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Citation (summary) on the outstanding research work

In the area of cancer diagnostics, Dr. Kaustabh Kumar Maiti developed functionalized nano-particle probes for ultrasensitive detection of various human cancer biomarkers viz., cervical, breast, lung and prostate using Raman scattering (surface enhanced Raman scattering: SERS) and Imaging as a diagnostic modality. His pioneering work on label-free ultrasensitive SERS technique to generate a differential spectral fingerprint for the prediction of three major grades of cervical cancer from clinically relevant exfoliated cell samples of cervix. In the area of breast cancer, he developed diagnostic screening kit for concomitant detection of multiple breast cancer biomarkers in breast tissue samples using antibody conjugated SERS-nanotags. The kit can be used for real-time detection of the biomarkers, as and when the sample tissue is extracted from source. Hence, this kit has immense potential to develop immediate treatment strategies in heterogeneous breast cancer cases. These two high valued cancers diagnostic platform is well recognized in CSIR 12th FYP and CSIR Mission Mode projects in healthcare theme. Dr. Maiti filed two patents for both cervical and breast cancer diagnosis using Raman scattering modality.

In the area of cancer diagnosis through SERS-nanoprobes, Dr. Maiti has several outstanding contributions in high impact journals and he is currently well reputed in this area, nationally and internationally.

13.9.2021

Dr. A Ajayaghosh

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