Science as a Bridge to Benefit Global Well-being

By LONG Yun & BI Weizi

Martin Banwell, a world-renowned Australian scientist, amassed a lengthy list of honors during his academic career in the field of organic chemistry. He became a fellow of the Australian Academy of Science in 2004 and joined Jinan University (JNU) as a full-time professor at the end of 2019, before being appointed the first dean of the Institute of Advanced and Applied Chemistry Synthesis (IAACS).

Professor Banwell was presented with the 2021 Chinese Government's Friendship Award in recognition of his significant contributions to China's modernization and cooperation with other countries.

Competitive academic environment

Banwell described China's academic environment as being dynamic, competitive and stimulating. China's support of a broad range of scientific research, coupled with a sizable chemical industry, went a long way to convince him to further his academic research in the country.

"I feel as though China is a major focal point of research in chemistry in the world these days," he said. He is appreciative of the opportunities JNU has provided him and said, "The combination of all these possibilities makes life attractive here." He also praised his colleagues at JNU for laying the groundwork for his research work.

In addition, Banwell noted that China is becoming more concerned with using the powerful tools of organic chemistry to tackle with global warming and other major environmental issues.

He emphasized the critical role of green chemistry in fostering an economically and environmentally sustainable future. In terms of commercializing scientific discoveries in the chemistry field, Banwell noted that Guangdong province benefits from its strong chemical industry and the strong emphasis placed on translating interesting research results in the laboratory into commercial products.

He also noted that failure is actually part of the landscape progress. "We should always prepare to encounter failures and interpret or exploit them properly so that we eventually achieve our goals," he said, adding that the most crucial ingredients for translating university achievements into commercial products and processes are funding (for research) and perseverance.

"China has numerous successful examples and astounding accomplishments in research and innovation," he said, sounding distinctly optimistic about China's innovation ecosystem.

Banwell believes that the IAACS has a long-term role to play by continuing to develop its ongoing research program and so addressing all sorts of interesting new problems (and opportunities) emerging in an increasingly complex world. According to him, research is an ongoing and never-ending mission.

Cooperation to make a difference

Despite the current geopolitical complexities and the challenges presented by COVID-19, Banwell says there will always be fundamental value in international scientific exchanges because this can promote global well-being, emphasizing that, "Scientific knowledge is like water, it flows everywhere."Based on his experience, concerted efforts are essential for increasing the body of knowledge and identifying important discoveries going forward.

Professor Martin Banwell. (COURTESY PHOTO)

According to Banwell, the IAACS maintains active contact with research groups in Australia, Brazil, France, the U. S. and U.K. "We hope that outstanding experts in chemistry from other countries will visit China in the not-too-distant future and so enhancing already fruitful academic exchanges. Their work on drug development and green chemistry complements ours extremely well," he said, clearly pushing the need for cooperation.

Banwell anticipated that joint actions and "chemistry" with international peers would result in exciting new discoveries and developments, noting that international exchanges are critical while also expressing hope they continue to thrive.

He applauded China's readiness to welcome increasing numbers of foreign experts to conduct research as well as advance technological development and so resulting in the generation of greater global research resources. Creating win-win arrangements between China and the rest of the world must be the approach that is adopted.

As to the sci-tech collaboration between China and Australia, he said, "I think science is an excellent way of building bridges between China and Australia. I think there are numerous possibilities in that respect, and I am hoping to play a role as a bridge between the two countries with the advantage of knowing both well".

Banwell is also looking forward to resuming international travel in order to conduct more in-depth and face-to-face communications among sci-tech professionals.

Letter to the Editor

Education That Inspires Generations

By Hasmik Hakobyan

As a goodwill ambassador, I practice cultural diplomacy, revealing to the world "the souls of the nations" I closely relate to.

When trying to show China's might as an emerging superpower not only in economic processes but also in modern educational practices, it is impossible to look at the history of China without admiration.

There are so many examples of bravery and determination throughout its long history to offer to the world. Many powerful civilizations of the past are extinct, but China continues to thrive and blossom in the new world. What often goes unnoticed is that a major part of China's powerful history is its education.

The great educator Confucius left the major legacy of education in China and the teachers who came after him tried to hold high the torch of learning. Few civilizations of the ancient world had any scholastic or historical figure comparable to Confucius, and his teachings are in the hearts and minds of not only Chinese people, but also a lot of educators who have emerged to teach across East and West cultural paradigms.

