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Tsinghua Story
Chinese President Xi Jinping inspects COVID-19 scientific research, diagnosis and treatment

On February 17th, Tsinghua’s Spring semester began. Setting up their mobile phones or computers and taking out their notebooks, Tsinghua students from all over the world were well prepared for their first class of the new semester. Online courses offered students the opportunity to make good use of their time away from campus while reducing their exposure to the virus. For Spring semester 2020, Tsinghua offered 4,254 course sessions in total, delivered by 2,681 faculty members to 25,091 students. Of these, 3,923 sessions are available online.

Global universities convene online to share experience in combating COVID-19

An online meeting, organized by the Asian Universities Alliance (AUA), was attended by 15 universities around the world to discuss fighting the COVID-19 pandemic on March 27th. The meeting featured the sharing of university response measures, with a view to identifying areas of cooperation on education and scientific research. In this way, the meeting echoed sentiments expressed at the G20 Extraordinary Leaders’ Summit on COVID-19 on March 26th, where President Xi Jinping called on the international community to strengthen confidence, act with unity and work together in a collective response against COVID-19. During the meeting, presidents, vice-presidents and representatives from the 15 universities shared their actions, experience and views on topics such as the roles universities can play in education and scientific research during the pandemic.

Spring semester begins online

Chinese President Xi Jinping inspects COVID-19 scientific research, diagnosis and treatment

Chinese President Xi Jinping inspected the scientific research on novel coronavirus disease (COVID-19) as well as the diagnosis and treatment of the disease in his visit to two Institutes in Beijing. He visited the Academy of Military Medical Sciences and the School of Medicine at Tsinghua University on March 2nd, learning about the progress on the vaccine, antibodies, medicine and fast testing kit research and application. President Xi gave his regards to experts and researchers and chaired a symposium to listen to the views and advice from officials of relevant departments and researchers.

Special Dialogue: Online Education in the COVID-19 Response and Beyond

On the evening of April 24th, Beijing time, a special dialogue was held online. Co-convened by Tsinghua University and UNESCO, the Special Dialogue explored the extraordinary challenges to ensure higher learning continuity during the COVID-19 pandemic. Themed “Online Education in the COVID-19 Response and Beyond,” the dialogue shared university case studies, best practice, and experience in online education.
**Tsinghua University held its 2020 commencement ceremonies for undergraduate and postgraduate students online.** The online commencement ceremonies were livestreamed worldwide on various media and social media platforms including Facebook and Twitter in both Chinese and English. Students who were unable to return to the university, and their families and friends watched the virtual celebration from the comfort of their own homes.

**Tsinghua University hosts first-ever online commencement ceremony**

Tsinghua University held its 2020 commencement ceremonies for undergraduate and postgraduate students online. The online commencement ceremonies were livestreamed worldwide on various media and social media platforms including Facebook and Twitter in both Chinese and English. Students who were unable to return to the university, and their families and friends watched the virtual celebration from the comfort of their own homes.

**Tsinghua holds seminar on “Higher Education in Cloud - Promise, Experience, and Expectation”**

Tsinghua University convened a seminar on July 3rd to review its success in online teaching during the pandemic, share useful experience and explore new ways to further improve its online education system in the future.

**Tsinghua launched 110th Anniversary Logo**

On September 1st, Tsinghua University released a commemorative logo for its 110 years’ anniversary. The elements in the logo reflected the profound culture of Tsinghua University. The “110” in the logo reflects the fact that Tsinghua people have inherited fine traditions, have explored and innovated bravely and have striven to open a new chapter in Tsinghua’s second hundred years, which is manifested in the 110th anniversary theme “Strive for Excellence, Innovate for the Future.”

**Tsinghua begins its Fall semester combining online and offline learning**

Tsinghua University began its Fall semester by holding the first university-wide lectures of the semester. The first lectures in the 2020 Fall semester were held in the main building of the university and were broadcast live on various media platforms, including Tsinghua’s own online teaching platform “Rain Classroom,” in both Chinese and English. Unlike the Spring semester, which was held completely online due to the pandemic, Tsinghua’s Fall semester is going to see classes being taught both online and offline.
Chinese President Xi Jinping addressed the 2020 meeting of the Tsinghua University School of Economics and Management Advisory Board via video link and expressed his congratulations on the 20th anniversary of the board. The 2020 Meeting of the board was held on December 3rd at Tsinghua University.

Tsinghua SEM holds 2020 Advisory Board Meeting

Chinese President Xi Jinping addressed the 2020 meeting of the Tsinghua University School of Economics and Management Advisory Board via video link and expressed his congratulations on the 20th anniversary of the board. The 2020 Meeting of the board was held on December 3rd at Tsinghua University.

The China-US University Presidents’ Online Forum, jointly organized by Tsinghua University and Yale University, was held on October 13th, bringing together leaders from 20 leading Chinese and American universities to explore the development of higher education and to strengthen the post-pandemic resilience of university collaboration and networks.

The China-US University Presidents’ Online Forum

The China-US University Presidents’ Online Forum, jointly organized by Tsinghua University and Yale University, was held on October 13th, bringing together leaders from 20 leading Chinese and American universities to explore the development of higher education and to strengthen the post-pandemic resilience of university collaboration and networks.

The Closing Ceremony for the 18th Symposium on Scientific Research took place both online and offline on October 9th. The theme of this year’s symposium was “Innovate research model to build a world-class university innovation system”. Launched in March, it lasted for six months and went through three stages: the discussion of problems, the presentation of reports and the conclusion. Initiated in 1956, altogether 18 symposiums on Scientific Research have been held up to this year and it has become a tradition to advance scientific research work at Tsinghua.

18th Symposium on Scientific Research concludes

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Tsinghua co-hosts China-Italy University Presidents’ Forum to promote innovation for shared future

On the evening of November 5th, the eve of the 50th anniversary of the establishment of diplomatic relations between China and Italy, Tsinghua University and the Politecnico di Milano co-hosted the China-Italy University Presidents’ Forum.

The Asian Universities Alliance (AUA) Presidents Forum 2020, jointly organized by the AUA Executive Presidency 2020-2021, Nazarbayev University (NU), and the AUA Secretariat, was held online on November 26th. The forum brought leaders of 15 AUA member universities together to share their knowledge from the experience of coping with the COVID-19 crisis for sustainable survival and progressive development, and to co-create and develop, through hindsight and foresight, knowledge for more robust and resilient university systems capable of withstanding and responding to continuous, and probably more severe, uncertainties and challenges in the future.

AUA Presidents Forum held on building resilient Asian universities

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Tsinghua University President Qiu Yong urged universities around the world to further strengthen cooperation with the United Nations (UN) to achieve the Sustainable Development Goals (SDGs) and address the most urgent global challenges such as climate change. President Qiu delivered his remarks at the webinar for presidents of global universities with the UN Secretary-General entitled “University Sector Support to UN Secretary-General’s Call for a Decade of Action on the SDGs” on July 9th.

Tsinghua SPPM hosts 2020 Global Advisory Board Meeting

The 2020 Global Advisory Board Meeting of Tsinghua’s School of Public Policy and Management (SPPM) was held on November 7th. The meeting, held combining both online and offline channels under the theme “Challenges of Global Governance and Cultivation of Public Management Talents,” brought together 25 advisory board members from China and abroad to assess gaps exposed by the covid crisis in global governance, exchange ideas to strengthen it in the post-Covid world, and set priorities for the further development of the school accordingly. Chinese State Councillor and Foreign Minister Wang Yi attended the opening ceremony of the meeting, and delivered a speech entitled “Uploading Multilateralism to Tackle Global Challenges.”

Tsinghua Vanke School of Public Health unveils its international advisory board

Tsinghua University’s Vanke School of Public Health set up its first international advisory board on October 20th to bring great minds together and seek academic and other scientific and technical input for the further development of the recently-established school as well as for China’s public health sector. The board is composed of 34 well-known experts and scholars from 12 countries around the world, including deans of world-famous public health schools, leaders of non-governmental organizations, public health sector leaders, and outstanding entrepreneurs. Dr Margaret Chan, founding Dean of the school, presided over the meeting and introduced the board’s background and constitution.

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“Science and technology are the most powerful weapon in humanity’s battle against diseases. Mankind cannot defeat a major disaster or epidemic without scientific development and technological innovation.”

Xi Jinping
President of the People’s Republic of China

On March 2, Chinese President Xi Jinping inspected the scientific research into the novel coronavirus disease (COVID-19) as well as the diagnosis and treatment of the disease during his visit to Tsinghua University. Tsinghua launched a pilot research program for virus prevention. Over 70 research project applications have been received since January 30. Research continues in advancing basic medical research and vaccine research, with a focus on assisted diagnosis, assisted medical care, and new test kits and equipment.

Uncovering COVID-19 replication transcription machinery
Professor Rao Zhiping’s team and Shanghai Tech University’s team were the first in the world to decode the exact architecture of the RdRp-nsp7-nsp8 at the atomic level, uncovering the RNA-synthesis machinery and providing a basis for drug development.

Understanding human adaptive immunity to SARS-CoV-2
Professor Dong Chen’s team collaborated with Chui Yang Liu Hospital, which is affiliated to Tsinghua University, and the China Academy of Military Medical Sciences to analyze blood samples from discharged COVID-19 patients. They found that both humoral and cellular immunity participate in immune-mediated protection to viral infection. However, two-week-post discharged patients exhibited high titers of IgG antibodies, but with low levels of virus-specific T cells. This study lays the theoretical foundation for the diagnosis and traceability of infected patients as well as the development of therapeutic antibody drugs and vaccine research.

Respiratory virus nucleic acid detection kit
Professor Cheng Jing’s team worked with the West China Hospital of Sichuan University and CapitalBio Corporation to successfully develop the Respiratory Virus Nucleic Acid Detection Kit (Isothermal Amplification on Disk Chip), the first in the world to detect six types of respiratory virus simultaneously within 1.5 hours. The kit, which includes SARS-CoV-2 among the six viruses, provides patients with a quick and accurate diagnosis. Soon after the National Medical Products Administration’s approval, Tsinghua provided Wuhan with four sets of testing equipment and donated testing chips and reagents for 12,000 persons.

COVID-19 intelligent medical system
Professor Dong Jiahong led a medical engineering team that developed a COVID-19 intelligent medical system, using big data, IoT, and AI technology to create an integrated solution for community network monitoring for virus control, intelligent medical technology, and post-hospital patient monitoring. In late February, Tsinghua donated the proprietary COVID-19 intelligent control and prevention system to the Wuhan Municipal Government and medical institutions, which was put into use at eight COVID-19 hospitals, one cabin hospital, and 72 quarantine zones.
Tsinghua Students

During this period, Tsinghua University students also took action to curb the virus outbreak.

Ivana Todorovic, a Bosnian postgraduate student at Tsinghua University, joined the university’s many international students, scholars, and alumni who were trying all possible means to raise funds and medical supplies in a bid to support China in the fight against the outbreak of the novel coronavirus pneumonia.

Originally from Bosnia and Herzegovina, Ivana began pursuing her International Master of Public Health degree at Tsinghua’s School of Medicine in September 2019. She stayed in Beijing for the winter holiday to experience Chinese culture when her first semester ended in January.

As the epidemic spread, Ivana had great sympathy for the Chinese people and began trying to use her international resources in health care to raise medical supplies.

“At first, I paid attention to the epidemic, but I wished I could take action rather than just observe it from a professional perspective,” Ivana said. “Global medical supplies are becoming scarce and it is difficult to find reliable factories and suppliers.”

Previously a teacher at the Medical High School in Bosnia and Herzegovina, Ivana managed to contact the University of Banja Luka in Bosnia and Herzegovina which then donated a batch of masks to the Tsinghua students on campus.

In addition, Ivana also participated in activities organized by the Graduate Association of Tsinghua University to support China’s battle against the epidemic.

“At first, I paid attention to the epidemic because it was closely related to my field of expertise,” Ivana said. “But as I learned more about it, I wished I could take action rather than just observe it from a professional perspective.”

Tsinghua Changgung Hospital

Tsinghua-affiliated hospitals dispatched medical workers to hospitals and quarantine zones in Wuhan and Beijing.

After the outbreak of the novel coronavirus, a medical team comprised of 12 doctors and 40 medical personnel from the Beijing Tsinghua Changgung Hospital readily accepted a call to join the front lines, treating those who have been diagnosed with the novel coronavirus.

Before the team was formed, they received a letter from their colleague Zou Xiaozhao, a young doctor at Changgung hospital. In the letter, she requested to be allowed to join the medical team to fight the deadly virus, claiming that treating those in need was also her duty as a doctor. The team of doctors accepted her request to join, making her the 33rd and final doctor to join the team.

Tsinghua Alumni

Tsinghua alumni from all over the world joined the fight against the epidemic.

The Tsinghua Alumni Association in Hubei set up an anti-epidemic fundraising team on January 26 and issued a fundraising announcement to all Tsinghua alumni.

The Tsinghua Alumni Association in Singapore also actively raised funds for Wuhan.

The Tsinghua Alumni Association of Southern Ontario Canada donated epidemic prevention materials to domestic hospitals.

In addition, the Tsinghua Alumni Association in Germany, the Tsinghua Alumni Association in Japan, the Tsinghua Alumni Association in Switzerland, and many other overseas alumni associations all over the world contributed to help find overseas sources of epidemic prevention materials such as masks and protective clothing, and have mobilized various forces to help.

Tsinghua Faculty

From catering services to security and reception staff, various departments across Tsinghua worked around the clock to be of assistance.

Food service is a top priority year-round at Tsinghua and the catering department treated this period with even greater attention. Catering provision is ongoing for students living in the Xinzhai Building, and the Tsinghua Catering Services Centre is making special efforts to ensure daily service of healthy food.

Staff from the security department are responsible for restricting campus entry during the coronavirus outbreak in order to protect the health and safety of the Tsinghua community. The security guards at the gates conduct security inspections, do temperature checks of those entering the campus grounds, and meticulously register all personnel who enter and leave the university.
Tsinghua has been putting every effort into “ensuring learning is undisrupted when classes are disrupted” from the first day of the COVID-19 outbreak. The move pushed “in cloud” higher education practice faster to the next level. In the past year, self-motivated Tsinghua people have kept their positive attitude and delivered a meaningful online teaching reform successfully through their preciseness, diligence and innovative spirit.

**Tsinghua Online Teaching History**

On October 10th 2013, Tsinghua University launched the online MOOC platform XuetangX. Tsinghua launched the first five MOOCs on XuetangX.

In 2014, Tsinghua University released a report entitled “Opinions on Strengthening of Online Education.”

In 2016, Tsinghua launched its own Rain Classroom, a smart learning tool for live broadcast lessons, recorded videos, interactions and to collect learning data.

In 2020, Tsinghua launched the international version of the XuetangX platform.

Tsinghua continues to promote the quality and inclusiveness of education during the sudden outbreak of COVID-19. In Spring 2020, Tsinghua made a full transition from traditional classes to real-time online interactive courses, and a total of 4,471 online courses were delivered.

For the Fall Semester 2020, Tsinghua implemented hybrid teaching and learning mode to overcome the challenging situation, in order to accommodate all students.

On January 30th, Tsinghua University leaders announced the decision to “postpone the start of the 2020 spring semester and start classes as scheduled.”

