Photonics (SPIE) *June '17* **M.Tech. Fellowship (All India Rank: 24)** Awarded By: Indian Institute of Technology (GATE) *March '16*

	Innovative Student Projects Award (Finalist) Awarded By: Indian National Academy of Engineering (INAE) *June '14*
	Indian National Mathematics Olympiad Awardee Awarded By: Homi Bhabha Centre for Science Education-Tata Institute of Fundamental Research (HBCSE-TIFR). *December '09*
Book Chapters	**Analytical Computation of Band Structure of 1D Photonic Crystal under Normal Incidence of Electromagnetic Wave** Arpan Deyasi, Sourangsu Banerji, Sayan Bose, Abhishek Halder Lecture Notes in Electrical Engineering: Computational Advancement in Communication Circuits and Systems, Part 6: Advances in Devices and Circuit, vol. 335, Chapter 36, p. 331-338, September 2014.
Journal Publications	**Simulating Reflectivity Property for Propagating Wave inside One-Dimensional Photonic Crystal with Different Material Systems** Sourangsu Banerji, Arpan Deyasi Journal of Electron Devices, Volume-21, March 2015. **Group Theoretic Approach to Study Transfer Matrix Method in One Dimensional Photonic Crystals** Sourangsu Banerji, GESJ: Physics, Volume-11(1), July 2014. **Comprehensive Review on Band Structure, Density of States and Wave Propagation inside One-Dimensional Photonic Crystal** Sourangsu Banerji, Sayan Bose, Abhishek Halder, Subhasis Mandal, Arpan Deyasi International Journal for Research in Applied Science and Engineering Technology, Volume-2, Issue-4, April 2014. **Analytical Computation of Density of States of One-Dimensional Photonic Crystal under Polarized Incident Wave for Different Materials** Sourangsu Banerji, Abhishek Halder, Arpan Deyasi, Sayan Bose, Subhasis Mandal, Journal of Electron Devices, Volume-19, April 2014. **Design and Implementation of an Unmanned Vehicle using a GSM Network without Microcontrollers** Sourangsu Banerji Journal of Electrical Engineering, Volume-14, Issue 1, April 2014. **Computing Density of States of One-Dimensional Photonic Crystal under P-Polarized Incident Wave** Abhishek Halder, Sourangsu Banerji, Sayan Bose, Subhasis Mandal, Arpan Deyasi International Journal of Modern Communication Technologies & Research, Volume-2, Issue-3, March 2014. **To Study the Effect of Grating Length on Propagating Modes in Bragg Filters with $Al_{(x)}Ga_{(1-x)}N/GaN$ Material Composition** Sourangsu Banerji International Journal of Advanced Science and Technology, Volume-63, February 2014.

On IEEE 802.11: Wireless LAN Technology
Sourangsu Banerji, Rahul Singha Chowdhury
International Journal of Mobile Network Communications & Telematics, Volume-3, Issue-4, August 2013.

Wi-Fi & WiMAX: A Comparative Study
Sourangsu Banerji, Rahul Singha Chowdhury
Indian Journal of Engineering, Volume-2, Issue-5, pp.: 51-54, March 2013.

Design and Implementation of developed an Unmanned Vehicle using a GSM Network with Microcontrollers
Sourangsu Banerji
International Journal of Science, Engineering and Technology Research, Volume-2, Issue-2, pp.: 367-374, February 2013.

Modification of UV Surface Plasmon Resonances in Aluminum Hole-Arrays with Graphene
Yunshan Wang, Sourangsu Banerji, Jieying Mao, Sara Arezoomandan, Berardi Sensale Rodriguez, Steve Blair
SPIE Optics + Photonics, San Diego, CA, USA, August 2017.

