



## Dr. Sukomal Dey

Ph.D. Indian Institute of Technology, Delhi  
 Assistant Professor, Electrical Engineering  
 sdey28@iitpkd.ac.in, +91-8584821645  
<https://iitpkd.ac.in/people/sdey28>

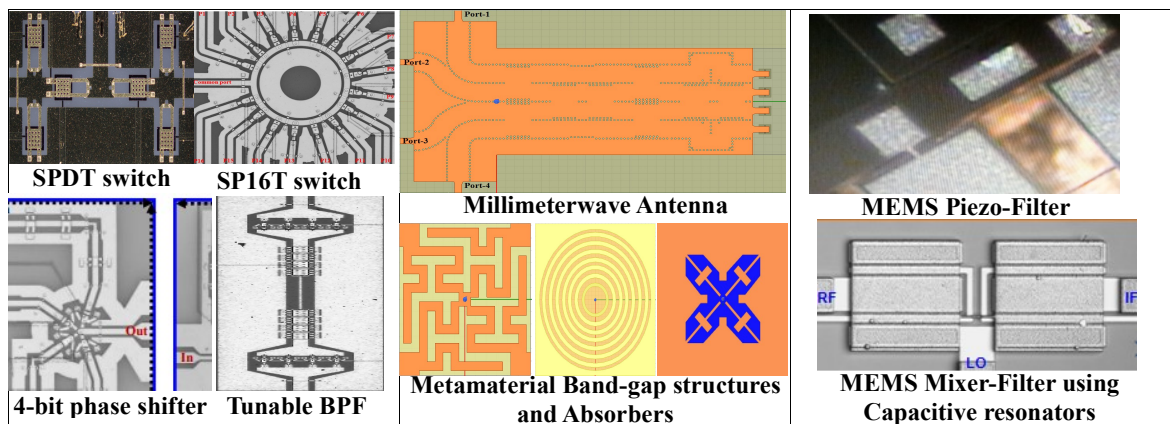


### Research Interests

- Microwave and Millimeterwave Integrated Circuits
- Broadband and reconfigurable Antennas
- RF MEMS at Millimeter and Submillimeter wave Frequencies
- Ultrasound Transducers using Capacitive and Piezoelectric MEMS Resonators

### Brief Summary of Research

My research interests span the broad area of RF and Microwave devices and circuits including antennas with more focus on the development of microwave, millimetrowave and sub-millimetrowave devices utilizing Monolithic Microwave Integrated Circuits (MMIC) and Micromachining technologies. Nevertheless, my research is also focus on functional parameter analysis of micromachined ultrasound transducers (MUT) using MEMS resonators and circuits.



### Projects

- 'Design and Development of RF Front-end (RFFE) Passive Components for Indian Fifth Generation (5G) Cellular Mobile Network Applications from Microwave to Millimeterwave', Early Career Research award (ECRA), funded by Science and Engineering Research Board (SERB), Project Starting Date: 14<sup>th</sup> May, 2019, Project value: 42.1 lakhs, I am the Principle investigator.

### Recent Publications

- J. Satija, **Sukomal Dey** and S. S. Li, "A Chip-Scale Frequency Down-Conversion Realized by MEMS-Based Mixler and Local Oscillator " in *International Conference on Smart Sensors* (ISS-2019), Hsinchu, Taiwan
- Shibani Koul and **Sukomal Dey**, "MEMS K-band 4-bit phase shifter using two back to back SP16T switching networks"; in *IEEE Journal of Microelectromechanical System* vol. 27, no.4, pp. 643-655, Feb 2018
- **Sukomal Dey**, Shibani K. Koul, Ajay Poddar and Ulrich Rodhe "Reliable and Compact 3-Bit and 4-Bit Phase Shifters using MEMS SP4T and SP8T Switches", in *IEEE Journal of Microelectromechanical System*, vol. 27,no.1, pp. 113-124, Feb 2018