For February 6th, the online teaching experts’ group was established and training for online teaching was launched.

On February 17th, Tsinghua started classes as scheduled.

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On April 24th, a special dialogue on online education was jointly convened by Tsinghua and UNESCO.

During this semester, 700 live general education courses offered by Tsinghua through public platforms received nearly 200 million views.

From June 8th, students took the online final exams.

On June 12th, the Graduation Work Exhibition of the Academy of Arts and Design was launched online.

From June 22nd to 23rd, Tsinghua held its first-ever online commencement ceremonies.

**Online teaching during the pandemic**

**Planning and preparation**

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**Smooth beginning of the semester**

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**In full swing**

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Teaching across multiple time zones

Prof. Dag Westerstahl received the notice for online teaching when he was in Stockholm, Sweden, over 8000km away. He immediately familiarized himself with the related software and technical details, testing the system repeatedly with his assistants, colleagues and students to find the most suitable teaching methods.

“There is no boundary for learning. The more difficult the time, the more we should cherish the opportunity to learn,” said Westerstahl, Professor of Theoretical Philosophy and Logic at Stockholm University and a member of the Royal Swedish Academy of Sciences.

To many foreign members of faculty like Westerstahl, the time difference is just one of the challenges to overcome when conducting online teaching.

Westerstahl overcame the seven-hour time difference teaching his first online course. “Online teaching is a challenge for me. The interaction with students and homework marking will be conducted in different ways, but I’m very confident that the students and myself will do well conducting online learning.”

Associate Professor Sara J. Bice was still in Australia when she started teaching Globalization and Governance. She had to confront the new reality that her class was composed of more than 40 students in 11 different time zones.

Bice redesigned her lectures and recorded video lectures in only two weeks’ time, following student feedback. Emphasizing the importance of discussion, she arranged online discussion classes four times a week, finding time slots that worked for everyone.

After these sessions, online assignments and readings were arranged through the Rain Classroom, where students could ask questions and provide feedback for the class.

Customization leads the way

Many Tsinghua teachers customized their classes to fit the unusual teaching condition. Prof. Richard Dunham, senior journalist and co-director of the Global Business Journalism program, brainstormed with former Tsinghua Visiting Professor Steve Gunn and other American media professionals about his online course.

He believes online teaching tools are the easiest way to bring senior academic friends to his students: “I could even bring my students to Washington, D.C. for news interview practice.”

He is already considering possibilities like shifting the classroom to the International Center for Journalists, National Press Club and museums. His students are also spread across 19 different time zones.

Dunham seized the opportunity to show his students the three terracotta warriors he brought back on a previous trip from Xi’an. “I believe this will surely arouse the students’ curiosity. I hope to take this opportunity to introduce my international students to Chinese culture and history.”

Optimists embrace technology

Many teachers have been excited by the move to remote learning. The teaching staff have been very supportive of each other, sharing their discoveries every day as they navigate the online teaching systems ahead of the new semester.

Once they’ve figured out how to optimize teaching, they had to provide guidelines for their students on how to learn from it. Many teachers creatively modified their course content accordingly, such as Maxime Hermand.

“For the content of online teaching, I may add more grammar explanations and exercises. And I will prepare some dialogue exercises as homework in the video, ask the students to send me the recordings of their conversations, and I will give feedback on their recordings.”

Trouble-shooting, one technical problem at a time

Technical difficulties aside, online teaching came as a test even for the experienced. “As I can’t see the students, the biggest challenge to me is to keep the students engaged online,” says Prof. Wang Gelin from the School of Pharmaceutical Sciences. However, she believes this experience will help to enhance her teaching abilities.

Prof. Vijay Kumar Pandey, who teaches the molecular basis of cancer at the Tsinghua-Berkeley Shenzhen Institute, cites the restriction of discussion-based activities as one of his major challenges. He came up with two options to improve the situation. “First, after finishing presentations, we could discuss using an alternative platform. Second, I might assign another time slot for one-to-one or group discussions.”
Below are some opinions shared by students and teachers on the online classes:

“This outbreak has physically isolated students from their professors, and from each other. As a university professor, I’m working with my colleagues and my students more closely than ever, trying to use modern technology to shorten our physical distances. With the help of Rain Classroom, an application designed to facilitate ‘learner-centered’ learning, we managed to overcome numerous technical barriers, and greatly redesigned our teaching curriculum to make online learning a pleasure. This huge project was launched during the Spring Festival, only two weeks before February 17th when the spring semester began. The teaching ‘reform’ is a brave effort made jointly by the administrators and faculties as well as students and is believed to be a ‘revolution’. I got actively involved and worked closely with professors across various disciplines (through our common goal for adapting to online teaching and EMI teaching promptly). Since February 17th, successful cases were shared and celebrated among the faculties and never have the teaching community been closer. Tsinghua, I am so proud of you!”

—Qian Jing, Associate Professor, School of Social Sciences

“Since the implementation of online learning methods by Tsinghua University, various online platforms have been developed and put into use to ensure the smooth and effective conduct of the teaching process. Apart from that, the lecturers have also been working tirelessly and dedicatedly to provide the best possible teaching services to their students. During this special period, Tsinghua students around the world have displayed a high level of self-discipline and strong commitment towards their pursuit of academic excellence. It is hoped that the epidemic can be put under control very soon so that everyone is able to return to the campus and carry out learning activities as usual.”

—Khor Wei Sheng, Junior, Malaysia, School of Economics and Management

“Online teaching is a new challenge. As it is difficult to continue direct face-to-face interaction between teachers and students at this moment, the smooth development of courses and the guarantee of teaching quality all depend on careful preparation by teachers. In this class, our teacher even prepared the bell to sound at the beginning and end of the class. They interacted with students through multiple choice questions, roll call and the shared group chat screen, which played an active role in the teaching process.”

—Cui Ruoyu, first-year Ph.D. candidate, Department of Mechanical Engineering

“The use of online teaching based on Rain Class is a proactive and effective measure to deal with the novel coronavirus epidemic. It can ensure the safety of students while minimizing the impact on learning. Therefore, we support online teaching. Meanwhile, online teaching has the advantage of staying at home and enjoying rich teaching resources. In particular, Tsinghua has also launched an online series of society-oriented courses, which reflects the university’s social responsibility and commitment to society. We very much agree with this practice.”

—Li Huanhuan, master’s student from the Class of 192, School of Marxism

Bringing educators online

On February 17th, at 8 a.m., more than 150 course sessions commenced. Tsinghua faculty and students welcomed the new semester on their computers and smartphones.

Even in a digital classroom, some things never change: the most memorable courses are those taught by teachers genuinely interested in sharing the knowledge they have fallen in love with. This passion for education is a time-honored tradition at Tsinghua.

In the Spring semester this year, Tsinghua offered a total of 4,254 courses taught by 2,681 faculty members to 25,091 students. Apart from laboratories and practical courses, all 3,923 sessions are available online.

As many as 73 international faculty members based in four continents delivered 152 course sessions online covering disciplines such as science, engineering, literature, art, history, philosophy, economics, management, law, education and medicine.
Tsinghua begins its Fall semester with hybrid learning

The first lectures in the 2020 Fall semester were held in the main building of the university and were broadcast live on various media platforms, including Tsinghua’s own online teaching platform “Rain Classroom”, in both Chinese and English.

Tsinghua University Council Chairperson Chen Xu and Tsinghua President Qiu Yong delivered their lectures, which were remotely attended by nearly 50,000 Tsinghua students, faculty, staff members, and alumni representatives, including more than 3,800 undergraduate freshmen who are all set to begin their Tsinghua journey.

Unlike the Spring semester, which was held completely online due to the pandemic, Tsinghua’s Fall semester is going to see classes being taught both online and offline.

Chairperson Chen Xu delivered her lecture, entitled “Unwavering Commitment to Our Sense of Duty and Our Endeavor”.

On September 1st and 2nd, the Times Higher Education (THE) World Academic Summit was held online. Tsinghua University discussed and shared the prospects for post-pandemic higher education with leading thinkers from all over the world.

During the speech, President Qiu elaborated on the challenges that have emerged for higher education institutions in 2020. He noted that these challenges, however, represented renewal of hope. He believed that as a result of the changes made in the face of these challenges, the university’s role in contributing to solving global challenges would become more prominent.

Tsinghua’s Vice President and Provost Yang Bin shared examples that support the view that 2020 is a “new dawn” for higher education. Yang believed that global higher education was a big step closer to the realization of “hybrid education” which transcended merely “teaching” and “learning”.

THE Higher Education Forum

On September 1st and 2nd, the Times Higher Education (THE) World Academic Summit was held online. Tsinghua University discussed and shared the prospects for post-pandemic higher education with leading thinkers from all over the world.

During the speech, President Qiu elaborated on the challenges that have emerged for higher education institutions in 2020. He noted that these challenges, however, represented renewal of hope. He believed that as a result of the changes made in the face of these challenges, the university’s role in contributing to solving global challenges would become more prominent.

Tsinghua’s Vice President and Provost Yang Bin shared examples that support the view that 2020 is a “new dawn” for higher education. Yang believed that global higher education was a big step closer to the realization of “hybrid education” which transcended merely “teaching” and “learning”.

Tsinghua initiated Global MOOC Alliance (GMA)

The Global MOOC Alliance was officially launched on December 11th at the 2020 Global MOOC Conference, jointly hosted by Tsinghua University and the UNESCO Institute for Information Technologies in Education (UNESCO IITE).

China’s Minister of Education Chen Baosheng attended the conference and delivered a keynote speech. Qiu Yong, the President of Tsinghua University, Stefania Giannini, UNESCO’s Assistant Director-General for Education, and Andreas Schleicher, OECD’s Director for Education and Skills and Special Advisor to the Secretary-General delivered opening addresses. Representatives and guests from more than 2,000 international organizations, government agencies, universities and online education institutions attended the conference offline and virtually.

The members of the alliance include Tsinghua University, Cornell University, the Center for Research and Interdisciplinarity (CRI), edX platform, the Mongolian University of Science and Technology, Nanyang Technological University, Peking University, Polytechnic University of Milan, Rice University, RWTH Aachen University, Saint Petersburg State University, Shanghai Jiao Tong University, Thai MOOC platform, the University of Auckland, the University of Chile, the University of Manchester, the University of Nairobi, the University of Toronto, XuetangX and Zhejiang University.

The alliance will serve as a leading platform to build a diverse community of universities and online education platforms from all over the world to facilitate international cooperation and exchanges in educational technologies and innovation to improve the quality of global MOOC and online education.

The alliance will also help its members roll out online education practices in regions across the world, through collaborative teaching, capacity building, knowledge sharing, and publicity, and achieve the United Nations Sustainable Development Goal 4 (SDG 4) of ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all.

Conclusion

From pure online courses to hybrid learning, from university pilot schemes to the Global MOOC Alliance, Tsinghua has been the avant-garde in higher education evolution. Covid-19 may accelerate this process, and we look forward to Tsinghua’s future action on creating an equal, safe and convenient education system.
Global universities convene online to share experience in combating COVID-19

An online meeting, organized by the Asian Universities Alliance (AUA), was attended by 15 universities around the world to discuss fighting the COVID-19 pandemic on March 27th. The meeting featured the sharing of university response measures, with a view to identifying areas of cooperation on education and scientific research. In this way, the meeting echoed sentiments expressed at the G20 Extraordinary Leaders’ Summit on COVID-19 scientific research during the pandemic.

The heads also discussed topics including collaborative activities with the AUA and beyond and resource sharing, among other collaborative efforts for the fight against COVID-19. The heads also discussed topics including collaborative activities with the AUA and global partners, exchanging best practice and providing mutual support. Meanwhile, massive online resources to the public have been opened, and “clone class” courses were initiated COVID-19 research projects after the outbreak and that substantial progress has been made in basic medical research, vaccine research, and fast testing kits, as well as in intelligent epidemic prevention systems and equipment.

The meeting featured the sharing of university experience in combating COVID-19. In his opening speech, Qiu Yong, Tsinghua University President and President of AUA, welcomed the university leaders to join in the online forum organized by AUA. He noted that this is a difficult time for all of us and the outbreak of COVID-19 reminds us that we share a global community.

“Universities can demonstrate the aspiration of education by taking on social responsibilities,” said President Qiu. Over the past two months, Tsinghua has maintained close contact with other university leaders and global partners, exchanging best practice and providing mutual support. Meanwhile, massive online resources to the public have been opened, and “clone class” courses were created to share online educational resources with universities in Wuhan and other remote areas, and a team of medical workers dispatched to Wuhan and volunteer works organized, both online and off-line.

President Qiu also announced that Tsinghua has set up a research fund to encourage and support its faculty to initiate joint research with international partners on COVID-19.

“Universities serve as the lighthouse of human civilization. We share a common objective, which is to make the world a better place. At this critical moment, universities should play an essential role in promoting confidence, trust and unity among the whole world. Together, stronger,” Qiu concluded.

During the meeting, the following university leaders shared their respective anti-epidemic efforts and experience in managing online education and scientific research, and prevention and control work: Bundhiti Erawan, President, Chulalongkorn University; Weh Shy, President, the Hong Kong University of Science and Technology; Subhais Chaudhuri, Director, Indian Institute of Technology Bombay; Tan Eng Chye, President, National University of Singapore; Shigeo Arif Al-Hammadi, Executive Vice President, Khalifa University; Akira Fujimaki, Trustee (Education and Academic Information Infrastructure), Vice President, Nagoya University; Hong Keefyun, Vice President for Academic Affairs & Dean of Graduate School, Seoul National University; Sawako Shirahase, Executive Vice President, The University of Tokyo, and Antonio Fiori, Rector’s Delegate for International Relations with Asia and Oceania, University of Bologna. They expressed their strong willingness to join hands, strengthen collaborative endeavors and discover solutions for the fight against COVID-19.

Global universities convene online AUA
In his welcoming remarks, President Qiu introduced the official release of an interim report by Tsinghua’s Institute of Education on the theme of Integrity, Resilience and Reform: Evaluation and Implications of Tsinghua University’s emergency online education in his remarks. “The year of 2020 may well mark a historical watershed of human society. The year of 2020 also witnesses the rise of online education at an unprecedented scale. It is foreseeable that the form of campus-based education will be profoundly reshaped after the pandemic,” he noted.

“Universities are the lighthouse of human civilization. Facing such a grave challenge that concerns the future of mankind, universities must shoulder our due responsibilities. While the end of the pandemic remains out of sight, it is our unwavering belief that we will overcome it eventually. Tsinghua values the partnerships with UNESCO and the distinguished institutions represented in this dialogue,” President Qiu said.

Petr Salovey, President of Yale University, thanked Tsinghua University for taking the lead in bringing all the participants together for such an important and timely discussion on educational continuity during this crisis in his opening remarks.

“We’re encouraged by facts and expertise. And yet we are humbled by the questions that remain unanswered. The pandemic has shown the world how much we need ideas and solutions. And it has reminded me and many of us why research and scholarship being conducted at college and University campuses in China and the United States and other nations throughout the world are so vital to society,” he said.

Stephen Toope, Vice Chancellor of the University of Cambridge expressed his appreciation to Tsinghua and UNESCO for initiating the dialogue and sharing best practices. “We will only learn enough to make progress on the immense challenges of online education through collaboration at a global level,” he said.

