



Monika Tomar

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Monika Tomar is at presently serving as Professor at the Department of Physics, Miranda House, University of Delhi. Monika is a very active researcher and a popular teacher in her college. She has received the prestigious "Excellence Award for Teacher in Service" at University of Delhi on 94th Foundation Day. Dr. Monika was paper coordinator and had developed e-contents for "Semiconductor Material and Devices" under four quadrant formats for post-graduate students of discipline Material science under ePG-Pathshala of Infflibnet-UGC.

Five students have been awarded Ph.D. degree and Four students are currently pursuing Ph.D. program under her supervision independently. She has successfully completed 17 Government funded research projects and three are on-going with a total outlay of about Rs. 25 Crore. She has 01 USA Patent (Granted), 06 Indian patent (published) besides 366 research publications in international journals and proceedings of high repute to her credit. She and her research team have established a Multidisciplinary research Centre at the college having state of the art research facilities for Material Science. This laboratory is also accessed by undergraduate students for performing dissertation/project work and getting exposure to research.

Her major achievements include the development of device quality piezoelectric ZnO thin films and subsequently acoustic sensors in collaboration with Department of Physics & Astrophysics, Delhi University and CEERI, Pilani, which have been installed in PSLV satellite vehicles. Her research team developed the table top surface plasmon resonance (SPR) measurement setup whose technology has been transferred to an industry. The developed table top SPR set up has already been installed in 13 different institutes across India. In collaborations with Dept. of Physics & Astrophysics, Delhi University and one Indian Industry, she has designed the Laser-MBE system and utilized the same for fabrication of GaN based Light Emitting Diodes. She was instrumental in setting up of the device fabrication laboratory at University of Delhi. Subsequently, she fabricated Surface Acoustic Wave devices and established the development of wireless sensors. Her research areas mainly focus on Semiconductor and Surface acoustic wave (SAW) sensors for gas/chemical/radiations/bio-molecules detection, Surface plasmon resonance (SPR) technique for dielectric studies and sensing applications, Nanostructured materials, Piezoelectric and Multiferroic thin films/ceramics for energy harvesting applications, Pressure sensors, RF and microwave resonators, photonic devices, Non-linear optical studies, SAW devices, MEMS transducers and Micro-heaters, Thin film processing, Electronic device

fabrication etc. She is always motivated due to successful outcome of her research for possible development of products for DRDO and commercial applications.

Dr. Monika has delivered more than 17 invited talks at national and international conferences. She is actively involved in organizing various scientific workshops, symposium and conferences at college and University, national and international levels. She is the coordinator of D.S. Kothari Centre for Research and Innovation in Science Education (DSKC) at her college. She is also member of various research societies such as IEEE, MRSI, IAPT etc. Recently, IEEE has also awarded her Senior membership after rigorous selection process.

Apart from research, she is also actively involved in college activities and is a member of various committees. She is coordinator of college NIRF team, member of IQAC, Convener of NGPE, member of the workload committee, purchase committee etc. to name a few.