



DEPARTMENT OF BIOTECHNOLOGY
Government of India



राष्ट्रीय प्रतिरक्षाविज्ञान संस्थान
National Institute of Immunology

Azadi ka Amrit Mahotsav

विज्ञान से विकास-प्रौद्योगिकी से प्रगति

स्वस्थ भारत सशक्त भारत

Science Setu Program

Science Setu Program Report

National Institute of Immunology (NII) conducted an online lecture program for the undergraduate students of Hansraj College, University of Delhi on 25th May, 2021, under the Science Setu program celebrating 'Azadi ka Amrit Mahotsava' / 75th Year of Independence Celebration.

Dr Bichitra K Biswal, Scientist, NII gave the lecture on the topic 'Targeting the RNA dependant RNA polymerase of SARS-CoV-2 for identifying anti-COVID-19 compounds'. In his talk he spoke about the RNA dependent RNA polymerase (RdRp) is an essential enzyme for SARS-CoV-2, the virus that causes COVID19, multiplication. Therefore abolishing the function of this enzyme by small molecule compounds may provide a therapeutic option to treat COVID19. RdRp from all RNA viruses exhibits three major canonical domains- fingers, palm and thumb. However, the RdRp from all RNA viruses belonging to the viral order Nidovirales (SARS-CoV, SARS-CoV-2, MERS) harbors two additional domains, namely the Nidovirus RdRp Associated Nucleotidyl Transferase (NiRAN) and the interface domain along with aforementioned three conventional domains. Using in silico and in vitro studies, the research team has identified small molecule compounds (sorafenib, sunitinib, and SU6656) targeting NiRAN domain. The study also suggests that sorafenib when applied in combination with remdesivir shows a synergistic effect in clearing the viral load in infected vero cells.

The talk was followed by Q&A session. Students and the faculty of Hansraj College both asked questions based on the research work and the presentation. At the end of the program, Dr Monika Kaul, Assistant Professor, Department of Botany thanked NII for conducting an interactive and engaging session for the students.