Alice Gast, President of Imperial College London; Ferruccio Resta, Rector of Politecnico di Milano; Merci Gerbe, President of the University of Toronto; Api Tanaka, President of Waseda University, and Andrew Martin, Chancellor of Washington University in St. Louis also delivered opening remarks.

In the featured case study-sharing session, Borhene Chakroun, UNESCO Director of Division for Policies and Lifelong Learning Systems; Brian Schmidt, Vice-chancellor of The Australian National University; Alberto Barberi, Rector of the University of Buenos Aires; Ennio Vivaldi, Rector of the University of Chile; Sir Steve Smith, Vice-Chancellor of the University of Essex; Seng-Chai Lim, President of KAIST; Datuk Abdul Rahim Hashim, Vice-Chancellor of the University of Malaya; Stephen Kama, Vice-Chancellor of the University of Nairobi; and Andrey Rudskoi, Rector of the Peter the Great St. Petersburg Polytechnic University, shared their experiences, featured cases and observations from their respective regions and working experience respectively.

Following the case study-sharing, a panel discussion with the theme of “Online Education Practice: Research, Cooperation and Partnerships” was held, topics including online training programs on digital policies and education, education policies and planning, and online education partnerships, as well as the resilience, reform-evaluation and explications of online education were discussed. The session also showcased a new partnership between Tsinghua and universities in Mongolia which covers the sharing of online educational resources and technical assistance, with broad objectives that support pedagogical adaptation and capacity development.

The event summary and closing remarks were delivered by Edward Crawford, Ford Professor of Engineering of MIT, Founding Intern Provost of Tsinghua Southeast Asia Centre, and Girtschev Engrida, Co-President of China-Africa Leaders’ Development Institute (CALDI), Tsinghua University; Former Deputy DG, UNESCO. They evaluated this online meeting and put forward suggestions for the next steps going forward.

About 30 panelists including university presidents, vice presidents and professors from 21 universities in 15 countries, as well as UNESCO international higher education experts and representatives, attended the Special Dialogue. Education policy advisors and executives, faculty, students and relevant education stakeholders also joined this event online. The event was moderated by Yang Bin, Vice President and Provost of Tsinghua University and Marielza Oliveira, Director of the UNESCO Beijing Cluster Office.
Tsinghua hosts WPF special video conference

The World Peace Forum (WPF) special video conference on “Post-Pandemic Era: China and the World” opened on June 16th.

Tsinghua University President Qiu Yong, who is also Chairman of the forum, delivered the welcoming remarks at the opening session of the two-day virtual conference of the forum, which is China’s first non-governmental high-level forum on international security initiated by Tsinghua University in 2012.

In his speech, President Qiu said the World Peace Forum, like many other international forums, had to be held online this year due to the ongoing pandemic, as he thanked leading academics, influential political leaders and former top diplomats, among others, attending the forum’s online gathering from different parts of the world to discuss ways to deal with major security challenges the international community faces in the post-pandemic era.

“Now that the COVID-19 pandemic seems to be putting the world politics into an undesired trajectory, we think it is our responsibility to convene this special conference, provide a platform for leading international strategists to freely interact, and try to find effective prescriptions to problems threatening world peace,” he said.

Pointing out the International Monetary Fund (IMF)’s prediction of the likelihood of the worst economic downturn since the Great Depression due to the pandemic, he emphasized the importance of coordinated international efforts to overcome the current crisis.

“Tsinghua is convinced that universities should be committed to social responsibility. We also attach great significance to international cooperation,” he said while elaborating some of the recent efforts made by the university to promote international cooperation and exchanges including the establishment of the Vanke School of Public Health, which is dedicated to reinforcing the nation’s public health emergency management systems and safeguarding global public health security; and the launching of a special dialogue with the theme of “Online Education in the COVID-19 Response and Beyond” in collaboration with UNESCO.

In the upcoming four panels, we look forward to distinguished speakers’ invaluable ideas on how to generate a favorable environment and a common resolve to tackle the challenges,” he added.

Following Qiu’s remarks, the first day of the conference saw two panel discussions. While Li Li, Deputy Secretary-General of the World Peace Forum moderated the first panel on the topic “World Order after the COVID-19 Crisis,” four panelists—Graham Allison, Douglas Dillon Professor of Harvard University, USA; Alexander A. Dynkin, President of the Primakov Institute of World Economy and International Relations, Russia; Volker Perthes, CSO and Director, Stiftung Wissenschaft und Politik, German Institute for International and Security Affairs, Germany; and Yan Xuetong, Dean of the Institute of International Relations, Tsinghua University—shared their thoughts.

Prof. Allison, who is also the author of the book “Destined for War: Can America and China Escape Thucydides’ Trap?” thinks rivalry between great powers like China and U.S. will continue even after the pandemic, but at the same time cooperation will also continue as “coronavirus provides a vivid reminder that each nation, China, the U.S. and every other nation, faces external threats it can’t defeat itself by acting alone.”

Prof. Dynkin from Russia argued that the leading centers of power currently have neither a well-formed understanding nor a clear view of a desirable future world order. “Maybe the post-COVID world would have some features of no poles, as scholar Richard Haass pointed out quite long ago.” He added.

Prof. Perthes from Germany said that anti-globalist sentiments which were already getting popular in some parts of the world will further gain ground in the post-pandemic world, leading to deglobalization and more fragmentation of the international security order.

Prof. Yan of Tsinghua believed that there will be no global leadership in the coming decade. According to him, the coming world order will be an “order of bad faith” mainly because of the lack of global leadership. “However, I am still optimistic about the future,” he said.

The second panel discussion on “Artificial Intelligence in the Post-Pandemic Era” was moderated by Liang Zheng, Vice President of the Institute for AI International Governance, Tsinghua University, with Xue Lan, Dean of Schwarzman College of Tsinghua, Professor Stuart Russell of Computer Science and Smith-Zadeh Professor in Engineering, University of California, Berkeley, USA; Zhang Yajun, Chair Professor of AI Science, Dean of Institute for AI Industry Research, Tsinghua University, Wendell Wallach, Consultant of the Hastings Center, Chair of the Technology and Ethics Studies, Interdisciplinary Center for Bioethics, Yale University, USA, and Max Tegmark, Professor at MIT and President of the Future of Life Institute, USA as the five panelists. The panelists shared the use of AI in the ongoing COVID-19 responses in different countries, and discussed how AI will be at forefront of the fight against future global health crises.
Fighting COVID-19: We are all together

As the world battles hard against COVID-19, Tsinghua University and China Daily jointly organized a new edition of Vision China, inviting speakers from home and abroad to share their views and stories with a global audience about fighting the novel coronavirus.

The event, with the theme “Fighting COVID-19: We are all together”, was broadcast online on March 31st, Beijing time. It aimed at sharing experiences and consolidating strength, after last week’s Extraordinary G20 Leaders’ Summit on COVID-19 sent a message of solidarity and cooperation in confronting the pandemic.

Chen Xu, Chairperson of Tsinghua University, gave a welcome speech, saying that since the outbreak of COVID-19, Tsinghua University has been closely monitoring the health of all students, faculty and staff. Strict prevention and control measures have been implemented across the campus, in line with the government’s response plan.

On February 17th, the spring semester commenced online, on time and on schedule; and more than 3,900 courses were launched. Tsinghua has shoulder additional responsibilities by expanding its social and international engagement. Tsinghua has also communicated with global partners to make active contributions in fighting the pandemic.

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A joint symposium on “COVID-19 Fightback and the Future “New Normal” with Imperial College London

Chen Xu, giving a welcome speech, said that universities around the world have a common commitment to building educational resilience as well as contributing to the fight against global health emergencies.

“I have confidence that our vibrant partnership will not only benefit the two universities, but also provide critical solutions for the world at large,” she said.

Praising China’s successful handling of the COVID-19 epidemic and timely assistance to the countries affected by the epidemic, Chen said that the pandemic has reaffirmed the values of global solidarity, trust and cooperation in the face of a shared common threat.

Another keynote speaker, David Nabarro, WHO special envoy on COVID-19 and Co-Director of the Institute of Global Health Innovation at Imperial College London, said that unity, solidarity and cooperation shown in the fight against COVID-19 has contributed to structural studies of coronavirus-receptor interactions, the development of a nucleic acid detection kit, the creation of an intelligence-assisted diagnosis system and the efficient isolation of antibodies against the coronavirus.

In addition, we have provided open access to Tsinghua’s drug discovery resources and platforms for global researchers,” he said.

Margaret Chan, the Inaugural Dean of Vanke School of Public Health Tsinghua, and Honorary Director-General of the WHO, was one of the two keynote speakers of the symposium. She said that the international community should continue to uphold the concept of a community of a shared future for mankind, further strengthen cooperation under the guidance and coordination of the WHO, work together to overcome the current crisis and build a global community of health for all.
GLOBAL ENGAGEMENT

### UN SDSN’s webinar

President Qiu calls for further cooperation by universities with UN to achieve SDGs at UN SDSN’s webinar

Tsinghua University President Qiu Yang urged universities around the world to further strengthen cooperation with the United Nations (UN) to achieve the Sustainable Development Goals (SDGs) and address the most urgent global challenges such as climate change.

President Qiu delivered his remarks at the webinar for presidents of global universities with the UN, Secretary-General entitled "University Sector: Support to UN Secretary-General's Call for a Decade of Action on the SDGs" on July 9.

The UN Sustainable Development Solutions Network (SDSN), a global network of over 1,000 universities supporting the SDGs, held the two-day online seminar to discuss the role of universities in mainstreaming the SDGs into university curricula and operations, conducting SDGs research, and facilitating evidence-based stakeholder dialogues on the implementation of SDGs.

"Only by building closer and stronger partnerships with UN agencies can universities contribute to the realization of SDGs. Only by joining hands can we jointly achieve this ‘decade of action’ – and in so doing, inspire a brighter future for all," he said while addressing the first panel discussion of the webinar on the topic "The Future of Higher Education in the Post-COVID World."

He underscored that future universities must be more open, more integrative and more resilient; future learning must be more student-driven; future teaching must be smarter; and future education must be more inclusive.

He said Tsinghua University has demonstrated its commitment to work with UN agencies and other global partners to effectively respond to the UN’s global call for a decade of action to realize the SDGs, by establishing research entities like the Institute for Sustainable Development Goals and launching a dual master’s program for SDGs in collaboration with the University of Geneva.

In his remarks, President Qiu also highlighted Tsinghua’s role in addressing the most urgent challenges around the world, such as climate change. "In May 2019, the Global Alliance of Universities on Climate was jointly established by 12 universities from six continents at Tsinghua University. The alliance aims to promote university leadership and the role of the university in climate change mitigation," he added.

He said Tsinghua continued to promote the quality and inclusiveness of education during the pandemic by utilizing innovative technologies and setting up online “clone classes” to support the universities in the regions hardest hit by the pandemic, including Huazhong University of Science and Technology, Wuhan University, and other universities.

Professor Jeffrey Sachs of Columbia University, who is also director of the SDSN, praised Tsinghua’s quick response in organizing online classes to support other universities during the pandemic, and expressed his appreciation of President Qiu for stressing the need for more inclusive and smarter universities in the future.

UN Secretary-General Antonio Guterres addressed the opening session of the two-day webinar via a video message. He said he was grateful to see universities around the world remain strongly committed to the SDGs despite facing colossal logistic and other challenges.

He said that the need to achieve the SDGs have become more urgent than ever in the face of the COVID-19 pandemic, as it has not only caused a great suffering but also laid bare the world’s inequalities and fragilities. “Together we can make multilateralism more effective and make our world more sustainable, equitable, climate-friendly and peaceful,” he said.

"Over the past five years, governments after governments have expressed a genuine commitment to the SDGs but very often they lack the know-how and the capacity to govern and implement policies that deliver inclusive and sustainable economies. This is where universities can play a key role," UN Deputy Secretary-General Amina Mohammed said, urging universities to come up with more ambitious and decisive actions to help accelerate the progress on the SDGs even as the world grapples with the pandemic.

Peter Wells, Chief of Higher Education at UNESCO, said that the pandemic has offered an opportunity to reframe methodologies for online teaching and learning, pedagogies and assessments, and enabled higher education institutions to achieve the SDGs, in particular the SDG in terms of widening access to quality higher education delivery for everybody.

Dr. Raji Shah, President, Rockefeller Foundation; Lee C. Bolinger, President and Seth Low Professor of the University, Columbia University; Jeffrey Cheah, Foundation Chancellor, Sunway University also delivered the opening remarks at the webinar. Joanna Newman, Secretary General, Association of Commonwealth Universities, Hilligje van’t Land, Secretary General, IAU; Shinobu Yume Yamaguchi, Director, UNU-IAS; Peter Lennie, Executive Director, Worldwide University Network; Wayne Frederick, President, Howard University; Raghunath A. Mashelkar, President, Jio Institute, Makato Gonokami, President of the University of Tokyo and Chair of the International Alliance of Research Universities (IARU), addressed at the session themed as "The Future of Higher Education in the Post-COVID World."

"We believe that in the face of the common challenge of climate change, colleges and universities in the world have a shared responsibility to play a leading role in terms of promoting education and research on climate for the future," Yang said.

He said the Global Alliance of Universities on Climate established at Tsinghua encouraged research on climate change solutions that address global sustainable development goals and reduce impacts on the world’s most vulnerable populations. "The alliance has launched a multidisciplinary research project on Carbon Neutral Future, around technology, policy and investment. We are planning a number of academic meetings and are working to produce the first alliance academic report before COP 26," he added.

Several panel discussions, Tsinghua’s Vice President and Provost Yang Bin delivered his remarks on the topic "Universities and Climate Change."

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Tsinghua held Global Summer School (GSS) 2020

Tsinghua University held Global Summer School (GSS) 2020 for nine days in July. Over 1,000 young talents from 154 universities across 79 different countries and regions attended the first-of-its-kind virtual summer school launched by Tsinghua, and undertook courses taught by distinguished scholars and practitioners from China and abroad on the theme “Toward a Post-Pandemic World.”

Tsinghua President Qiu Yong welcomed the inaugural class of the Tsinghua Global School (GSS) 2020 at the opening ceremony, which was livestreamed worldwide on various social media platforms. “Today, by launching its Global Summer School, the Tsinghua University extends its fundamental commitment - educating and cultivating leaders will define our future, and will contribute to humanity through better preparation for the next crisis,” he added.

President Qiu announced that Tsinghua would hold the GSS every year from this year onwards.

The online summer school offers courses on nine topics with reference to the post-pandemic world, and is taught by top-notch Chinese and international professors, as well as leading experts from renowned international companies.

The nine topics are: Innovative Thinking Post-Pandemic; Living Together Sustainably: Learning to Transform Oneself and Society; Economy Post-Pandemic; Sustainable Development Post-Pandemic; Artificial Intelligence Application and Governance; Society Post-Pandemic; Lifelong Learning and Development; Future-Oriented Leadership, and New Trend of Globalization and Global Governance.

President Qiu’s speech was followed by a series of videos that showcased Tsinghua’s development, internalization and exciting campus atmosphere during the opening ceremony, including the music video featuring Moja, a robot band developed by Tsinghua’s Academy of Arts and Design.

