



Press Review Taiwan Science, Technology and Education

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Science / Technology	2
NHRI develops rapid screening kit for SARS-CoV-2 (Focus Taiwan, 02.04.2020)	2
Centralized database key to COVID-19 control in Taiwan: study (Focus Taiwan, 03.04.2020)	2
Virtual forum on combating coronavirus held by Taiwan, US (Taiwan Today, 06.04.2020)	2
Taiwanese team finds key antibodies in COVID-19 patients (Focus Taiwan, 07.04.2020)	2
Taiwan, Denmark jointly develop 12-minute COVID-19 test kit (Focus Taiwan, 08.04.2020)	2
19 vaccine shows promising results in mice: NHRI (Focus Taiwan, 09.04.2020)	2
Academia Sinica team identifies potential COVID-19 inhibitors (Focus Taiwan, 10.04.2020)	3
Taiwan-Denmark startup develops rapid test kit for COVID-19 (Taiwan Today, 13.04.2020)	3
Pneumonia detection system wins COVID-19 global online competition (Focus Taiwan, 13.04.2020)	3
Rapid diagnostic test for COVID-19 to go into production in July (Focus Taiwan, 13.04.2020)	3
Rapid diagnostic test for COVID-19 to go into production in July (The China Post, 13.04.2020)	3
Taiwan team honored in COVID-19 Global Hackathon (Taiwan Today, 14.04.2020)	3
Taiwan develops fast, accurate coronavirus test kit (The China Post, 15.04.2020)	3
Taiwan develops fast, accurate coronavirus test kit (Focus Taiwan, 15.04.2020)	4
Taiwan-developed rapid screening reagent put into trial production (Focus Taiwan, 23.04.2020)	4
Taiwan, U.S. to co-host COVID-19 hackathon (Focus Taiwan, 24.04.2020)	4
Coronavirus Hackathon co-organized by Taiwan, US in Taipei (Taiwan Today, 27.04.2020)	4
Education	4
Magic STEAM Train Project receives 2020 GLAMi Award (Taiwan Today, 15.04.2020)	4
24 Taiwanese universities listed in THE Impact Rankings (The China Post, 23.04.2020)	4
Taiwanese-American astrophysicist elected to AAAS (Focus Taiwan, 27.04.2020)	4



Science / Technology

NHRI develops rapid screening kit for SARS-CoV-2 (Focus Taiwan, 02.04.2020)

Taiwan's National Health Research Institutes (NHRI) announced April 4 that it has developed a rapid testing kit that can screen patients for SARS-CoV-2, the strain of coronavirus that causes COVID-19, in as little as 10-15 minutes. The test involves inserting a cotton swab into the patient's nose to collect a fluid sample, then placing the swab onto a test strip, which changes color depending on what strain of virus the patient is infected with, the NHRI said. Sytwu Huey-kang, vice president of the NHRI, said that after more than a month of research, it was discovered that the antibodies of Severe Acute Respiratory Syndrome (SARS), which had a major outbreak in Taiwan in 2003, can also be used to screen for SARS-CoV-2.

Centralized database key to COVID-19 control in Taiwan: study (Focus Taiwan, 03.04.2020)

An article posted on a U.S. Centers for Disease Control and Prevention website has highlighted the early steps Taiwan took to contain the spread of the new coronavirus disease in the country, especially its coordination and use of information. "Of note, the centralized, real-time database of the country's national health insurance (NHI) helped support disease surveillance and case detection," said the essay, titled "Policy Decisions and Use of Information Technology to Fight 2019 Novel Coronavirus Disease, Taiwan." The article, which appears on the U.S. CDC's "Emerging Infectious Diseases" journal and will be published in July, argued that the comprehensive response and innovative use of the NHI database by Taiwan's CDC effectively delayed and contained community transmission in Taiwan.

Virtual forum on combating coronavirus held by Taiwan, US (Taiwan Today, 06.04.2020)

Taiwan and the U.S. held a virtual forum on potential partnerships to combat coronavirus and how to expand Taiwan's international participation March 31, spotlighting both sides' interest in working together to manage the COVID-19 pandemic. Organized by the Ministries of Foreign Affairs and Health and Welfare alongside Taipei Economic and Cultural Representative Office in the U.S. and in collaboration with the U.S. Department of State and Taipei Office of the American Institute in Taiwan, the event highlighted the Taiwan Model of disease response featuring timely intervention and transparent sharing of information, as well as efforts to include Taiwan in the mechanisms, meetings and activities of the World Health Organization.

