Statement from the Applicant regarding the Research work

In the area of cancer diagnostics, extensive development has been achieved based on 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. *The most pioneering work emphasized herewith i.e., 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 and diagnostic nanoprobe i.e., diagnostic SERS-nanotag (diagnostic kit) for concomitant detection of multiple breast cancer biomarkers in single 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 high valued cancers diagnostic SERS platform has been developed and ***I would like to confirm that no awards or recognition have been received by myself for the mentioned development.***

In both the diagnostic probe development number of researchers were involved and contributed for the construction of nano-probe and clinical samples analysis. All the contributors are recognized as co-authors of the publication stated below:

- Diagnostic Spectro-cytology revealing differential recognition of cervical Cancer lesions by label-free surface enhanced Raman fingerprints and Chemomssetrics; Varsha Karunakaran, Valliamma N. Saritha, Manu M.Joseph, Jyothi B. Nair, Giridharan Saranya, Kozhiparambil G. Raghu, Kunjuraman Sujathan*, Krishnan Nair S. Kumar*, Kaustabh K. Maiti* ***Nanomedicine: Nanotechnology, Biology and Medicine*, 2020, 29, 102276**

Also, all the contributors are recognized as co-inventors of the patents:

- Screening kit for detection of grades of cervical cancer and process for the preparation thereof; Maiti, Kaustabh Kumar, Varsha Karunakaran, K.Sujathan; **PCT Int. Appl. (2020), WO 2020021568 A1 20200130. Language: English, Database: CAPLUS, Date: 30th January, 2020**

- A SERS-Nanotag and Diagnostic kit for Detecting Breast Cancer Biomarkers; Maiti, Kaustabh Kumar, K. Sujathan, Vishnu Priya Murali, Varsha K, Deepika S, Madhukrishnan M; **Indian Patent Application Ref. No. 202011034768, dated 11.08.2020; PCT/IN2021/050577, dated 14.06.2021**

Kaustabh Kumar Maiti 22/09/2021

डॉ. कौस्ताभ कुमार मैती / Dr. KAUSTABH KUMAR MAITI
प्रधान वैज्ञानिक / Principal Scientist
रसायन विज्ञान तथा प्रौद्योगिकी प्रभाग
Chemical Sciences and Technology Division
सी एस आई आर- राष्ट्रीय अंतर्विषयी विज्ञान तथा प्रौद्योगिकी संस्थान
CSIR-National Institute for Interdisciplinary Science and Technology (NIIST), Govt. of India
तिरुवनन्तपुरम/Thiruvananthapuram-695 019