Professor Xue Lan, Dean of Schwarzman College at Tsinghua and Faculty Chair of GSS 2020, made an opening keynote presentation on “China’s Innovation System - Myth and Reality.”

During his special lecture, Professor Xue, whose teaching and research interests include S&T policy, crisis management, and global governance, reviewed the evolution of China’s innovation system, assessed the progress, and regrets in China’s innovation system, and reflected on the way forward.

According to him, coordinated opening-up and reform have served as two wheels for STI development in China. “Those reforms and openness enabled China’s innovation system to flourish,” he said, adding that China has always enjoyed strong leadership support for STI.

As a result, China’s innovation in research and development (R&D) has been growing steadily, with industrial R&D becoming a major part, he said. Professor Xue also said the continued increase of foreign R&D centers in China has also contributed to China’s innovation system “in a very dramatic way.”

Vice President Yang thanked all the summer school speakers and academic support departments and schools for their enriching content as well as the staff of the Tsinghua Office of International Affairs, XuetangX and the Information and Technology Center for their efforts behind the scenes to make the summer school possible.

Altogether 17 academic institutions of Tsinghua, including eleven schools, departments and institutions, four overseas bases and two international higher education alliances invited by the university were involved in this year’s summer school, which featured lectures, keynote speeches and group discussions on nine different themes with reference to the post-pandemic world, virtual cultural events as well as virtual tours of Tsinghua University History Museum and Campus, Lenovo and Huawei. All the keynote speeches delivered at the GSS 2020 were open to the public.

Results of a survey about the program were also shared by John Paul, the moderator, at the ceremony. The majority of the participating students surveyed spoke highly of the program. They said the program met their expectations and was beneficial for their learning, according to the survey.

Prior to the closing ceremony, Prof. Jiaying Xiaojuan, who is Dean of the School of Public Policy and Management, Tsinghua University, delivered a closing keynote presentation on “Globalization and its Governance in the Digital Age.”

She talked about three aspects of the globalization—products, enterprises and economies, digital globalization, and the governance concept and value of global governance.

“In this era, no one has such authority to make universal rules for the globe. We must cooperate,” she said.

According to her, inclusiveness, respect, maximizing human interest, human prosperity, sustainability and harmony should be the values for governance in the digital age.

“In the digital era, physical, cultural and intellectual ties between nations and individuals are becoming closer and deeper. We are indeed in the age of a digital planet. Therefore, digital governance must be global,” she added.
On September 1st and 2nd, the Times Higher Education (THE) World Academic Summit was held online. Tsinghua University discussed and shared the prospects for post-pandemic higher education with leading thinkers from all over the world.

Tsinghua University President Qiu Yong delivered the remarks entitled “Renewal and Hope: Post-pandemic Trends in Higher Education” at the summit. He said 2020 was a watershed moment in history and a “new dawn” for higher education.

During the speech, President Qiu elaborated on the challenges that have emerged for higher education institution in 2020. He noted that these challenges, however, represented renewal of hope. He believed that as a result of the changes made in the face of these challenges, the university’s role in contributing to solving global challenges would become more prominent.

President Qiu argued that, due to the pandemic, there were many recent transformations to higher education. In the post-pandemic era, the university will be more open and integrative, more student-driven, smarter and more inclusive. World-class universities will lead with vigor.

“The pandemic will be the catalyst for even more profound changes in higher education. By working together, renewal and hope will see us through this unprecedented challenge,” Qiu said.

In a subsequent panel discussion, Tsinghua’s Vice President and Provost Yang Bin shared examples that support the view that 2020 is a “new dawn” for higher education. Yang believed that global higher education was a big step closer to the realization of “hybrid education” which transcended merely “teaching” and “learning.”

Based on Tsinghua’s practical experience, Yang Bin proposed that there were many emerging areas of improvement and optimism, particularly changes in the higher education landscape. He said that the development of online education modalities created more learner-oriented approaches, brought greater accessibility to education, and increased openness and transparency to higher education processes and outcomes.

“Although the pandemic has caused physical separation, it has led to a deeper appreciation of society’s indivisibility,” Yang said while elaborating some of the recent efforts made by universities around the world shouldering additional social responsibilities and engaging in front-line work to combat the pandemic. Yang also stressed that future education must achieve greater levels of inclusion and quality.

Susan McCahan, Vice-Provost of Academic Programs at the University of Toronto, said the blending of the virtual with the real classroom had the potential to reduce inequity, but also may promote it since some students had challenges in internet access and other ways of engagement. She was concerned about the identity of the university going forward in this kind of blended model.

Richard Milen, Vice-Provost of Academic Performance and Pro-Vice-Chancellor of Education, Enterprise and Engagement at the University of Sydney, was concerned whether the blended model could cultivate students’ core human skills such as problem-solving, thinking critically, and working productively, which relied on quite a lot of face-to-face interaction. He said it was essential that universities kept developing tools to provide students from diverse backgrounds.

Clay Shirky, Vice-Provost for Educational Technologies at New York University proposed that “the human capital involved in online education” was no different from in-person teaching and required specialist IT infrastructures well, “there are no immediate cost savings.

The representatives also discussed other issues, including online course tuition, universities’ new relationship with society, and universities’ opportunities and responsibilities in the future.

The THE World Academic Summit brought together pre-eminent global thought leaders across higher education, research, industry, and government to share best practices and innovation in world-class universities and research. It was also an excellent opportunity to showcase Tsinghua and other Chinese universities’ responses to the pandemic and engage in an open discussion on post-pandemic higher education to the world.
**The Tsinghua Southeast Asia Cloud Forum**

**Forum looks to boost regional cooperation, sustainable development**

The Tsinghua Southeast Asia Cloud Forum was launched on Sept 23rd to inspire exchanges among international leaders from various sectors that could lead to the attainment of sustainable development goals (SDGs) and push forward regional development and cooperation. The opening ceremony was hosted by Tsinghua Vice President and Provost Yang Bin.

Co-sponsored by Tsinghua University and the Indonesian United in Diversity (UID) Foundation, the forum has gathered attendees from the public and private sectors and civil society, mainly from China, Indonesia, and other Southeast Asian countries.

At the opening ceremony, Tsinghua President Qiu Yong pointed out in his speech that Indonesia is the largest economy in the Association of Southeast Asian Nations (ASEAN) and where the 21st Century Maritime Silk Road initiative was first proposed. The university has always deemed Indonesia a major partner and has been expanding educational exchanges and regional cooperation with it.

According to Qiu, the Tsinghua Southeast Asia Center (Tsinghua SEA) has been highly praised for its talent training programs over the last two years in Southeast Asia, mainly in Indonesia. These programs have bettered educational and academic exchanges between China and Southeast Asian countries.

President Qiu said he believes the three-day online forum will also achieve fruitful results, and urged the attendees to promote innovative development and cooperation and strive for a better world, a community with a shared future for mankind.

Ning Jizhe, Vice Chairman of the National Development and Reform Commission (NDRC), was present and expressed his congratulations. He was commissioned by He Lifeng, Vice-Chairperson of the 13th National Committee of the Chinese People’s Political Consultative Conference (CPPCC) and Chairman of the NDRC.

“This year marks the 70th anniversary of the establishment of diplomatic relations between China and Indonesia. The 70 years have witnessed international turmoil, but also increasing prosperity in the two countries and closer people-to-people communications,” said Ning.

Ning pointed out that the NDRC and Indonesian governmental departments have worked closely on development plans and regional projects since 2015.

He also affirmed Tsinghua SEA’s active role in boosting talent training and educational cooperation, developing science and innovation ecosystems, and realizing SDGs.

Indonesian President Joko Widodo sent a congratulatory letter to the forum expressing appreciation of Tsinghua SEA’s achievements in human capital development, educational exchange and cross-sector dialogue. He believes that the center will continue to play a catalytic role in bridging Indonesia, China, Southeast Asia and other areas.

Cooperation is more needed than ever amid the COVID-19 pandemic, said Luhut Pandjaitan, Coordinating Minister for Maritime Affairs and Investment.

UID Foundation President Tuti Hadiputranto said in her welcome speech that the forum is a symbol of the cooperation and mutual trust between the two countries, and called for unity and open attitudes to seek wider cooperation.

At the following plenary discussions, participants exchanged views on such topics as the red line for ecological protection, paths for peace, and collaboration with the Tsinghua SEA on sustainable development and happiness.

**I “Healthy China” seminar**

Tsinghua’s Vanke School of Public Health holds seminar to share COVID-19 prevention and control experiences

Tsinghua University’s newly established Vanke School of Public Health held a seminar on September 25th to exchange experiences in the prevention and control of the COVID-19 pandemic in China, as well as discuss strategies and measures for the normalized epidemic prevention and control.

The “Healthy China” seminar was held under the title “Capacity Enhancement Training Program – Theory and Practice of Prevention and Control of the COVID-19 Pandemic.”

During the seminar held both online and offline, three distinguished officials and experts from relevant fields including China’s National Health Commission shared their experiences in the prevention and control of the COVID-19 Pandemic over the past half year, and exchanged opinions on how to continue to control the pandemic in the future.

Ma Xiaowei, Minister of the National Health Commission, highlighted the need to remain vigilant on the pandemic with increasing people movement and gatherings. He said waning efforts at the international level could lead to a possible influx of the COVID-19 in the country. He also stressed on the importance of strong control of the epidemic in the upcoming autumn and winter season.

“Tsinghua University President Qiu Yong, speaking at the seminar, expressed his gratitude to the lecturers and coordinators of the program for organizing the ‘Healthy China’ Seminar. President Qiu said although the epidemic was a testing time for the university, the coordinated efforts by the leaders from all levels enabled it to get through the pandemic. According to him, its bedrock of innovation had allowed Tsinghua University to lead in its efforts for the integrated online and offline education during the epidemic. He also affirmed Tsinghua’s role in contributing to the public health cause in China,” he said.

She thanked the people and the Chinese government for their efforts to win the fight against the COVID-19. Although she was in Hong Kong during the epidemic, she keenly watched the developments that took place in the mainland with regard to the prevention and control of the pandemic, and was proud to see the mainland heading in a positive direction in its fight against the COVID-19.

“I appreciate the chance to continue to contribute to the public health cause in China,” she said.

Dr. Michael Ryan, Executive Director of the World Health Organization Emergencies Program commented on the spread of the pandemic in different parts of the world. He stressed on the need of coordinated efforts, strong leadership, and trust in science at the national and regional levels to keep the pandemic from escalating.
Sun said, higher education represents a space of advanced collaborative exchange between China and the US, enhancing the mutual understanding and friendship between the peoples of China and the US, and promoting the development of China-US relations.

Sun said she was hopeful that universities of China and the US will, under the principles of openness and inclusiveness, leverage their complementarities and broaden the space for cooperation in education, research and joint programs.

"It is hoped that universities enhance mutual learning through communication, and mutual trust through cooperation, and contribute to the building of a community of shared future for mankind," she added.

Tsinghua University President Qiu Yong, delivering his opening remarks, said that by bringing together colleagues from leading universities in China and the US, Tsinghua hoped to highlight the importance of global collaborative engagement, and better understand the development of universities more broadly.

President Qiu urged all the universities to be united in the fight against profound challenges that humanity faces such as global health emergencies, climate change, economic volatility, social inequality, and ecological degradation.

He said universities have been marching towards openness, imparting knowledge and wisdom to all mankind, and promoting exchange and cooperation in local and global communities.

"If universities are to fulfill their mission to advance human development and expand the boundaries of knowledge, we must become more open, more integrative and more resilient," he added.

President Qiu argued that universities have demonstrated their resilience throughout history as one of the oldest type of institutions in existence, surviving countless wars, crisis, and challenges of all kinds in human civilization.

He said that universities once again proved their resilience during the COVID-19 pandemic by adjusting teaching and learning models and playing an irreplaceable role in supporting global health by understanding the virus and developing vaccines and treatment in a short span of time, and through these efforts will make humanity better prepared for future health crises.

President Qiu stressed that universities of the future must be "more integrative" and should continue to break through physical borders, disciplinary barriers, technological limitations, and identity constraints, and seamlessly connect with societies, governments, NGOs and industries.

Likewise, Yale University President Peter Salovey said in his opening remarks that the way research universities around the world have responded even though the world is experiencing a true global disruption has demonstrated that open, integrative, resilient research universities are built on cooperation across national borders.

"Although I am realistic about the difficulties in the coming months, I am confident that the lessons we are learning and the ways we are adapting will help us emerge with resilience and strength. This includes a renewed sense of purpose in building sustaining our international collaborations, learning from history," he said.

"In addition, we can and should leverage our experiences from it would be: the more open a university is, the more momentum it will release, especially when confronting challenges we globally face."

"Fostering More Integrative Universities," was the theme of the second session, moderated by Kurt Dirks, Vice Chancellor of Washington University in St. Louis. This session saw President Xue Ningsheng from Fudan University, President David W. Leebron from Rice University, President Zhang Xi from Jinan University, Chancellor Kent Syverud from Syracuse University, President Cao Xueqiao from Nankei University, and President Ruth V. Watkins from The University of Utah as the speakers.

"Despite the current obstacles, we need such global collaborations more than ever," Rice University President Leebron said, delivering a PowerPoint presentation on "The Borderless University." President Cao Xueqiao from Nankei University and President Xue Ningsheng from Fudan University, in separate speeches, pushed for effective integration, connection and collaboration among universities worldwide including China and the U.S.

The last session addressed the theme of "Fostering More Resilient Universities." Wendy Woloford, Vice Provost, Cornell University, was the moderator as well as one of the speakers of the session. Other attendees of the session were Chancellor Andrew D. Martin from Washington University in St. Louis, President Yan Chui-Hua from Lanzhou University, President Laurie Leshin from Worcester Polytechnic Institute, President Wu Zhaohu from Zhejiang University, and President Dwight A. Millbrode from The New School.

Addressing the session, The New School President Millbrode said that his university’s relationship with overseas universities like Tsinghua helped it to be responsive and resilient during the pandemic, urging the university leaders to find ways to work across political and bureaucratic barriers in the interest of the educational mission higher education institutions all share. Likewise, Zhejiang University President Wu Zhaohua also said that his university was looking forward to using the form as an opportunity to jointly push university cooperation in the post-pandemic era to a higher-quality development state, and contribute greater wisdom and strength to the China-US friendship and human development.

The forum concluded with a closing remark from Tsinghua Vice President and Provost Yang Bin. He said, "The pandemic and subsequent travel restrictions have added additional layers of complexity to educational exchanges and mobility, but through proactively searching for solutions and promoting communication and mutual understanding, we can turn challenges into opportunities and foster more open, integrative and resilient universities together."

"If universities are to fulfill their mission to advance human development and expand
Tsinghua University’s Vanke School of Public Health recently set up its first international advisory board

Tsinghua University’s Vanke School of Public Health recently set up its first international advisory board to bring great minds together and seek academic and other scientific and technical input for the further development of the recently-established school as well as for China’s public health sector.

The board is composed of 34 well-known experts and scholars from 12 countries around the world, including deans of world-famous public health schools, leaders of non-governmental organizations, public health sector leaders, and outstanding entrepreneurs.

Tsinghua established the school this April, aiming at covering four research fields, namely preventive medicine, comprehensive healthcare, big data in healthcare, and public healthcare, big data in healthcare, and public health management, as well as strengthening global health governance and international cooperation.

