



## Revathy Padmanabhan

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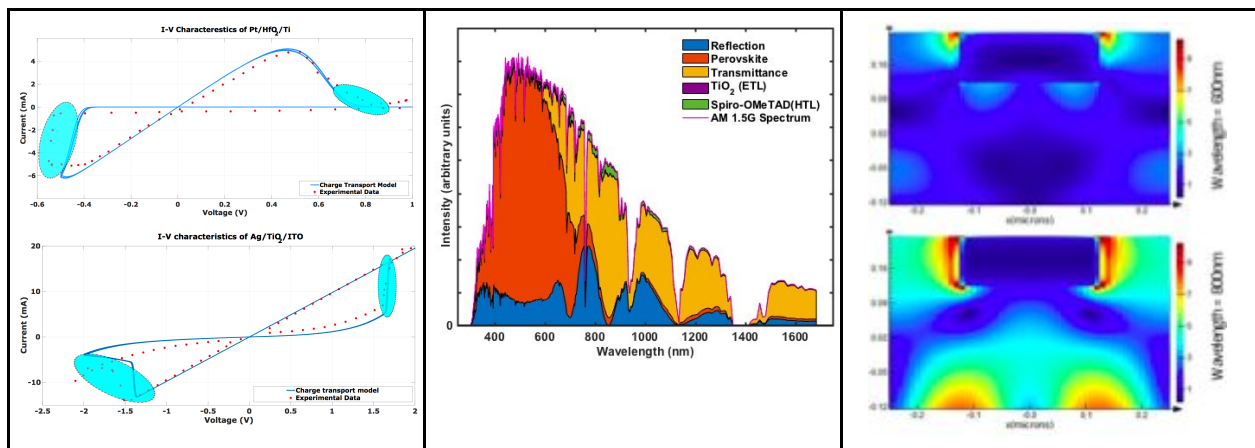


### Research Interests

- modeling, design, fabrication and characterisation of resistive switching memories
- multi-functional optically sensitive devices using perovskites
- microelectromechanical systems (MEMS)

### Brief Summary of Research

My expertise lies broadly in the area of semiconductor device fabrication and characterisation. I have worked on investigating different high-k materials for capacitor applications, and designing CMOS-compatible photodetectors and varactors. Recently, I have been working on analysing transport in resistive switching memories, along with its design, fabrication & characterisation. I am also working on design & analysis of different device structures/architectures for high-efficiency optically-sensitive devices using perovskites.



### Projects

- Multi-functional optically-sensitive devices with high efficiencies using perovskites (submitted to SERB, 2019)

### Recent Publications

- **R. Padmanabhan**, O. Sorias, O. Eyal, V. Mikhelashvili, M. Orenstein, and G. Eisenstein, "Responsivity Enhancement in Metal-Insulator-Semiconductor Photodetectors on Silicon-On-Insulator Substrates by Plasmonic Nanoantennas," *IEEE Trans. Nanotechnol.*, vol. 16, no. 5, pp. 778-783, Sep. 2017.

- V. Mikhelashvili, **R. Padmanabhan**, and G. Eisenstein, “Simplified parameter extraction method for single and back-to-back Schottky diodes fabricated on silicon-on-insulator substrates,” *J. Appl. Phys.*, vol. 122, no. 3, pp. 034503:1-9, Jul. 2017.
- V. Mikhelashvili, G. Ankonina, Y. Kauffmann, G. Atiya, W. D. Kaplan, **R. Padmanabhan**, and G. Eisenstein, “Optical control of capacitance in a metal-insulator-semiconductor diode with embedded metal nanoparticles,” *J. Appl. Phys.*, vol. 121, no. 21, pp. 214504:1-7, Jun. 2017.