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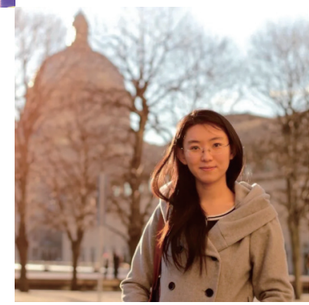


FOCUS

Tsinghua President Qiu Yong attends celebrations for the university's 110th anniversary in GBA

Tsinghua President Qiu Yong and Vice Presidents Yang Bin and You Zheng attended celebrations for the university's 110th anniversary in Guangzhou and Shenzhen on March 25-26. They were joined by Tsinghua alumni in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA).

More than 120 people from Tsinghua alumni associations in the GBA and its neighboring areas gathered in Guangzhou on March 25, sharing their thoughts on the university's future.

In his speech, President Qiu reviewed Tsinghua's achievements in reforming education and teaching, improving research mechanisms and personnel management, as well as promoting globalization over the past decade. In particular, he highlighted the Tsinghua community's efforts in the fight against the COVID-19 pandemic while also contributing to the university's reform efforts in 2020.

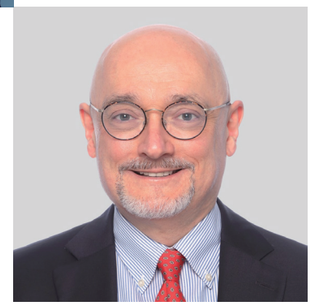
He said that a university's decisions and actions reflect its true aspirations and what it values the most, adding that Tsinghua University's motto of "Self-discipline and Social Commitment" is an irreplaceable inspiration to all Tsinghua alumni.

Introduced the theme of the 110th Anniversary "Strive for Excellence, Innovate for the Future," President Qiu reiterated the importance of self-discipline and innovation.

According to him, Tsinghua will promote scientific innovation, broaden its goals, expand its global presence, and further enhance talent cultivation, academic strengths, and international exchanges.

In the early morning of March 26, President Qiu joined over 400 faculty members and students from the Tsinghua Shenzhen International Graduate School as well as alumni in the GBA to launch a running event in Shenzhen in celebration of Tsinghua's 110th anniversary.

Runners were divided into 11 formations, named after periods of the history of the Communist Party of China. Each formation completed 10km to make a total of 110km, echoing the 110-year history of Tsinghua. The 30-day running activity "Run into 110" was also launched at the event. Alumni were encouraged to participate in it and carry forward Tsinghua's sports spirit.



Tsinghua Voices on China's Two Sessions

The Two Sessions, also known as the National People's Congress (NPC) and the Chinese People's Political Consultative Conference (CPPCC), officially concluded on March 11. Tsinghua scholars and students paid close attention to and shared their thoughts on the annual sessions of the country's top legislature and political advisory body.

Michael R. Powers, professor from the School of Economics and Management, Tsinghua University, was invited to participate in "China Chat" to discuss China and world economic issues during the Two Sessions. BAI Chong-En, Dean of the School of Economics and Management, was invited by CGTN to share his view on one of the hottest buzz words of the Chinese economy: domestic consumption.

In an interview with CGTN's Wang Guan, Enoch Wong, a Schwarzman Scholar at Tsinghua University, shared his view on Hong Kong issues. Nik, an undergraduate student from Russia, also had an interview with CGTN Russian's Zhao Xin about the growing trend of youngsters remaining single and the aging problem. Darina, a graduate student from Georgia, focused on poverty reduction this year. She regarded the Two Sessions as a fantastic opportunity to learn more about China's development goal and why and how China highlights building a cooperative relationship with other countries. Fu Ke, another student, noticed the gap between urban and rural development. Based on what he learned from the Two Sessions, he firmly believed that the problems would be eased during the period of a new five-year plan.

The year 2021 marks the beginning of the 14th Five-Year Plan and the 110th Anniversary of Tsinghua. Looking into the future, grand opportunities are on the horizon.

GLOBAL ENGAGEMENT

Medical and health experts urge China-US cooperation on global COVID-19 vaccine efforts

Leading public health experts from China and the U.S. urged the world's two largest economies to join forces in expanding global access to COVID-19 vaccines for a speedy global economy recovery at a webinar co-hosted by Tsinghua University and the Brookings Institution on March 1.

Tsinghua University President Qiu Yong and the Brookings Institution President John R. Allen delivered their opening remarks at the webinar entitled "Fast Track to Recovery: US-China Collaboration on COVID-19 Prevention and Treatment."

President Qiu said Tsinghua was looking forward to working together with the Brookings Institution and the global community to facilitate a faster recovery from the pandemic through academic exchanges and research collaboration.

"As we enter the period of vaccine distribution, it is vital that we work together to develop and form concrete policy recommendations for the next stage," he said, adding that the rapid development of several effective vaccines against COVID-19 offers the promise of a durable solution to the pandemic.

Brookings President Allen said that the change in administration in the U.S. offers an opportunity for leaders on both sides to examine what can be done differently and set a new course for how the U.S. and China can address the shared threat of COVID-19.