The board is co-chaired by Han Qide, Honorary President of the China Association for Science and Technology and academician of the Chinese Academy of Sciences, and Harvey Feinberg, President of the Gordon and Betty Moore Foundation.

At the meeting, Han suggested Tsinghua make full use of its excellent scientific and academic research results to fight against the COVID-19 pandemic as well as pursue in-depth public health development via closer cooperation with both Chinese and overseas universities.

Dr. Margaret Chan, founding Dean of the school, presided over the meeting and introduced the board’s background and constitution.

On October 22, the school held its online board meeting with international members from 11 countries, who shared their opinions on teaching innovation, interdisciplinary cooperation, lifelong education in the public health field, young faculty development, incentive mechanisms and research platforms. They also talked about the development and planning of the school and looked forward to future cooperation.

Qiu Yong, President of Tsinghua University, expressed his congratulations on the opening of the board’s meeting via video link.

He said the advisory board would become a highlight in the field of global public health education, and hoped the school would give full play to the role of the board, strive to build a world-class public health school and make greater contributions to the realization of a “Healthy China” and a global community of health for humanity.

Harvey Feinberg pointed out that the Vanke school should “not only be the leading school of public health for China, but also represent a way of working for public health from an academic base that brings together the whole of society and that reaches across nations for a more global outlook.”

On 9th November, the eve of the 50th anniversary of the establishment of diplomatic relations between China and Italy, Tsinghua University and the Politecnico di Milano co-hosted the China-Italy University Presidents’ Forum.

With the theme “Innovation for Shared Future”, the online forum brought together over twenty leaders from higher education institutions in China and Italy to celebrate the fruitful partnership between the two countries in the field of science, education, and culture in the past 50 years, as well as to explore cooperation in the next half-century that paves the way for a shared future.

Chen Xu, Chairperson of the Tsinghua University Council, and Ferruccio Resta, Rector of the Politecnico di Milano and President of the Conference of Italian University Rectors, delivered opening remarks at the forum.

“The friendship between China and Italy has flourished for thousands of years. The ancient Silk Road witnessed an enduring cultural exchange between the two countries. The mutual support Chinese and Italians offered each other since the outbreak of COVID-19 is a demonstration of the comprehensive partnership we formed,” Chen said in her remarks. “During the past years, Tsinghua has forged extensive and in-depth cooperation with Italian universities in various forms. The China-Italy Design Innovation Hub Tsinghua established in collaboration with the Politecnico di Milano has become a flagship program between the two universities and the two countries.”

“The profound changes, instabilities and uncertainties we are facing in the world today remind us constantly of the importance of unity,” Chen pointed out. “This year marks the 50th anniversary of the establishment of diplomatic relations between China and Italy. The cooperation in technological innovation between the two countries is set to usher in greater latitude. Tsinghua is willing to keep working together with our partners from both China and Italy to promote global sustainable development.”

Ferruccio Resta reflected on the partnership Politecnico di Milano had with Tsinghua in his remarks. “COVID-19 does not only pose the threat to the world but also offers an opportunity to transform,” he said. “The successful partnership between Tsinghua and the Politecnico di Milano has laid a solid foundation for us to shoulder together the responsibility of higher education institutions in navigating the changes, leading the transformation, and in shaping universities that face the future.”

Following the opening remarks, the forum witnessed the launch of the China-Italy Year of Youth Innovation & Entrepreneurship, a year-long program, organized by the China-Italy Design Innovation Hub and the Innovation & Entrepreneurship Education Alliance of China, that aims to gather collaborative strength across the world to make strategic contributions for innovation-driven development by creating a favorable ecosystem, promoting exchanges between Chinese and Italian youth, and cultivating leading talents.

Two keynote speech sessions were organized afterwards: Yang Bin, Vice President and Provost of Tsinghua University, together with Giulo Nosi, Vice President of the Politecnico di Milano, moderated the forum.

The first one addressed the topic of “Innovation from a Global Perspective”. Liu Jongtian, President of Zhengzhou University, Zuo Wei, Chairman of the University Council of Southeast University, Guido Saracco, Rector of the Politecnico di Torino, Duan Xianzhong, the President of Hunan University, Guo Yongjun, Chairperson of the University Council of the Southern University of Science and Technology, Sergio Cavalletti, Vice Chancellor of the Università degli Studi di Bergamo, Norman Ten, Vice-President and Pro-Vice-Chancellor of the University of Hong Kong, Alessandro Paccagnella, Vice Rector of the...
The 2020 Global Advisory Board Meeting of Tsinghua’s School of Public Policy and Management (SPPM) was held on 7th November.

The meeting, held combining both online and offline channels under the theme “Challenges of Global Governance and Cultivation of Public Management Talents,” brought together 25 advisory board members from China and abroad to address gaps exposed by the COVID-crisis in global governance, exchange ideas to strengthen it in the post-COVID world, and set priorities for the further development of the school accordingly.

Chinese State Councilor and Foreign Minister Wang Yi attended the opening ceremony of the meeting, and delivered a speech entitled, “Uploading Multilateralism to Tackle Global Challenges.”

He said what has happened since the start of COVID-19 has proved time and again that humankind is a community with a shared future, multilateralism is the right way forward, and that strengthened global governance is an urgent necessity.

“Facing this common challenge, whether the international community can choose solidarity over division, opening up over isolation, and cooperation over confrontation has put the wisdom, conscience and courage of humanity to a grave test,” he said, adding China is firmly committed to multilateralism, the path of peaceful development, and the building of a community with a shared future for mankind.

He announced a host of proposals and initiatives aimed at tackling global challenges and advancing common development, and shared his vision on how to carry forward multilateralism and strengthen global governance in a post-COVID era.

Liu Lanjuan, Vice President of Tsinghua University Council Chen Yu delivered her remarks at the opening ceremony. She opined that improving the governance system and the global governance capabilities were imperative and important as the world was undergoing major changes unseen in a century.

She expressed the hope that the advisory board members of the school contribute insights and ideas toward the construction of public management discipline and talent training and the reform of global governance.

Chen Yu thanked the advisory board members for playing an important role in the development of the Tsinghua SPPM and Tsinghua University in the past years. Following the opening ceremony, Tsinghua President Qiu Yong and three advisory members delivered keynote speeches.

For his part, President Qiu, in his video speech, said that the reform of the global governance system has posed a common challenge for mankind, and that Tsinghua and Tsinghua SPPM were committed to cultivating backbone professionals and leaders in support of advancing global human undertaking.

Ding Zhijun, Vice-Chairman of the Standing Committee of the 13th National People’s Congress and Chairman of the Central Committee of China Democratic League, suggested the Tsinghua SPPM improve the talent training system through three ways: fostering collaboration with relevant ministries and agencies, setting up a talent cultivation alliance among Chinese universities for international organizations, and creating additional internship opportunities for students to work at international organizations.

Wan Gang, Vice Chairman of the 13th National Committee of the Chinese People’s Political Consultative Conference and Chairman of the Central Committee of China Zhi Gong Party, and President of the 9th National Committee of the China Association for Science and Technology, emphasized the urgency to advocate openness and inclusiveness, promote mutual learning and trust, and bring vitality to innovation-led cooperation in the post-pandemic period.

Zhou Xiaochuan, Vice-Chairman, the 12th National Committee of the Chinese People’s Political Consultative Conference and Vice Chairman of the Boao Forum for Asia, said allocating substantial efforts in terms of institutions, market construction, and innovative technologies, among others, are necessary to realize China’s goal of carbon neutrality by 2060. “We should strengthen international cooperation on carbon emissions targeting borderless areas and explore the establishment of relevant international governance mechanisms,” he added.

The meeting then began its first session moderated by John L. Thornton, the annual Co-Chair (International) of the global advisory board, on the theme of “Challenges of Global Governance & Development and Reform of Higher Education.”

The first session saw speeches delivered by Jiang Xiaojuan said that to address the changes and challenges of China’s public and global governance, Tsinghua SPPM would develop public management academic programs at a higher level, reform the existing postgraduate education system for professional degrees, and improve the capability of cultivating academic postgraduates.

Yang Bin said the public management education in universities should give full play to its advantages in terms of student selection, curriculum settings, cultivation programs formulation, creating an open and diverse community for talent cultivation and attracting great importance to the basic science and technology education for public management talents in terms of new literacy skills.
AUA Presidents Forum held on building resilient Asian universities

The Asian Universities Alliance (AUA) Presidents’ Forum 2020, jointly organized by the AUA Executive Presidency, 2020-2021, Nazarbayev University (NU), and the AUA Secretariat, was held online on 26th November.

The forum brought leaders of 15 AUA member universities together to share their knowledge from the experience of coping with the COVID-19 crisis for sustainable survival and progressive development, and to co-create and develop, through hindsight and foresight, knowledge for more robust survival and progressive development, and with the COVID-19 crisis for sustainable growth of Asian universities in the future.

Tsinghua President Qiu Yong, who is also the President of AUA, delivered opening remarks at the opening ceremony of the forum. Congratulating NU on its 10th anniversary, President Qiu thanked NU President and the current AUA Executive President Shigeo Katsu and his team for hosting AUA’s two important events amid a global pandemic, and thereby strengthening the synergy of AUA.

He said he felt grateful and encouraged that the AUA members came together again, to have an important conversation on the theme of Knowledge is Power: the Resilience of Asian Universities in a VUCA World, in a resolve to navigate Asian higher education through the global pandemic of COVID-19. By a “VUCA” world is meant a world with “volatility, uncertainty, complexity, and ambiguity.”

“The universities represented at this forum each possess a unique heritage of traditional wisdom and a remarkable spirit of innovation,” President Qiu said. “It is my fervent hope that together we can build more resilient models of higher education capable of withstanding and responding to any and all uncertainties and challenges which may lay ahead.”

President Qiu stressed that universities must be resilient to thrive in the most challenging times, holding steadfast to their traditions, and that the commitment to innovation has emboldened universities’ resilience to persevere through this “VUCA” world.

“At Tsinghua University, we have embraced our enduring traditions to gain strength that enables us to briskly recover from the disruption, and to advance with greater confidence. In a year that seems as if everything we know has changed, our unwavering commitment to education, research, and community service remains resolute,” he added.

Meanwhile, President Qiu also invited leaders of all the AUA members to join Tsinghua’s 110th-anniversary celebration to be held next year in April.

NU President Shigeo Katsu delivered the welcoming remarks at the forum. He pointed out that the AUA had enabled its member universities to collectively respond to the challenges of the VUCA world, lead intellectual scholarship and research endeavors, and develop future leaders in the region.

“In these difficult times marked by the COVID-19 pandemic, working together and building on our strengths, we will continue to accomplish great things and we will emerge stronger and more resilient,” Katsu added.

Katsu said that, during its tenure as the Executive-President of the AUA, NU would like to strengthen cooperation among young researchers and scholars within the AUA network. He urged leaders of the AUA members to reflect on the pressing issues they have been facing, and share their experience of addressing the challenges of the VUCA world.

The forum featured two panel discussions following the opening ceremony.

The first panel, entitled “Timely Knowledge: Innovation of Asian Universities in Turning Risks into Opportunities”, moderated by Ilesanmi Adesida, Provost of Nazarbayev University.

The second panel was on the topic “Traditions of Asian Universities in Persisting through a VUCA World”, moderated by Lesanmi Adesida, Provost of Nazarbayev University.

Bundhit Eua-arporn, President of Chulalongkorn University; OH Se-Jung, President of Seoul National University; Ghaleb Alhabib Albreiki, Provost and Acting Vice-Chancellor of United Arab Emirates University; Mohd. Hamid Abd. Shukor, Vice-Chancellor of the University of Colombo; Alhadrami Albreiki, Provost and Acting Vice-Chancellor of Universiti Malaya; Nilar Aung, Pro-Rector of the University of Yangon; and Wei Shyy, President of the Hong Kong University of Science and Technology, exchanged their ideas as panelists. The speakers deliberated on aspects Asian universities can focus on while reforming their higher education systems to become resilient, creative, and innovative, and turn risks into opportunities.

The forum concluded with the closing remarks from NU President Katsu. He summarized the insightful views shared by the speakers during the two panel discussions, and concluded the forum as successful, fruitful and informative. He expressed the hope that AUA members would make the best use of the annual presidents forum to bring out more collaboration for a robust growth of Asian universities in the future.
Tsinghua researchers invent metal that refuses to sink

What if metal was more than just a cold and rigid material? Although T-1000, the self-repairing, shape-shifting android assassin was merely a figment of creative imagination, the vision is a step closer to becoming reality. In fact, there are metals that behave like water and do not solidify at room temperature.

Benefitting from good electrical conductivity and fluidity, these liquid metals attract the likes of various industries such as wearable sensors, exoskeleton systems and soft robotics. However, the heavy weight of metal stood out as a major concern, for which may bring discomfort and extra energy loss especially when donned on humans.

To overcome the challenge, Professor Liu Jing from Tsinghua’s School of Medicine led a team of researchers from Tsinghua and the Chinese Academy of Sciences to propose a concept of “lightweight liquid metal entity.” They developed a liquid metal alloy less dense than water by combining the material with hollow glass beads, which could be potentially used to make lightweight exoskeletons or transformable robots.

The research was recently published in Advanced Functional Materials and selected as the inside back cover. The density of the material (called GB-eGaIn) decreased more than 70% as compared to the original metal, which means it can float on water under specific situations. Based on these results, two typical structures of GB-eGaIn were designed, including the planar structure and 3D structure.

This material has good phase transition properties with the ability to switch between a completely soft state (like water) and a rigid metal level under temperature regulation. What’s more, when combined with water-proof package materials, GB-eGaIn can also realize controllable float and sink behavior. These results show the potential of diversity shaping and reliable mechanical/electrical performance of GB-eGaIn, indicating its feasibility for use as temperature-regulated functional components, and may offer potential use in developing advanced smart underwater devices.

A new mechanism of Ising pairing in Science

On March 13th, Associate Prof. Ding Zhang and Prof. Qi-Kun Xue of the Department of Physics, Tsinghua University, Prof. Haiwen Liu of Beijing Normal University, and Prof. Jurgen Smet of the Max-Planck Institute, together with other researchers, reported their joint discovery of very high upper critical magnetic fields in few-layer stanene superconductors and a new type of Ising pairing in Science.

The critical magnetic field of a superconductor defines the field that can turn the superconducting state back to the normal state. It is one of the basic properties of superconductivity and an important indicator of the superconductor’s potential for applications. Mercury—the very first superconductor—has a critical magnetic field of merely tens of milli-Tesla. In recent years, people discovered that certain films with the thickness of a few atomic layers can sustain their superconducting state even with a magnetic field of tens of Tesla, far exceeding expectations.

To explain this phenomenon, researchers proposed an Ising pairing mechanism, in which the paired electrons have their spin orientations locked because of the broken inversion symmetry in the lattice of special types of materials. With this framework, people searched in the non-centrosymmetric materials and found a few more superconductors with very large upper critical fields. However, some people believed that this effect can be solely attributed to dimension reduction, challenging the Ising pairing mechanism. Furthermore, an important prediction of Ising pairing—a divergent critical magnetic field at low temperature—has not been verified until now.