Taiwanese team finds key antibodies in COVID-19 patients (Focus Taiwan, 07.04.2020)

A Taiwanese research team has produced 25 human monoclonal antibodies based on antibody gene segments from three patients infected with the COVID-19 coronavirus. Huang Kuan-ying, a resident physician at Chang Gung Memorial Hospital who led the research team, told the press April 7 that the achievement could facilitate the development of not only rapid screening kits but also medication that targets the virus. Monoclonal antibodies (mAbs) are immune system proteins that are created in the lab. They are made by identical immune cells that are all clones of a unique parent cell. Like the body's own antibodies, mAbs recognize specific targets.

Taiwan, Denmark jointly develop 12-minute COVID-19 test kit (Focus Taiwan, 08.04.2020)

A technical cooperation effort between Taiwan and Denmark has produced a testing device for the COVID-19 coronavirus that shows the results in just 12 minutes, but it is still in the clinical trial stage, Taiwan's Ministry of Science and Technology announced April 8. The device, dubbed ViroTrack COVID-19 IgM/IgG, was developed by a joint startup BluSense Diagnostics, with funding from Taiwan, the ministry said while unveiling the test kit at a press event. All it requires is one drop of blood (30 ul) from the patient, and the ViroTrack can produce a result within 12 minutes, indicating whether the person is carrying the virus or has recovered from a COVID-19 infection, the ministry said.

19 vaccine shows promising results in mice: NHRI (Focus Taiwan, 09.04.2020)

A COVID-19 vaccine being developed by the National Health Research Institutes (NHRI) has produced promising results in mice, although further research is needed to determine its effectiveness against the disease, NHRI President Liang Kung-ye said April 8. The NHRI has been working on developing four kinds of vaccines against the COVID-19 coronavirus since February, with the development of a peptide vaccine progressing the fastest, Liang told CNA. Peptides are a chain of amino acids that are the building blocks that form proteins.



Academia Sinica team identifies potential COVID-19 inhibitors (Focus Taiwan, 10.04.2020)

Taiwan's Academia Sinica said April 10 that it has screened out protease inhibitors of the COVID-19 coronavirus, which could eventually lead to the development of targeted drugs to stop the virus from replicating itself in patients' bodies. Proteases -- groups of enzymes that break down proteins -- act as catalysts in a range of biological processes, and in the context of a virus, are often essential for the completion of the viral infectious cycle. Protease inhibitors, which can be naturally-occurring or synthetic, block the replication of the virus, and are commonly used in the treatment of human immunodeficiency virus (HIV) and hepatitis C virus.

Taiwan-Denmark startup develops rapid test kit for COVID-19 (Taiwan Today, 13.04.2020)

A rapid test kit for COVID-19 has been developed by the joint efforts of Taiwan-Denmark startup BluSense Diagnostics and Taoyuan City-headquartered Ten-Chen Medical Group in northern Taiwan, the Ministry of Science and Technology announced April 10. The test kit, which has a sensitivity rate of up to 90 percent, can detect the virus in only 12 minutes from a single drop of blood, the MOST said. It can be used to diagnose asymptomatic cases and determine whether it is safe to release a COVID-19 patient from the hospital.

Pneumonia detection system wins COVID-19 global online competition (Focus Taiwan, 13.04.2020)

An automatic pneumonia detection system developed by a team from Tainan-based National Cheng Kung University (NCKU) has become one of the winners of an online competition organized by the World Health Organization (WHO) to seek solutions for tackling challenges related to the COVID-19 coronavirus pandemic, the university said Monday. The team, named "MedCheX," headed by NCKU professor Chiang Jung-hsien, was announced on April 10 as one of the 89 highlighted projects among 1,560 submissions in the COVID-19 Global Online Hackathon, with an e-alert system that can detect pneumonia from chest x-rays and automatically alert the doctor more quickly, NCKU said in a press release.

Rapid diagnostic test for COVID-19 to go into production in July (Focus Taiwan, 13.04.2020)

A rapid diagnostic test for COVID-19 developed by Taiwan's Industrial Technology Research Institute (ITRI) is scheduled to go into production in July, a Taiwanese official said April 13. The ITRI has developed a prototype for the testing device, which can produce results in under an hour at a 90-percent accuracy rate, Vice Minister of Economic Affairs Lin Chuan-neng said at a press conference. The nucleic acid test is designed to screen patients who are in the incubation period, meaning those who have contracted the disease but have not yet displayed symptoms, Lin said.

