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COLLOQUIUM

Development of Proteomics-Based Assays for the Detection and Prognosis of COVID-19

Speaker:

Prof. Dr. Sanjeeva Srivastava, FRSB, FRSC, FRSM, holds a professorship at the Department of Biosciences & Bioengineering of the Indian Institute of Technology Bombay (IIT) in Mumbai and heads the proteomics lab.

Time:

Thursday, July 14, 2022, 1 pm

Venue:

ISAS Campus, Lecture Hall
Otto-Hahn-Straße 6b
44227 Dortmund

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Webex: https://bit.ly/3HFam2B
Meeting-ID: 2733 819 6226
Password: jtAf3tJ4Mt3

The COVID-19 infection in severe patients leads to fatal outcomes resulting in lung injury, multiorgan failure and, eventually, death. In this project, we have developed a method for the detection of viral proteins or peptide thereof from nasopharyngeal samples. The method includes the use of viral proteins, or peptides, as markers in the detection of the coronavirus, particularly severe acute respiratory syndrome associated coronavirus (SARS-CoV). This method is relatively more accurate in the detection of the coronavirus in samples as it is capable of detecting SARS-CoV, not just in high-viral load symptomatic patients, but also in low viral load (mild symptom) patients.

Furthermore, from the plasma samples of COVID-19 mild and severe patients, we performed deep proteome analysis using Orbitrap Fusion LC-MS/MS and we were able to quantify host proteins identified as markers for determining the severity and prognosis of COVID-19 in individuals. A biomarker panel for the detection, determination of severity and prognosis of COVID-19 in individuals is being implemented to develop SRM assays.