Recently, a China-Germany collaborative team led by Associate Prof. Ding Zhang and Prof. Qi-Kun Xue of the Department of Physics, Tsinghua University, has overturned the boundary set by former theories; for the first time, they observed an enhanced critical magnetic field—a few times the conventionally expected value—in a highly symmetric material, few-layer stanene. They clearly observed divergent behavior of the critical magnetic field as the temperature approaches absolute zero, giving strong evidence for Ising superconductivity. On March 13th (Beijing time), this study was reported in Science under the title “Type-II Ising pairing in few-layer stanene.”

The group of Prof. Qi-Kun Xue has been long working on atomically controlled growth and characterization of high-quality thin films, making a series of discoveries such as superconductivity in monolayer lead, high-temperature superconductivity in monolayer iron selenide and strontium titanite interface, and Griffiths singularity in a bilayer gallium superconductor. In 2018, Associate Prof. Ding Zhang—a core member of the Xue group—discovered superconductivity in gray tin thin films—stanene (Nature Physics, 14, 344 (2018)) and subsequently found that their in-plane upper critical field exceeded the limit...
of conventional superconductors—the so-called Pauli limit. To further understand the superconducting properties of stanene, the team collaborated with Dr. Joseph Falson and Prof. Jurgen Smet of the Max Planck Institute for Solid State Research. They employed in-situ rotation at an ultralow temperature and high magnetic field and systematically measured stanene samples. They obtained the upper critical field data covering almost the complete temperature range of this superconductor.

They found that the upper critical field not only exceeded the Pauli limit but also showed no sign of saturation when the temperature approached absolute zero, a key feature of Ising superconductivity. However, since stanene is centrosymmetric, the observed behaviors cannot be explained by the established theory of Ising pairing. In order to understand this perplexing phenomenon, Associate Prof. Yong Xu of the Department of Physics, Tsinghua University and Prof. Haiwen Liu of Beijing Normal University carried out in-depth theoretical analysis.

Through this close collaboration between theory and experiment, the team proposed a new type of Ising pairing—type-II Ising pairing—which resulted from the combination of spin-orbit coupling and lattice symmetry of the materials. This work provides strong evidence for the existence of an Ising superconductor and broadens the scope for searching similar materials. Associate Prof. Ding Zhang of the Department of Physics, Tsinghua University, Prof. Haiwen Liu of Beijing Normal University, and Prof. Jurgen Smet of the Max Planck Institute for Solid State Research, Germany, are the corresponding authors of the paper. Dr. Joseph Falson of the Max Planck Institute for Solid State Research, Germany, is the first author. The other co-authors include Prof. Wenhua Duan, Prof. He He, former graduate student Dr. Yunqi Zang (currently a post-doc at the Max Planck Institute for Microstructure Physics), graduate student Menghan Liao, Keying Zhu, Cheng Wang and Zhezhe Zhang as well as graduate student Hongqiao Liu of Peking University. This work was supported by the National Natural Science Foundation of China, the Ministry of Science and Technology of China, the State Key Laboratory of Low-Dimensional Quantum Physics, and the Beijing Advanced Center for Future Chips.

The structural basis for the cell entry of the 2019 novel coronavirus

Xinquan Wang and Linqi Zhang groups reveal the structural basis for the cell entry of the 2019 novel coronavirus

On March 10th 2020, a research paper entitled “Structure of the SARS-CoV-2 spike receptor-binding domain bound to the ACE2 receptor” was published online in Nature as ‘Accelerated Article Preview’ by the groups of Prof. Xinquan Wang at the School of Life Sciences and Prof. Linqi Zhang at the School of Medicine, Tsinghua University. This study reported the crystal structure of the SARS-CoV-2 spike receptor-binding domain (RBD) in complex with the human cell receptor ACE2 at a resolution of 2.45 angstrom. By precisely elucidating the interactions between RBD and ACE2, this study revealed the structural basis for the recognition of SARS-CoV-2 by ACE2 and provided important structural knowledge for the development of antibodies and vaccines against the COVID-19 pandemic.

To help the research on the SARS-CoV-2 and anti-virus drug discovery, the paper was deposited in the preprint server BioRxiv on February 10th, 2020. The coordinates of the crystal structure were also available for downloading before the official release of the Protein Data Bank (PDB) on the website of the Beijing Advanced Innovation Center for Structural Biology.

To better understand the initial step of SARS-CoV-2 infection at an atomic level, the Wang and Zhang groups expressed and purified the SARS-CoV-2 RBD and human ACE2 in insect cells, crystallized the complex, and collected the diffraction dataset on the BL17U1 beamline at the Shanghai Synchrotron Radiation Facility (SSRF). The overall ACE2-binding mode of the SARS-CoV-2 RBD is nearly identical to that of the SARS-CoV RBD, which also utilizes ACE2 as the cell receptor. Structural analysis identified residues in the SARS-CoV-2 RBD critical for ACE2 binding, the majority of which are either highly conserved or shared similar side chain properties with those in the SARS-CoV RBD. Such similarity in structure and sequence strongly argues for a convergent evolution between SARS-CoV-2 and SARS-CoV RBDs for improved binding to ACE2, although SARS-CoV-2 does not cluster within SARS and SARS-related coronaviruses. The epitopes of two SARS-CoV antibodies targeting the RBD are also analyzed with the SARS-CoV-2 RBD, providing insights into future identification of cross-reactive antibodies.

The research was supported by the Beijing Advanced Innovation Center for Structural Biology, the Beijing Frontier Research Center for Biological Structure, the Ministry of Education Key Laboratory of Protein Science, and the National Key Plan for Scientific Research and Development of China.

PHD student Jun Lan, postdoc Jixuan Ge, and PhD student Jinliang Yu from the School of Life Sciences, and PhD student Si Shen from the School of Medicine are the co-first authors of the study. Dr. Shilong Fan from the Tsinghua University Technology Center for Protein Sciences, Drs. Haian Zhou and Qiheng Wang from the SSRF, and Drs. Xuanling Shi and Qi Zhang also contributed to the study. Professors Xinquan Wang and Linqi Zhang are the corresponding authors of the study. This study is also supported by the Beijing Advanced Innovation Center for Structural Biology, the Beijing Frontier Research Center for Biological Structure, the MOE Key Laboratory of Protein Science, and the National Key Plan for Scientific Research and Development of China.
Reopening the window of soft X-ray polarimetry

On 11 May 2020, Professor Hua Feng and his collaborators reported in Nature Astronomy a re-detection of soft X-ray polarization from the Crab nebula with the space program PolarLight, indicating that this long-anticipated window in astronomy has been reopened after more than 40 years since the OSO-8 experiment in the 1970s. More interestingly, PolarLight discovered a time variation of polarization that coincides in time with a glitch of the Crab pulsar. The variation is associated with the pulsar emission but not the nebular emission, suggesting that the pulsar magnetosphere may have altered after the glitch.

PolarLight is a dedicated soft X-ray polarimeter onboard a Cubesat manufactured by Spacety. It was built on the basis of a high-sensitivity technique initially developed by Italian scientists, who are also collaborators of PolarLight. Unlike imaging, timing, and spectroscopy, polarimetry in the standard band of X-ray astronomy is the least explored window, with the previous experiment occurred in the 1970s, mainly due to the lack of high-sensitivity techniques. The PolarLight detector has a small area, similar to the size of a quarter, with an attempt to demonstrate the new technique in space, but surprisingly discovered interesting phenomena associated with the Crab pulsar, implying that X-ray polarimetry is indeed a powerful probe.

Pulsars are the most accurate clocks in the universe. However, their rotational frequency may undergo a sudden change followed by a gradual recovery. This is called a pulsar glitch. The mechanism is still unknown, and may be related to the interior structure of the neutron star. PolarLight detected a time variation of the X-ray polarization right after a glitch of the Crab pulsar on 23 July 2019. This may help constrain neutron star physics and distinguish high-energy emission models of rotation-powered pulsars.

Astronomy is a field of science driven by observations. New observational techniques, also called new windows, are of essential importance. This is the reason why astronomers all over the world are working hard to develop advanced techniques to enable X-ray polarimetry in future astronomy. The technique that is used in PolarLight will be utilized in a NASA mission Imaging X-ray Polarimetry Explorer (IXPE) scheduled in 2021 and a Chinese-European mission concept enhanced X-ray Timing and Polarimetry (eXTP) planned in 2027. More fruitful scientific results are expected in this promising area.

This work is a collaboration between Tsinghua, INFN-Pisa, RAL/RAL-Home, INP, Peking University, the Ningbo University of Technology, North Night Vision, and Spacety. The PolarLight detector has a small area, similar to the size of a quarter, with an attempt to demonstrate the new technique in space, but surprisingly discovered interesting phenomena associated with the Crab pulsar, implying that X-ray polarimetry is indeed a powerful probe.

Pulsars are the most accurate clocks in the universe. However, their rotational frequency may undergo a sudden change followed by a gradual recovery. This is called a pulsar glitch. The mechanism is still unknown, and may be related to the interior structure of the neutron star. PolarLight detected a time variation of the X-ray polarization right after a glitch of the Crab pulsar on 23 July 2019. This may help constrain neutron star physics and distinguish high-energy emission models of rotation-powered pulsars.

Astronomy is a field of science driven by observations. New observational techniques, also called new windows, are of essential importance. This is the reason why astronomers all over the world are working hard to develop advanced techniques to enable X-ray polarimetry in future astronomy. The technique that is used in PolarLight will be utilized in a NASA mission Imaging X-ray Polarimetry Explorer (IXPE) scheduled in 2021 and a Chinese-European mission concept enhanced X-ray Timing and Polarimetry (eXTP) planned in 2027. More fruitful scientific results are expected in this promising area.

This work is a collaboration between Tsinghua, INFN-Pisa, RAL/RAL-Home, INP, Peking University, the Ningbo University of Technology, North Night Vision, and Spacety.
Tsinghua University and Bosch announced a five-year research collaboration agreement in the field of artificial intelligence by establishing a Tsinghua-Bosch Joint Research Center for Machine Learning on 6th March. The ceremony was held online via video link from Beijing, Shanghai and Renningen in Germany.

The two parties also signed an agreement on the establishment of the Bosch AI Professor Donation to support professors at Tsinghua’s Department of Computer Science and Technology in AI research. For their work in the joint research center, Tsinghua and Bosch will leverage their advantages and focus on the basic theories and key breakthrough technologies in machine learning. I sincerely wish and strongly believe that our close collaboration will lead to outcomes that can shape the future of human kind”

Prof. Thomas Kropf, the President of Robert Bosch Corporate Research, also gave a speech at the ceremony. He said: “The collaboration with Tsinghua University marks another milestone in Bosch’s efforts to support pioneering technologies in the dynamic AI field and accelerate the deployment of AI in real-world industrial applications. Bosch believes AI can only be effectively driven with the involvement of the larger scientific community. Tsinghua University is one of the leading universities in the field of AI worldwide. Similarly, Bosch has firmly established its position as one of the largest industrial contributors to the AI research community with the goal of becoming the leading company in the field of industrial AI. The collaboration between Tsinghua and Bosch will offer great potential for synergies for both partners and will be the foundation for a very fruitful and long-lasting partnership. We are extraordinarily happy to officially sign this research collaboration agreement today and are looking towards a bright future together.”

You Zheng, vice-president of Tsinghua University, and Prof. Dr. Thomas Kropf signed the agreement on establishment of the research center, while Yuan Wei, secretary-general of the Tsinghua University Education Foundation, and Chen Yudong, president of Bosch (China) Investment Ltd, signed the donation agreement.

The university’s vice-president Yang Bin presided over the ceremony.

Tsinghua University’s AI research boasts a solid foundation and occupies a leading position both at home and abroad, and has made many achievements in areas such as machine learning, information retrieval and natural language processing. As shown by the official C5 Rankings, Tsinghua ranks second in terms of the number of high-level papers published in the field of AI among institutions and universities around the world.

The Bosch Group is a leading global supplier of technology and services. Currently, Bosch operates seven AI centers worldwide in Germany, USA, India, Israel and China. To drive progress, Bosch also has built alliances with key players in both industry and academia across the world to address key challenges in AI and machine learning.

A joint team of researchers from the Tsinghua-Berkeley Shenzhen Institute (TBSI), and the Shenzhen Institute of Advanced Technology (SIAT) of the Chinese Academy of Sciences have developed more efficient perovskite solar cells using green anti-solvents.

Perovskites are often used in solar cells as they exhibit superior optoelectronic properties, but traditional one-step solution processed perovskites often suffer from defects-induced non-radiative recombination, which significantly hinders the improvement of device performance. Anti-solvent engineering has been demonstrated to be effective in achieving improved performance and stability.

BOSCH ASSISTANT PROF. GUODAN WEI AND PROF. FENGYU KANG’S GROUP COLLABORATED WITH SIAT PROF. JINGJU LI, AND RECENTLY PUBLISHED THEIR RESEARCH TITLED “SUPPRESSING DEFECTS-INDUCED NON-RADIATIVE RECOMBINATION FOR EFFICIENT PEROVSKI TE SOLAR CELLS THROUGH GREEN ANTI-SOLVENT ENGINEERING” IN ADVANCED MATERIALS.

Researchers chose the green anti-solvent methylamine bromide (MABr) in ethanol (MABr-Eth) to modify perovskite films. The MABr treatment not only enhanced the resultant perovskite crystallinity, but also passivated surface defects. MABr-Eth-treated perovskite films showed improved crystallinity and morphology with higher coverage, longer charge carrier decay time, and a lower density of surface defect states. Additionally, this strategy delivered PSCs with the best power conversion efficiency of 21.53%, as well as better storage and light-soaking stability.

These results confirmed that the MABr-Eth treatment can substantially suppress defects-induced non-radiative recombination for PSCs, and also-signified the importance of rationally choosing green anti-solvents for PSCs to achieve improved performance and stability.

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Prof. Huaqiang Cao’s group published a research article in Nature Communications, reporting important progress in research into phosphorene nanobelts.

On August 6th, 2020, Professor Huaqiang Cao FRSC FIMMM from the Department of Chemistry at Tsinghua University and his collaborators Associate Professor Dan Xie from the Institute of Microelectronics at Tsinghua University, and Professor Sir Anthony K. Cheetham FRS from the Department of Materials Science and Metallurgy at the University of Cambridge (co-corresponding author) published a research article entitled "Unzipping of black phosphorus to form zigzag phosphorene nanobelts" in Nature Communications.

In this work, an electrochemical method is used to control the concentration of oxygen molecules to prepare zigzag phosphorene nanobelts (z-PNBs), as well as nanosheets and quantum dots, via an oxygen-driven mechanism. The mechanism of oxygen-driven directional cutting of phosphorene is revealed through theoretical calculation, field-effect transistor (FET) devices are constructed based on the prepared z-PNBs to study the carrier transport characteristics.

Phosphorene, monolayer or few-layer black phosphorus, exhibits fascinating anisotropic properties and shows interesting semiconducting behavior. These attractive properties along a zigzag lattice direction are predicted to overstep those of an armchair phosphorene nanostructures, including nanosheets, nanobelts and quantum dots. The structure characterizations show that the z-PNBs have good crystallinity and flexibility.

