PolyU to advance diagnosis of COVID-19 pneumonia

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Collaborates with Macau University of Science and Technology

In the face of a surge in cases, rapid diagnosis and identification of high-risk patients for early intervention is crucial for controlling the pandemic.

The Hong Kong Polytechnic University (PolyU) is committed to the fight against COVID-19 and has been collaborating with various partners in the prevention and control of the disease.

PolyU has announced the launch of a new AI system jointly developed with the Macau University of Science and Technology (M.U.S.T.) in conjunction with other Chinese institutions, to assist in the rapid diagnosis of COVID-19 pneumonia.

This research was published in the prestigious international journal *Cell*, in a paper entitled "Clinically Applicable AI System for Accurate Diagnosis, Quantitative Measurements, and Prognosis of COVID-19 Pneumonia Using Computed Tomography".

The novel AI-assisted diagnostic system, based on computed tomography (CT) chest imaging, can efficiently distinguish COVID-19 pneumonia from other viral pneumonia, and predict the severity level in 20 seconds, with an accuracy of up to 90% or above. It assists radiologists and physicians in performing a quick diagnosis, especially when the health system is overloaded.

The scientists from PolyU and M.U.S.T. have also collaborated on other projects, including the seroconversion study in SARS-CoV-2 (COVID-19) patients in China, which helped pave the way for further diagnostic and therapeutic development to treat SARS-CoV-2. The study "Seroprevalence of immunoglobulin M and G antibodies against SARS-CoV-2 in China" was also recently published in another prestigious scientific journal *Nature Medicine.*

Image caption- (From left) Dr Johnson LAU, Adjunct Professor of the Department of Applied Biology and Chemical Technology of PolyU; Prof. Manson FOK, Faculty of Medicine of Macau University of Science and Technology (M.U.S.T.); Prof. Alexander WAI, Deputy President and Provost of PolyU; and Prof. Kang ZHANG, Faculty of Medicine of M.U.S.T. introduce a new AI system for rapid and accurate diagnosis of COVID-19 pneumonia.