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Taiwan team honored in COVID-19 Global Hackathon (Taiwan Today, 14.04.2020)

A pneumonia detection system developed by a team from National Cheng Kung University in southern Taiwan's Tainan City was honored in the health category of the online COVID-19 Global Hackathon. Comprising four graduate students at NCKU's Department of Computer Science and Information Engineering, MedCheX employed machine learning to design a model that can automatically detect the presence of pneumonia based on 1,400 positive and negative chest X-rays provided by the Department of Medical Imaging at NCKU Hospital.

Taiwan develops fast, accurate coronavirus test kit (The China Post, 15.04.2020)

Taiwan researchers have developed a new nucleic acid test kit for the virus that causes the COVID-19 disease, and it can produce results in an hour, with 90 percent accuracy, the Industrial Technology Research Institute (ITRI) said April 15. The kit was developed by ITRI researchers in cooperation with the National Defense Medical Center and four private companies, ITRI President Edwin Liu said, during the unveiling of the test kit at a press conference in Taipei. Similar in size to a soda can, the test kit is "highly accurate, lightweight, sensitive and efficient," the ITRI said.



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Taiwan-developed rapid screening reagent put into trial production (Focus Taiwan, 23.04.2020)

A research team at Academia Sinica has developed a key reagent for a pioneering rapid screening test for the COVID-19 coronavirus disease and the technology has been transferred to seven companies, one or two of which will be chosen for possible mass production, James Liao, president of Taiwan's most prestigious research institution, said April 23. The team led by Yang An-suei, a research fellow at the institution's Genomics Research Center, has yielded the unprecedented results at unimaginable speed, Liao said at a legislative hearing, adding that it took only one month for the team to create a product prototype, compared with the three-six months normally required for such development.

Taiwan, U.S. to co-host COVID-19 hackathon (Focus Taiwan, 24.04.2020)

A hackathon competition was announced in Taipei April 24 by Taiwan's government and the American Institute in Taiwan (AIT), to boost the development of innovative solutions for controlling and stopping the global coronavirus COVID-19 pandemic. The Coronavirus Hackathon (cohack) contest was jointly introduced by Vice Premier Chen Chi-mai and AIT Director Brent Christensen to encourage experts in relevant sectors to help create application programs aimed at using data related to epidemic prevention and control in a more efficient and accurate manner.

Coronavirus Hackathon co-organized by Taiwan, US in Taipei (Taiwan Today, 27.04.2020)

An online hackathon co-organized by the Executive Yuan and American Institute in Taiwan to develop solutions for combating coronavirus kicked off April 24 in Taipei City. At the launch ceremony, Vice Premier Chen Chi-mai said the Coronavirus Hackathon builds on the Taiwan-U.S. Joint Statement on a Partnership against Coronavirus announced by the Ministry of Foreign Affairs and AIT March 18. Bringing together experts from around the world, the competition is seeking creative, practical solutions for epidemic prevention and control, Chen said.

Education

Magic STEAM Train Project receives 2020 GLAMi Award (Taiwan Today, 15.04.2020)

National Palace Museum's Magic STEAM Train project has been chosen as winner of a 2020 GLAMi Award, spotlighting the institution's innovative approach to educating Taiwan's youth about the country's cultural heritage. The project was awarded first place in the education program category for its interdisciplinary approach to teaching local students about the ancient artifact and artwork collections at NPM. Combining elements of science, technology, engineering, arts and mathematics, Magic STEAM Train has traveled to more than 70 elementary, middle and high schools in remote areas since the project was launched in 2018.

24 Taiwanese universities listed in THE Impact Rankings (The China Post, 23.04.2020)

A total of 24 Taiwanese universities are featured in the Times Higher Education (THE) Impact Rankings measuring the social and economic impact of such institutions, released April 23. Tainan-based National Cheng Kung University (NCKU) ranked highest in Taiwan at No. 38, followed by National Changhua University of Education (No. 66), in the "2020 impact rankings" released by the London-based magazine. The rankings measures the social and economic impact of universities based on the United Nations' 17 sustainable development goals (SDGs).

Taiwanese-American astrophysicist elected to AAAS (Focus Taiwan, 27.04.2020)

Taiwanese-American astrophysicist Ma Chung-pei has been elected to the American Academy of Arts and Sciences, a 240-year-old organization that honors the most accomplished artists, scholars, scientists and leaders in the United States. Ma, 54, is a cosmologist and astrophysicist who studies dark matter and dark energy, the cosmic microwave background, gravitational lensing, galaxy formation and evolution, supermassive black holes and the large-scale structure of the universe, according to a news release from University of California, Berkeley, dated April 24.

Top of the Document