According to the electrochemical dissociation mechanism, the preparation process is divided into two steps, i.e., ionic intercalation and oxygen degradation (Fig. 2). In the electrochemical process, BF₄⁻ ions intercalate into the BP crystal layers along the a-axis direction of BP (i.e., [100] direction of BP, zigzag direction). At the same time, oxygen molecules are chemically adsorbed and dissociated to form dangling oxygen on the surface of BP. The hydrogen bond is also formed between dangling oxygen and H₂O and the hydrolysis of P-O-P leads to the breaking of the P-P bond (Fig. 3). This results in the formation of interstitial oxygen pairs. The team designed an electrochemical method to effectively adjust the ion intercalation rate and oxygen concentration around the BP by changing the current density, so as to control the dimension and size of phosphorene nanostructures, obtaining a series of phosphorene nanostructures, including nanosheets, nanobelts and quantum dots (Fig. 1). The team also designed and fabricated FET devices based on z-PNBs via a home-made Cu-grid mask method, and explored carrier transport characteristics of z-PNBs (Fig. 4). The conversion between p-n types of devices was also realized. This work provides key materials and opens up new research methods for the application of phosphorene nanobelts in active matrix display technology, radio frequency devices and complementary metal oxide semiconductor device technology.

Zhiyang Liu, a PhD candidate under the supervision of Professor Cao, and Xin Sun, a PhD student candidate under the supervision of Associate Professor Xie, are the co-first authors. Professor Wei Li from the Institute of Rare Earth and Inorganic Functional Materials, the National Institute for Advanced Materials at Nankai University and Associate Professor Jiaou Wang from the Institute of High Energy Physics at the Chinese Academy of Sciences also participated in the research. This work is supported by the National Key R & D Program of China and the National Natural Science Foundation of China.

Researchers elucidate Molecular Mechanisms of Glycosylase AlkD in Target Search and Recognition of DNA Damage

In order to understand the molecular mechanism of how glycosylase AID recognizes the DNA damage, Professor CHEN Chunlai’s group from the School of Life Sciences, Tsinghua University, collaborating with Professor ZHANG Lu from the Fujian Normal University of Science and Technology and Professor ZHAO Xinsheng’s group from Peking University have integrated the experimental and computational methods to characterize the dynamic diffusion of glycosylase AID along a double-stranded DNA (dsDNA) at the molecular level. The study was published in Proceedings of the National Academy of Sciences of the United States of America.

The researchers developed a scanning Fluorescence Resonance Energy Transfer (FRET) – Fluorescence Correlation Spectroscopy (FCS) platform to probe the protein dynamics at the microsecond temporal resolution and sub-nanometer spatial resolution. The significant improvement in the resolutions enables the researchers to not only observe the fast mode (1D diffusion constant of ~ 8 × 10⁶ bp² s⁻¹), but also directly capture the slow mode (1D diffusion constant of 6 × 10⁵ bp² s⁻¹) of the AID-dsDNA complex coordinate different diffusion modes to recognize DNA lesions with high efficiency and accuracy. The mechanism adopted by AID to search for DNA lesions may be utilized by other glycosylases and DNA binding proteins. The integrated platform may be utilized by other glycosylases and DNA binding proteins.

The study provided mechanistic insights on how conformations of dsDNA complexes coordinate different diffusion modes to recognize DNA lesions with high efficiency and accuracy. The mechanism adopted by AID to search for DNA lesions may be utilized by other glycosylases and DNA binding proteins. The integrated platform may be utilized by other glycosylases and DNA binding proteins.

This work is supported by the National Natural Science Foundation of China, the Hong Kong Research Grant Council, the Tsinghua-Peking Joint Center for Life Sciences, the Beijing Advanced Innovation Center for Structural Biology and the Beijing Frontier Research Center for Biological Structure.
New bioprinting method for gastric wounds

Gastric wall injuries are a common digestive tract problem, often requiring drug therapy or invasive surgery. Bioprinting, a way of delivering new cells directly to the wound site to repair tissue, offers a potential treatment.

Xu Tao, Professor from Tsinghua’s Department of Mechanical Engineering, and his team recently put forward a new concept of “in situ in vivo bioprinting” and designed a microbot that enters the body via an endoscope to carry out tissue repair.

They tested the microbot and the delivery system with a biological model of a human stomach and an endoscope to mimic the insertion and bioprinting operation. They also carried out a bioprinting test in a cell culture dish to test how effective the device was at bioprinting viable cells and repairing wounds.

The tests showed that printed cells remained at high viability and steady proliferation, which indicated good biological function of the cells in the printed tissue.

Combining research on biological manufacturing, 3D printing and mechanics, the research verified the feasibility of this concept for treatment for gastric wall injuries and offered a potential application for a variety of wound treatments inside the body without the need for invasive surgery.

The research was published in the journal Biofabrication.

18th Symposium on Scientific Research concludes

“The competence to innovate is a core strength of a university. There is no world-class university without world-class innovation competence. Universities should lead through innovation, support national development with first-class innovation achievements, and build a world-class innovation system,” said President Qiu at the Closing Ceremony for the 18th Symposium on Scientific Research taking place both online and offline on October 9th.

According to President Qiu, Tsinghua will accelerate the pace to build a world-class university innovation system. As an academic institution, the university was born to cultivate talents and take academic pursuit as its responsibility. Integration of research and education is the core philosophy of universities and an important guarantee for cultivating top innovative talents. Without high-level academic research, it is impossible to cultivate high-level innovative talents and to better serve social development.

The theme of this year’s symposium is “innovative research model to build a world-class university innovation system.” Launched in March, it lasted for six months and went through three stages: the discussion of problems, the presentation of reports and the conclusion.

Eight topics

Eight topics were discussed at the symposium: the development of academic ecology and academic community, the discipline development plan and discipline adjustment mechanism, the layout of fundamental frontiers and key core technologies, the construction of major innovation platforms and research teams, new industry-university-research cooperation and mechanism for the transformation of scientific and technological achievements, global innovation cooperation, integration of research and education and cultivation of innovative talents, and the construction of a world-class university innovation system.

Highlights and Achievements

Notable achievements have been made since the 17th Symposium on Scientific Research, including the improvements in the development of disciplines, academic level and innovation capabilities, which are reflected in the constant improvement in the quality of academic papers published, the increase of the national awards in science and technology, the construction of leading national key laboratories, the transformation of scientific and technological achievements and the new developments in the liberal arts. A new think tank system has been established to provide intellectual support for addressing national and global problems.

A comprehensive discipline layout covering 11 disciplines has been completed, leading scientific research in China.

Next steps

Despite the remarkable results achieved in the reform of research over the past years, current research work still faces a series of problems and challenges. Going forward, Tsinghua will take further steps to strengthen the academic community construction to create a first-class academic ecology and academic culture, improve the layout of disciplines, further promote interdisciplinary development, strengthen the long-term and stable support for fundamental research, deepen the pilot reform of national key laboratories, build a high level of full-time research team, promote the integration of research and education, improve the mechanism for transforming scientific research achievements, take an active part in international scientific projects, and accelerate the pace to build an innovation system for world-class universities.

Initiated in 1956, altogether 18 symposiums on Scientific Research have been held up to this year and it has become a tradition to advance scientific research work at Tsinghua.
It’s a vibrant and intensely united community, within which there is no lack of enthusiasm for the online celebration despite long distances caused by the COVID-19 pandemic. No matter where they are, at home or abroad, Tsinghua teachers, students and alumni have united as one and send their best wishes and encouragement to the university and also to the world in this tough fight.

Tsinghua President Qiu Yong and Chairperson of the University Council Chen Xu, along with many other university leaders, attended Sunday’s anniversary ceremony on campus, extending their warm greetings and best wishes to all Tsinghua community members.

President Qiu said in his speech, “The year of 2020 demonstrates the resilience and strength of Chinese people in the face of adversity. We firmly believe that, this year will also witness the epic written collectively by humankind in the battle against the COVID-19 pandemic. As we confront this common challenge for humanity, Tsinghua has stood steadfastly with the nation and made concerted efforts to tackle this severe challenge. Tsinghua will shoulder the responsibility and strive to better contribute to the development of the nation and the future of humankind.”

He also noted, “I hope the online commemorative events will bring the community the same familiar warmth and a memorable experience. Tsinghua will always be the home for our students, faculty and alumni. I look forward to meeting you again in the brighter future that awaits us.”

At the ceremony, the medical teams from Beijing Tsinghua Changgung Hospital received honorary awards and bouquets for their contributions on the front line in the heavily-hit Chinese city of Wuhan.

Chairperson Chen applauded their hard work in her remarks. “On this special occasion, we would like to express our sincere respect and gratitude towards the medical teams, including the one from the Beijing Tsinghua Changgung Hospital, who went to Wuhan when it was severely stricken by the virus. They are the brave warriors that embolden spirits in the time of gravest peril. Tsinghua University is proud of you. Tsinghua University is proud of our faculty and staff members, for their magnificent display of dedication and devotion during the fight against COVID-19.”

“The year 2020 marks a milestone for the nation, as China approaches the completion of its first centenary goal of building a moderately prosperous society in all respects. For Tsinghua, 2020 marks the conclusion of its third nine-year plan and comprehensive reforms for building a world-class university. 2021 will witness the 110th anniversary of Tsinghua, which represents the start of a new phase of the University’s development,” Chen added. “In the bright future that awaits us, Tsinghua University will strive to maintain this momentum and head towards the fulfillment of our university’s developmental goals with confidence and determination.”

This year’s online celebrations also included academic forums, performances and competitions attended by teachers, students and alumni, as well as digital tours of the campus that took in exhibitions at Tsinghua’s history museum and art museum, a fascinating showcase of entries in Tsinghua University’s Challenge Cup Technological Innovation Competition, and the 2020 THU CIE Exposition.

As part of the anniversary week celebrations, Tsinghua organized the Special Dialogue on online education in partnership with UNESCO, providing a platform for over 30 institutions and organizations in 17 countries and regions to share best practices and experiences in online education as an emergency response to the outbreak of COVID-19.

The university’s many schools and departments also organized their own celebratory activities online.
A website to show its students’ recent and current graduation projects was launched by Tsinghua University’s Academy of Arts and Design on June 12th. A total of 282 undergraduates and 167 postgraduates from the Academy of Arts and Design brought over 1,000 works to the online exhibition.

These students braved many difficulties brought by the COVID-19 pandemic to create works with the instruction of their supervisors.

Unlike brick-and-mortar showrooms where students simply install their works, the online venue allows them to curate a mini solo show of their creations in a virtual space of 100 square meters each and build a 5-km-long gallery that provides visitors with diverse interactive experiences including a chance to learn about the students by their profiles.

The students can arrange their projects and design the lighting and interactive functions of their shows.

Their works convey concerns about social issues such as the aging society and the reclamation of abandoned industrial sites and health, with a special focus on problems emerging during the pandemic.

June is usually the time when art academies stage exhibitions of their majors’ graduation projects. But the pandemic has kept colleges shut down and students at home for months since the winter break, disrupting the traditional convention. The pandemic did not, however, impede the students’ artistic creativity.

People can visit exhibition.ad.tsinghua.edu.cn to explore the brilliance of the graduates’ projects.
Tsinghua holds seminar on “Higher Education in Cloud – Promise, Experience, and Expectation”

Tsinghua University convened a seminar on July 3rd to review its success in online teaching during the pandemic, share useful experience and explore new ways to further improve its online education system in the future.

The seminar, entitled ‘Higher Education in Cloud – Promise, Experience, and Expectation’, held at the university’s main building, was attended by the University Leaders Qiu Yong, Chen Xu, Jiang Shengyao, Wang Xiquan, Ji Junmin, Yang Bin, Li Yibing, You Zheng, Guo Yong, Zheng Li, Xiang Rotao and Peng Gang. Yang Bin, Vice President and Provost of Tsinghua University, moderated the seminar, which was broadcast live on various social media platforms.

The seminar opened with a video that showcased the initiatives that were taken by the university for the successful launch and operation of its online education in the spring semester. Due to the coronavirus outbreak, Tsinghua decided to conduct its 2020 Spring Semester online. Tsinghua launched 3,923 courses in the spring semester whilst starting classes as scheduled five months ago.

“Tsinghua launched 3,923 courses in the spring semester whilst starting classes as scheduled five months ago. For the first time, all the Tsinghua members have completed the whole process of online education including giving classes, academic exchanges, defense and exams and cultivation of a learning atmosphere,” she said, adding that Tsinghua’s success in achieving a high-quality online education demonstrated the university’s responsibility, passion, innovation and synergy.

Tsinghua University President Qiu Yong thanked Tsinghua faculty, staff members and students for keeping a positive attitude and delivering a meaningful online teaching reform successfully through their preciseness, diligence, pragmatic attitudes and an innovative spirit. “Today, I am confirmed that this brave exploration in online teaching in 2020 is a meaningful move in Tsinghua’s history,” he said.

He said that, in face of a critical challenge to humankind, Tsinghua, with its outstanding traditions and strong sense of mission, with the unity and enthusiasm of its faculty members and students, and with the innovative practice of technology, remained steadfast to its responsibility of imparting knowledge and educating people, and had realized its commitment to society. He said Tsinghua’s Spring semester as an online semester was a great success, due to the top-level design of teaching plans and the system operation mechanisms. “Technological innovation and intelligent teaching have interacted well with each other,” he added.

He noted that having successfully run this year’s Spring semester online, Tsinghua was confident and ready for the upcoming Fall semester. At the seminar, Qiu announced that the university would host a Tsinghua Global Summer School from July 20th-28th online this year, with the theme “Toward a Post-Pandemic World.”

“Leveraging a variety of formats, including cloud discussions, cloud visits, and cloud observations and performances, we will utilize world-class teaching resources across the campus, invite renowned Chinese and international scholars for lectures, and offer courses ranging from economics, politics, society, education, climate change to leadership,” he added.

The Global Summer School will recruit young learners from the Global Alliance of Universities on Climate (GAUC), Asian Universities Alliance (AUA) and Association of Pacific Rim Universities (APRU), offering them a platform to understand the opportunities and challenges in the post-COVID-19 world, and explore solutions for a sustainable future. Shi Zhongying, Dean of the Institute of Life Sciences, speaking on behalf of several heads and representatives from various departments of the university including Yu Xinyue, Head of the Online Teaching Experts Group, Zheng Xiaodi, representative of the Cloned-class teachers, Zhang Ran, from the School of Life Sciences, Yi Bo, from Tsinghua University Primary School, Yang Dongfang, from the Academy of Arts and Design, and other teaching management staff made presentations at the seminar, and shared the behind-the-scenes stories of Tsinghua online teaching since the outbreak of the epidemic. They also discussed the whole system synchronization of interactive online teaching program release, online teaching course resource sharing, and the launch of online international summer programs, as well as the continuation of the combination of online and offline teaching methods in the future.

Tsinghua welcomes new graduates

Tsinghua University held an opening ceremony for its incoming graduate students on August 25th. The opening ceremony, which saw welcoming remarks from university leaders and student representatives, was livestreamed world-wide in both Chinese and English.

Tsinghua President Qiu Yong delivered a speech entitled “Give life warmth and strive for dreams.” He asked the students to keep their hearts and minds open for others, uphold the value of fairness and justice, aspire for a more caring world, understand the meaning of life, and work hard to achieve their dreams as young people in the new era.

“Because of the outbreak, you now have a fuller understanding of the meaning of life regardless of circumstances. Experiencing sorrow and joy, life is worth cherishing, caring for and defending with all your might,” Qiu added.