China's formal education system is the oldest in the world, established nearly two millennia ago. From being reserved for the aristocracy, to the table of an individual learner, education in China went through enormous transformation. This transformation played an important role in the economic efficiency and social consistency of the country. It was with this determination that the Chinese government kept gearing China to maintain its academic and educational excellence during the darkest hours and wars. Thanks to the efforts of the CPC, the country's literacy rate increased in the mid-50s of the last century and educational reforms became the target focus of the government's trend and priorities.

No nation in the world has emphasized education the way China does. The policy of providing modern education upon a national basis was adopted a few years ago. Many language schools, along with technical and professional schools, have been established across various provinces. The Chinese International Education Foundation, which officially oversees Confucius Institutes, has also started an educational and cultural promotion program. Since 2004 the Confucius Institutes have been promoting and teaching Chinese culture and language in dozens of countries throughout six continents. From holding Chinese proficiency tests (HSK Examination) to teachers' training, hosting cultural and artistic presentations, the institute provides information about contemporary China.

In a globalized world, China opened its arms, offering various degree and exchange programs to encourage studies in China. In recent years, close to half a million foreign students study in China at almost 1,000 universities annually. Across China 274 universities are offering scholarships for international students on an annual basis. What a great way to support local Chinese teaching internationally, introduce Chinese language and culture and facilitate cultural exchanges.

China is not only moving into a period of significant transition, but is also setting an example for the countries to examine, learn, and adopt. It went ahead by nationalizing this strategy and forming a national-level response to recruiting and sustaining foreign talent. In January 2020, during the educational symposium in Beijing, Premier Li Keqiang urged developing mechanisms to attract foreign talent with families to move to China. This strategy is extremely beneficial for offering sustainability and educational opportunities to foreign families with children, planning their work and life in China.

In the recent past, China's importance has been increasing in the world's economic and technological landscapes. In this interconnected world, Chinese modern education is becoming more internationalized in promoting cultural awareness on multilateral levels and becoming the cornerstone of World Intercultural Dialogue.

Dr. Hasmik Hakobyan is founder of the Teachers' Professional Developments Center (TPDC) and teacher at the international department of Chongqing No. 8 Educational School Group.

Dr. Hasmik Hakobyan. (COURTESY PHOTO)

FAQs about Antigen Self-testing for COVD-19

Service Info

By Staff Reporters

As of March 18th, 2022, China's National Medical Products Administration has approved 17 COVID-19 antigen self-testing products as a supplement to the standard nucleic acid testing to help fight the spread of the virus. Here is some important information about the newly approved COVID-19 antigen self-testing.

Q: Can antigen self-testing replace nucleic acid testing?

A: The nucleic acid test result is still essential to confirm novel coronavirus infection. Antigen testing uses the principle of immunology and can complete virus detection in a non-laboratory environment quickly. It is an effective supplement to nucleic acid testing but can not be a replacement. (See the article on page 1)

Q: Who can use COVID-19 antigen self-testing kits?

A: There are three groups of people who can use the antigen test kits:

Individuals visiting local clinics within five days of having respiratory symptoms or fever.

Those who are under quarantine.

And residents who want to take the test.

Q: Where do you get the self-test kits?

A: Community residents can buy self-test kits from retail drugstores and online sales channels.

For people under quarantine, administrative authorities organizing the quarantine, such as communities, villages and quarantine sites, are responsible for purchasing, distributing and managing the self-test kits.

Q: What are the procedures for self-testing?

A: The COVID-19 antigen self-testing generally uses nasal swab samples. Read and follow the instructions for use. Here is a quick guide.

Before taking the test:

You should wash your hands with water or sanitizer thoroughly.

Read the instructions.

Check the expiration date of the kit and the contents included in your kit.

Ensure the environment is suitable for performing the test. Please be aware that exposure to extreme hot or cold temperatures and humid environments may affect self-testing accuracy.

Sample taking:

Blow your nose with the tissue before collecting the samples. Take the nasal swab out from its container and avoid touching the tip of the swab with your hands.

Insert the swab about 1-1.5 centimeters into one nostril while keeping your head slightly tilted. Rotate the swab inside the nostril wall at least four times and for no less than 15 seconds. Repeat the same process in the other nostril.

People aged 14 or older can take their own nasal samples. For children aged 2-14, the sample should be done by adults.

After sample-taking:

Place the nasal swab in the sampling tube immediately after taking the sample. The swab head should be rotated and mixed evenly in the preservation solution for at least 30 seconds. Squeeze the swab head through the outer wall of the sampling tube at least five times.

Press the cap tightly onto the tube to avoid any leaks.

Test the swab samples and wait for the results according to the instructions.

Q: How to read the results?

