

Development of Surface enhanced Raman spectroscopy (SERS) platform for human virus detection.



Prof. J.P. Singh, Dept. of Physics, IIT-Delhi

RESEARCH INTEREST

Glancing angle deposition (GLAD) and Chemical vapour deposition (CVD) techniques and its applications



RESEARCH INTEREST

HIV virology and molecular virology, Validation of newer assays for diagnostics



Dr. Smita S Kulkarni, Scientist G, ICMR-NARI, Pune



Development of a rapid and effective diagnostic tool is the present necessity to control the mortality and morbidity caused by the virus infections. Some viruses are highly contagious, and the early detection of the pathogen would help to take the necessary measures to treat the affected while controlling its outbreak. SERS with its high sensitivity and point of care applications can be a potential diagnostic tool. A library of different disease causing viruses like HIV, SARS-CoV2, EBV, HHV-8, Hepatitis etc. is aimed to be developed on SERS platform. A nanofabrication technique will be used to create SERS substrates which can detect the virus distinctively and rapidly. The novelty of this platform lies in its ultra-sensitivity (single molecule detection) providing a unique “molecular fingerprint” of the virus. Therefore, assay development based on this technology might provide a field deployable, point of care detection tool for virus detection in the early stages of infection.



Sneha Senapati (2020SRZ8494) Int M.Sc. Life Sciences, Central university of Tamil Nadu