President Qiu also offered students advice on achieving their life goals. “Achieving our dreams will never be realized overnight. We must take short steps persistently every day, and eventually we will enjoy a good harvest.”

Qiu concluded his speech by saying young students would be cherished by Tsinghua and the beautiful Tsinghua campus would be even more wonderful because of the incoming students.

Professor Wang Xinquan of the School of Life Sciences, speaking on behalf of the faculty, said he was hopeful that the students would love their mother country, work with a practical, scientific and rigorous attitude, and have the courage to face challenges.

Chen Xu, Secretary of the CPC Tsinghua University Committee, also attended the ceremony, which was moderated by Tsinghua Vice President and Provost Yang Bin.

Liu Yidi, a doctoral student of the Department of Chemistry said, “As a new postgraduate student, I hope I can devote myself to research valuable and useful to human society.”
Chairperson Chen Xu delivered her lecture, Tsinghua’s Fall semester is going to see classes completely online due to the pandemic, including more than 3,800 undergraduate staff members, and alumni representatives, by nearly 50,000 Tsinghua students, faculty, Xu and Tsinghua President Qiu Yong delivered Tsinghua University Council Chairperson Chen both Chinese and English.

online teaching platform "Rain Classroom", in media platforms, including Tsinghua’s own were held in the main building of the The first lectures in the 2020 Fall semester Tsinghua University began its Fall semester "combining online and offline learning "Tsinghua’s Profound Understanding in Education and Splendid Cultural Heritage "Tsinghua would refuel its efforts to lead the world at both university and discipline level, "Tsinghua would forge ahead with its teaching, research, as well as the reform and development of the university without lowering its guard in the outbreak prevention as the safety and health of its faculty members and students always remained the university’s priority. "Tsinghua also strived to build first-class education system for talent cultivation by launching programs for strengthening basic disciplines, with the aim of strengthening the foundation for talent development and national rejuvenation," President Qiu said in his lecture. He said the success Tsinghua achieved in the first half year has laid a solid foundation for what the university would achieve in the new semester, and shared the key reasons that led to the success of the previous semester, which could be equally helpful for the success of the upcoming semester.

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"After the outbreak prevention and control measures became a new normal, we continued to seek quality development of online education as well as the integration of online and offline teaching, furthering the comprehensive educational reform,” he said.

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Tsinghua holds opening ceremony to welcome new undergraduates

Tsinghua University held an opening ceremony and formally welcomed its new cohort of undergraduate students on September 9th.

Tsinghua President Qiu Yong delivered a speech during the ceremony. Chen Xu, Tsinghua University Council Chairperson, also attended the ceremony, which was moderated by Tsinghua Vice-President Peng Gang.

“Although some of our incoming students are still unable to come to the campus due to the pandemic, this special ceremony has brought us close together. From this moment, no matter where you are, your Tsinghua time has started simultaneously. No matter how things change, I hope you will make roots in the land, respect the people, shoulder your responsibilities, and make your unique contribution to society,” said President Qiu.

Tsinghua will greet over 3,800 new undergraduates this year. Of these, around 500 students attended the ceremony at the University Gymnasium, the main venue for the ceremony. Of these, around 300 students attended the ceremony at the University Gymnasium, the main venue for the ceremony. Other freshmen gathered in 21 venues around the campus to enjoy the opening ceremony with their peers. Meanwhile the ceremony was streamed world-wide in Chinese and English.

Tsinghua University will launch a new institute for intelligent society governance

The Department of Automation of Tsinghua University celebrated its 50th anniversary on September 26th.

President Qiu Yong, the Secretary of the CPC Tsinghua University Committee Chen Xu, and Tsinghua University Vice President and Provost Yang Bin attended the event, together with academicians of the Chinese Academy of Sciences and the Chinese Academy of Engineering in the field of automation. Zhang Zuo, the Secretary of the CPC Department of Automation Committee, moderated the ceremony.

Wu Guanzheng, member of the 16th Standing Committee of the Political Bureau of the CPC Central Committee and the Secretary of the Central Commission for Discipline Inspection, who spent nine years in Tsinghua University in thermal measurement and the automatic control specialty of the Department, sent a congratulatory letter before the event. Wu highly praised the achievements the Department has made in the past 50 years. “I believe that in the new era, the Department of Automation will continue to forge ahead, to nurture more outstanding professionals in the field of automation, become a leader in technological innovation, and make greater contributions to national prosperity,” Wu wrote in his letter.

President Qiu Yong spoke at the event and conveyed his congratulations to the Department of Automation in his speech. “A new round of technological revolution, industrial shift and social transformation is driving our world today. Automation is a key technology in empowering the economy with information technology, in supporting national strategies such as smart manufacturing, digital economy, life and health, and smart services, as well as in overcoming global challenges including energy, resources, and environment,” Qiu pointed out in his speech. “Over the past five decades, the Department has nurtured more than 12,000 outstanding graduates, pioneered a multitude of world-leading scientific and technological achievements, and embarked on a path marked by cross-disciplinary and innovation. In the future, the Department should keep the monument to promote the innovation and development of control science and technology.”

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The Institute of Nuclear and New Energy Technology of Tsinghua University held a grand meeting to commemorate its 60th anniversary in Beijing, on September 26th.

Chen Xu, Secretary of the CPC Tsinghua University Committee, extended warm congratulations to all faculty, students and alumni, and expressed her heartfelt thanks to people from all walks of life who have cared about and supported the development of the Institute and Tsinghua.

Chen said that over the past 60 years, the Institute has achieved a number of leading scientific research results in China and worldwide by steadily aiming at scientific frontiers and serving the major strategic needs of the country.

Tsinghua always highlights nuclear energy as a key discipline, and hopes that the Institute will take key core technologies of the country as its research goal, carry forward the Institute’s traditional spirit of innovation and hard work, and strive for making greater contributions to the great rejuvenation of the Chinese nation, Chen added.

Zhang Zuoyi, Head of the Institute, noted in his speech that it has been working on the peaceful use of atomic energy, and is increasing efforts in research on the inherent safety of nuclear energy.

“We are committed to developing it into a world-leading interdisciplinary high-tech research institute focused on nuclear energy and new energy research,” Zhang said.

Liu Hua, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, said the Institute should bring in more talents, and put more effort into scientific research and development in order to keep improving the independent production level of key nuclear safety technology equipment and software. Liu added that the university and the Institute could further increase exchanges and cooperation in public communication and nuclear safety culture construction, as well as help train more talented people for nuclear energy administration.

Li Meng, Vice Minister of Science and Technology of China, said the Institute should give full play to its technological, talent, and platform advantages in the field of nuclear energy, and continue to carry out industry-university-research cooperation while making more contributions to China’s nuclear energy innovation system construction.

By insisting on independent innovation and solid basic research, the Institute should help improve China’s original innovation capabilities in the nuclear energy field, he added.

Representatives from related ministries, enterprises, research institutions, universities and local governments attended the conference.

Founded in 1960, the Institute is the largest research institute in China’s higher education system and one of the important nuclear energy research bases in the early development stage of China. With outstanding research teams, the Institute has built four experimental nuclear reactors and has a number of high-level research platforms. In addition, it has built an advanced reactor engineering laboratory and an advanced PWR laboratory, which are two super large-scale laboratories at a world advanced level.

Serving as a nuclear energy talent training base, the Institute also has established a complete nuclear science and technology discipline system, and its discipline of “nuclear science and technology” ranks first in China’s nuclear discipline evaluation.

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#ConnectingTsinghua

ConnectingTsinghua is an online campaign launched by Tsinghua University’s Global Communication Office, providing a platform for the global Tsinghua community to send anniversary best wishes and share their Tsinghua stories. The campaign will be updated on the Tsinghua Anniversary Website and Tsinghua’s official international social media accounts.

Suzie Zhang
Graduate Student (Master), School of Social Sciences

When my mom sent childhood photos of me in Tsinghua, I immediately shook by how fast time went by and how much I have grown both mentally and physically.

Blessed to have my childhood dream realized, to have met so many wonderful friends, and to have so many wonderful experiences!

Tony Zhang
Graduate Student (PhD), Department of Electrical Engineering

I feel very fortunate to have joined a research group that cares so much about me. Their patience and understanding helped me manage setbacks, like being a bit nervous. They treated me on site like a native of that city, which made me feel welcomed and supported.

Looking back over the four years, I think the most important thing is not only the knowledge I have acquired but also the people who have impacted my life. Right now, I am excited to spend the next couple of years with my friends and the wonderful Tsinghua69 Happy Birthday! Tsinghua family in this wonderful world.

Huang Guanhao
Graduate Student (PhD), School of Materials Science and Engineering

Happy Birthday, Tsinghua! I have a lot of precious memories here, new friends from different countries, diverse experiences and memories to gain. I believe the most important thing waiting for us to discover in Tsinghua.

I anticipate the day that we all go back to meet the beautiful campus. Before this, let us meet online. Keep learning and stay healthy!

Veronica Chua
Graduate Student, School of Humanities

I will never forget the very first time I saw the leaves change color on campus! I could not help but take a walk and appreciate all the street colors around me.

It was a special moment that I will always look back on fondly. Tsinghua is truly a special place, unlike any other.

Kamilla Dossynbekova
Graduate Student, School of Humanities

When I first met my Tsinghua friends, I was a bit of a wallflower. I didn’t know how to make friends and felt a bit anxious. Tsinghua made me get out of my shell and make new friends. And now, I am a leader in many initiatives and look back on my time here with gratitude. This is the most beautiful place I have ever been.

Tsinghua always welcomes you with open arms. The campus is large and beautiful. The people here are friendly and welcoming. I will always be grateful for my time here and will never forget the memories I made while living and studying there.

Felice Ferrari
Graduate Student, School of Economics

In Tsinghua, you can find everything you need to live: the campus is beautiful, there are endless activities and events, and the people here are amazing. Tsinghua truly is a place where you can learn and grow as a student, a scholar, and a human being. I will always cherish the time I spent here and the memories I made while living and studying there.

Lu Mingjiang
Graduate Student (PhD), School of Journalism and Communication

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**Tsinghua Story**

**Alex Rudnicki**

"By far the most precious to me is understanding how the world works, and I don't believe anyone can understand the 21st century without understanding China." Alex Rudnicki shares how he joined the Tsinghua MBA program and landed a job as an Associate Director at ZTE China's zero-emission company.

**Ye Binbin**

"Satisfying a garden always stays with me. I have to turn over my mind every day. I have to re-arrange my garden every day," says Ye Binbin. Having worked three years on campus as a horticulturalist, Ye Binbin has been engaged in many campus revitalization projects, turning some derelict places into iconic landscapes.

**Rick Dunham**

"We at Tsinghua will become innovators in online education and virtual classrooms." Professor Richard Dunham was home in the States when he first realised that this semester was going to look a little different. Global Business Journalism (GBJ) program students are spreading across 19 time zones, so one of the major tasks was coordinating a suitable time for everyone to attend Professor Dunham’s “Media Law and Ethics” class. In this class, students from all over the world participate in class discussions and engage in a new way of learning.

**Narantungalag Enkhtu**

"Gardening is not all about drawing sketches in the office; Simant also spends a lot of time outdoors working directly with the workers, with her hard work rewarded upon seeing her beautiful creations. I’m always happy and proud to see teachers and students walking through my work,” says Tsinghua University.So many plants and other greenery is a great room for me to grow and I’m lucky to work in Tsinghua University."

**Joel Naoki Ernesto Christoph**

"My experience at Tsinghua has been wonderful. I have rarely learned and experienced so much in such a short time—both that which I had hoped for and that which I didn’t even know was possible." Before his classes, Joel Naoki Ernesto Christoph (NCF) from the Tongji University Hopkins dual degree master’s program in Global Politics and Economics has participated in many various activities in his time on campus. He highlights include the many cultural trips taken with classmates, attending and organizing all types of events, and the delicious food found from our canteens. In December 2019, Joel joined the inaugural Youth Delegation of the Global Alliance of Universities on Climate (GAUC) at COP25, bringing young people from around the world to Madrid. His experience at Tsinghua continues to help me today.

**Yao Lan**

"The most valuable lesson Tsinghua taught me is the realization of doing things—not only thinking about ourselves but thinking more about others and the missing behind," says Yao Lan (China), an expert in Suzhou embroidery. After graduating from Tsinghua Academy of Arts and Design, Yao Lan can witness first-hand the importance and innovation of Suzhou embroidery.

**Zhang Dongdong**

"Being able to do a Jacqueline repair at the Forbidden City is a very lucky thing for people who love painting," says Zhang Dongdong, a PhD graduate from the Department of Technical Conservation. The Forbidden City was admitted to the Tsinghua Academy of Arts and Design to study painting and painting for 10 years, he has been working as an in-house gardener at the Forbidden City, and in this quiet courtyard courtesy, Mr. Li has worked with various types of restoration projects. He has seen different restoration challenges. "We have to learn and do everything step by step. The process is very long, but I have to do my best not to give up." 20 years after graduation, all of his students are doing furniture restoration in China's Forbidden City.

**Mr. Junrong**

"Tsinghua is a better place for me to play a different kind of sports and fully utilize my strength," Saran Zeb (Pakistan), a PhD student from the Department of Automation, loves running and has just completed 71 laps of 402 meters each, a total of 29 kilometer in 4 hours. Associated with celebrating the 70th anniversary of the founding of the People's Republic of China, he participated in the thematic running activity with his Chinese classmates, serving as a cultural ambassador for Pak-China friendship relations. It was a quite a difficult challenge for me as I have never run for this long before. It is a big gift to China. I think national celebration," said Zeb. As an alumnus of a running club in Tsinghua, he enjoyed his running courses with different friends at different places. Without sports, there is no Tonghua. I hope that when my students, I could have more opportunities to continue my sports activities.

**Saran Zeb**

"If I had something uncommon my study at Tsinghua, this sport has changed me a lot. I am no longer afraid of facing difficulties in life," said Zhang Dongdong, a PhD graduate from the Department of Technical Conservation. Not only was the academic success, he also took an MBA and won more than 15 medals during his studies at Tsinghua.

"Running was there for Dongdong during his entire PhD study, allowing him to make lifetime friends as he took part in all 4 running associations on campus. The Morning Run Association was the first running club he joined and he even became the team captain." I feel relativate to leave the campus and wear running pants," he explained, as his Tsinghua journey ends. Thankful for the courage sport environment in Tsinghua that I have benefited greatly from.

**Mr. Junrong**

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"Marketing Suzhou embroidery is not to sacrifice previous generations’ efforts, but to explore the present!" Yao Lan believes that the environment is changing, but the market has been trying to find his incredible cultural heritage into people’s lives through creative designs. She uses the elements of Suzhou embroidery in watches, necklaces, earrings, and even home furnishings. Designers are also provided for people to experience Suzhou embroidery. We hope to share stories of China and Chinese handcraft through Intangible cultural heritage powered by creative designs and innovations.

**Yan Binwei**

"Mathematics has nothing to do with one gender. I believe that women are good at math, and that’s exactly what I’ve helped hundreds of people pursue their careers. I’m proud to have been a beauty of mathematics on this platform, but Yan Binwei has now stepped into Tsinghua University to further explore this field that she loves."