A: *Positive result:*

Two lines appear. One colored line should be in the control line region (called C-line), and another colored line should be in the test line region (called T-line).

Negative result:

Only C-line appears in red or purple.

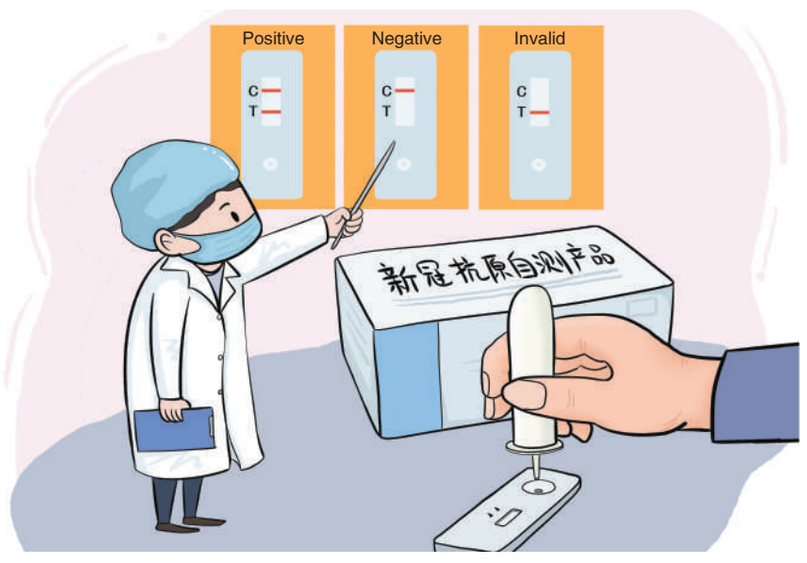
Invalid result:

C-line does not appear in any color.

Q: What to do after testing positive from an antigen test?

A: People who have positive antigen test results should contact local authorities immediately, regardless of whether they have respiratory symptoms or a fever. They will be taken to specific medical facilities for nucleic acid testing.

(Source: CCTV)



China's National Medical Products Administration has approved 17 COVID-19 antigen self-testing products. (PHOTO: VCG)

Optimum Astro-observation Base Built on Qinghai-Tibet Plateau

From page 1

Among them, the 50BiN telescope project developed by China West Normal University was officially put into use in December 2020.

Four projects, including the Stellar Observations Network Group (SONG) developed by the NAOC and the multi-application survey telescope array (MASTA) by the Purple Mountain Observatory, have completed their main body construction.

The University of Science and Technology of China is building a 2.5-meter-diameter telescope in the area, and it is set to complete installation and begin operation in 2023, said project leader Zhu Qingfeng.

This year, the construction of Nanjing University's Time Domain Observatory (TiDO) and Tsinghua University's Multiplexed Survey Telescope kicked off. The latter, with a diameter of 6.5 m, is the largest in the base.

The construction of the Lenghu astronomical observation base provides very good opportunities for the development of optical astronomy, planetary science and deep space explorations, as well as bridge the longitudinal gap between the known best sites (all in the Western Hemisphere), according to Deng Licai, researcher from the NAOC.

Traditional Eastern Wisdom

First Chinese Doctor Discovering Scarlet Fever

By Staff Reporters

Ye Tianshi (1666-1745) was a well-renowned medical practitioner in the Qing Dynasty, and the first person who discovered scarlet fever in China.

During his lifetime, Ye was so busy treating patients that he had no time for writing. As a consequence, most medical works attributed to him were actually compiled by his disciples and descendants, including *Wen Re Lun (Treatise on Warm and Heat Pathogens)*, and *Lin Zheng Zhi Nan Yi An (Guide to Clinical Practice Based on Medical Case Records)*.

Ye posited that warm diseases develop and transmit through four stages, namely wei (defensive phase), qi (qi-phase), ying (nutrient-phase), and xue (blood-phase). The characteristics of wei are fever, sensitivity to cold, headache, and rapid pulse. Next qi is the phase of most active disease, characterized by high fever, sweating, dry mouth, and rapid pulse. Ying is characterized by rising fever at night, confusion, and weak pulse. Finally, xue consists of agitation, rash, and in some cases vomiting of blood or blood in the stool or urine.

Ye Tianshi's influence on the development of Chinese medicine extended to almost all areas of practice, from theory to treatment, from diagnosis to formula formation. He proposed new methods in tongue and pulse diagnosis, and many of the key formulas for treating warm diseases were derived from his case records. Yin Qiao San (gold silver flower and forsythia powder) and San Ren Tang (San Ren Decoction) are just a few widely known examples.