UV Surface Plasmon Resonance Modification in Aluminum Nanohole-Arrays Using Graphene
Sourangsu Banerji, Yunshan Wang, Jieying Mao, Sara Arezoomandan, Steve Blair, Berardi Sensale Rodriguez
Electronic Materials Conference (EMC), Notre Dame, IN, USA, June 2017.
[Best Student Paper Award]

Modification of UV Surface Plasmon Resonances in Aluminum Hole-Arrays with Graphene
Yunshan Wang, Sourangsu Banerji, Jieying Mao, Sara Arezoomandan, Berardi Sensale Rodriguez, Steve Blair
CLEO: Science and Innovations, San Jose, CA, USA, May 2017.

On the Comparative Analysis of the Band Structure of One-Dimensional Photonic Crystal with Different Material Composition under Oblique Wave Incidence
Arpan Deyasi, Sourangsu Banerji
National Level Conference on Frontline Research in Computer, Communication and Device, Kolkata, WB, India, December 2015.

Application of Group Theory in Transfer Matrix Technique for Band Structure Calculation in 1D Photonic Crystal
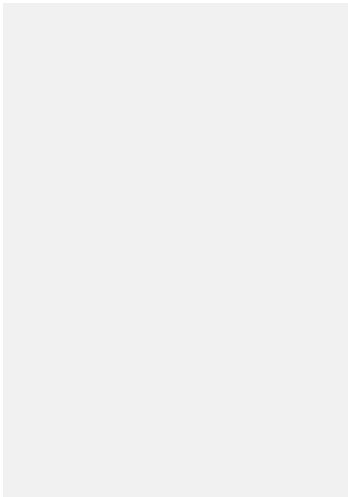Sourangsu Banerji, Arpan Deyasi
International Conference on Computer, Communication and Control, Kolkata, WB, India, September 2015.

Computing Photonic Eigen-Modes and Bandwidth for 1D Photonic Crystal with Different Material Compositions
Arpan Deyasi, Sourangsu Banerji
2nd National Conference on Emerging Trends in Engineering & Sciences, Kolkata, WB, India, July 2015.

Analysis of Reflectivity for Propagating Wave inside 1D Photonic Crystal with Different Material Systems
Arpan Deyasi, Sourangsu Banerji
International Conference on Computing, Communication & Manufacturing, Kolkata, WB, India, December 2014.

Conference Proceedings, Posters & Talks

Theoretical Investigation on Photonic Bandgap Tailoring in One-Dimensional Photonic Crystal using Different Numerical Methods
Arpan Deyasi, Sourangsu Banerji, Abhishek Halder, Sayan Bose
International Conference on Devices, Circuits and Communications, Kolkata, WB, India, September 2014.

First-order Calculation of Band Structure of One-Dimensional Photonic Crystal
Sayan Bose, Abhishek Halder, Sourangsu Banerji, Arpan Deyasi
National Conference on Materials, Devices and Circuits in Communication Technology, Burdwan, WB, India, February 2014.

Comparative Study of Density of States of 1D Photonic Crystal for Different Polarization Conditions of Incident Wave
Sourangsu Banerji, Arpan Deyasi, Abhishek Halder, Sayan Bose
National Conference on Materials, Devices and Circuits in Communication Technology, Burdwan, WB, India, February 2014.

Technical Skills

Characterization Techniques
Raman Spectroscopy
UV-VIS Spectrometry
Fluorescence Spectroscopy

Programming Languages
Java
C/C++
Python

Design Tools
Xilinx (VHDL)
Microwind
NI LabVIEW
KLayout
Mentor Graphics Pyxis

Software Packages
Lumerical FDTD Solutions
Lumerical MODE Solutions
MATLAB®
ANSYS HFSS®
COMSOL®
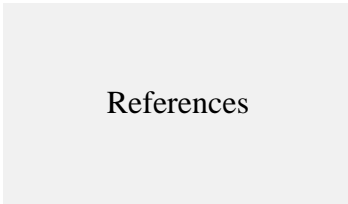
References

Dr. Berardi Sensale-Rodriguez
Assistant Professor
University of Utah

Dr. Ajay Nahata
Professor
University of Utah

Dr. David Alan Schurig
Associate Professor
University of Utah