# DR. SMRITI AGARWAL

**Assistant Professor, smritiagarwal127@gmail.com**


## Areas of Interest

Microwave and Millimeter wave radar imaging for standoff target detection and identification, Concealed fault diagnostics for quality monitoring, Study of EM wave interaction for different mediums and applications, Terahertz imaging, Plasmonics- optical integrated circuits, Planar antennas

## Educational Details

| Degree | Specialization | University | Year |
|---|---|---|---|
| Ph.D. | High Frequency Active Imaging system | IIT Roorkee | 2015 |
| M.Tech. | Digital Communication | U. P. Technical University | 2010 |
| B.Tech. | Electronics Engineering | Dr. R.M.L. Avadh University | 2003 |

## Awards and Fellowships

**Young Scientist Award** 2015
By Uttarakhand State Science and Technology Congress, Dehradun for Best research paper

**Women Scientist fellowship (WOS-A)** 2011
By Department of Science and Technology (DST), India for three years

**Diamond Jubilee Research fellowship** 2004
By Council of Scientific and Industrial Research (CSIR), India for two years

## Sponsored Research Project

1. Research project titled "*Terahertz Nanoantennas and its Application in Imaging*" funded by Department of Science and Technology (DST), India in year 2011.

## Professional Background

1. **Assistant Professor (E&CE)** 2015 – till date
   G. B. Pant Govt. Engineering College, New Delhi (India)
2. **Senior Lecturer (E& CE)** 2006 –2008
   Shri Ramswaroop Memorial College of Engineering & Management, Lucknow, U.P. (India)
3. **Research Intern** 2004 –2005
   Central Drug Research Institute (CDRI), Lucknow, U.P. (India)

## Research Publications

### List of publications in Journal

- S. Agarwal, and D. Singh (2016) Optimal Non-Invasive Fault Classification Model for Packaged Ceramic Tile Quality Monitoring Using MMW Imaging, *Journal of Infrared, Millimeter, and Terahertz Waves* (Springer), 37 (4), 394-413.
- S. Agarwal, and D. Singh (2015) An adaptive statistical approach for non-destructive underline crack detection of ceramic tiles using millimeter wave imaging radar for industry application, *IEEE Sensors Journal*,15(12),7036 – 7044.
- S. Agarwal, A. Bisht, D. Singh and N.P. Pathak (2014) A Novel Neural Network based Image Reconstruction Model with Scale and Rotation Invariance for Target Identification and Classification for Active Millimeter Wave Imaging, *Journal of Infrared, Millimeter, and Terahertz Waves*(Springer), 35 (12), 1045-1067.
- S. Garg and N. Srivastava (2011) New Binary User Codes for DS CDMA Communication, *Journal of Engineering Science and Technology*, 6 (6), 674-684.
- S. Garg and N. Srivastava (2009) New Linear Phase Binary User Codes and Their Performance Comparison with Existing Codes for Direct Sequence Spread Spectrum Communication, *Journal of Advances in Wireless and Mobile Communication*, 2 (2), 85-93.

### List of publications in Conference Proceedings

- S. Agarwal, D. Singh, "Non-Invasive Multilayer Dielectric Material Thickness Measurement Using V Band Millimeter Wave Radar," *IEEE* Asia Pacific Microwave Conference ***(****APMC 2016****)***, IIT Delhi (India), pp.1-4, 5-9 Dec. 2016.
- S. Agarwal, B. Kumar, D. Singh, "SVM Based Concealed Target Quality Monitoring System using Millimeter Wave Radar," *11th IEEE International Conference on Industrial and Information Systems (ICIIS 2016)* IIT Roorkee (India), pp.1-5, 3-4 Dec. 2016.
- S. Agarwal and D. Singh, "Non-Invasive and Non-Destructive underline Fault Detection using Active Millimeter Wave Radar" in *9$^{th}$ Uttrakhand State Science and Technology Congress (UCOST)*, Dehradun (India), Feb.26-28, 2015.
- S. Agarwal and D. Singh, "Non-Invasive Conceal Weapon Detection using 60 GHz Millimeter Wave Radar System" in IEEE Recent Advances in Electronics and Computer Engineering (RAECE), IIT Roorkee (India), Feb.13-15, 2015.
- S. Agarwal, N. P. Pathak and D. Singh, "Active millimeter wave radar system for non-destructive, non-invasive underline fault detection and multilayer material analysis" in *IEEE International Microwave and RF Conference (IMaRC)*, IISC, Bangalore (India) Dec.15-17, 2014.
- S. Agarwal, N. P. Pathak and D. Singh, Concurrent 83GHz/94 GHz Parasitically Coupled defected microstrip feedline Antenna for Millimeter Wave Applications, in *4th IEEE Applied Electromagnetics Conference (AEMC)*, KIIT University, Bhubaneswar(India), Dec.18-19, 2013.
- S. Agarwal, N. P. Pathak and D. Singh, "Concurrent 85GHz/94GHz slotted gap coupled parasitic microstrip antenna for millimeter wave applications" in *IEEE National Conference on Communications (NCC)*, IIT Delhi (India), Feb.15-17, 2013.
- S. Agarwal, N. P. Pathak and D. Singh, "Performance comparison of microstrip patch antenna for 94 GHz imaging applications" *7th IEEE International Conference on Industrial and Information Systems (ICIIS)*, IIT Madras (India), Aug.6-9, 2012.

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