Stating that the U.S. and China have a long history of working together to combat diseases from SARS to Ebola, he said that when the two countries join forces to fight COVID-19, the world would have a better chance to emerge from the pandemic stronger.

He expressed hope that experts attending the webinar would present actionable steps to leaders in both countries to help them take measures to save lives both within and beyond their borders.

The opening remarks were followed by a keynote conversation session addressed by Dr. Zhong Nanshan, Head of the Expert Group of China's National Health Commission, Dr. W. Ian Lipkin, Director of the Center for Infection and Immunity at the Mailman School of Public Health of Columbia University, and Dr. George F. Gao, Director-General of the Chinese Center for Disease Control and Prevention. Xue Lan, Dean of Tsinghua's Schwarzman College, coordinated the session.

Dr. Zhong said the multiple SARS-CoV-2 variants and the mutation of COVID-19 pose a big challenge in the latest fight against the pandemic as they impair the effectiveness of vaccination and antibody treatments.

He stressed close collaboration between the two countries on COVID-19 research, as producing improved vaccines and cocktail antibodies will play an essential role in addressing the next wave of the pandemic in the near future.

He said China-U.S. collaboration on COVID-19 prevention and treatment should be based on science and evidence rather than politicization.

Dr. Lipkin, Director at Columbia's Center for Infection and Immunity, said that there was a need for a global food and drugs administration of testing and rational distribution of diagnostics, drugs, and vaccines to mitigate diseases as they pose a threat not only to human health but also to climate and food security. "We need to work together in a global fashion."

Dr. Gao, Director-General of the Chinese Center for Disease Control and Prevention, said China and the U.S. should work together to promote COVAX, a global initiative led by Gavi, the Coalition for Epidemic Preparedness Innovations (CEPI), and WHO aimed at equitable access to COVID-19 vaccines, as well as the United Nation's 17 Sustainable Development Goals and inequalities.

According to his estimate, it was unlikely for the world to return to complete normal as before, but it could gain relative normality by next summer if the current trends persisted.

Dr. Tom Frieden, former Director of the U.S Center for Disease Control and Prevention, Dr. Jane Henney, former Commissioner of the U.S. Food and Drug Administration, Dr. Wu Zunyou, Chief Epidemiologist at the Chinese Center for Disease Control and Prevention, and Dr. Zhang Wenhong, Head of the Shanghai Anti-Covid-19 clinical expert team, attended the expert panel of the webinar.

Dr. Frieden said China and U.S. could collaborate to develop effective real-time surveillance and response systems in the countries around the world to detect every outbreak within seven days of its emergence, to make the world much safer.

"Vaccine nationalism will backfire. Only global collaboration against the virus can lead to global recovery," he said. "This is the world's moment to work together. And the U.S. and China have a unique role to play."

Dr. Henney, former Commissioner of the U.S. Food and Drug Administration, summarized the U.S.'s vaccination efforts and highlighted the importance of keeping learning from research to better deal with COVID-19.

Dr. Wu, Chief Epidemiologist at the Chinese Center for Disease Control and Prevention, said the future direction of the pandemic move would depend on health measures taken by the countries, the coverage of vaccination, and how long the vaccine provided protection against the virus.

Dr. Zhang, Head of the Shanghai Anti-Covid-19 clinical expert team, said China and the U.S., as the major vaccine producers of the world, had a major responsibility to implement their strategies for mass immunization, by serving not only their own countries, but also the least developed countries in the world.

He said China's current strategy was to promote the establishment of a global immune defense in a coordinated international framework, similar to COVAX or WHO.

The panel was moderated by Cheng Li, Director of the John L. Thornton China Center, Brookings Institution.

The webinar, which was live-streamed on various social media platforms, was viewed by millions of viewers worldwide.

First cohort of Tsinghua Global Student Ambassadors announced

Tsinghua University announced its first-ever cohort of Global Student Ambassadors on March 25.

Eight students were named Tsinghua Global Student Ambassadors of the year 2021 for their outstanding contributions to the university's global communication by sharing Tsinghua's story with the world.

Ekaterina Kaligaeva, Nik Gu, Zhang Ruiru, Katherin THOUVENIN, Cassandra Ler Yiying, Darine Razmadze, Enoch Wong, and Natalie Meyer received this honorary title at an award ceremony held on campus.

Katherin THOUVENIN, a first-year master's student from France in the School of Journalism and Communication, expressed her gratitude towards the Tsinghua Global Communication Office for the support and opportunities it provided.

"I will continue to discover more exciting stories in the following months to share with our global audience, and make them feel part of Tsinghua despite the distance," she said after receiving the award.

Another recipient Cassandra Ler Yiying, a second-year master's student from Singapore in the School of Public Policy and Management, shared her feelings via a video message.

"I will remain as committed in promoting Tsinghua's unique vitality and charm to a larger international community with what I see and experience here, using my strength in global communication," she said.

The Tsinghua Global Student Ambassadors will participate in various global communication-related activities throughout 2021 as student representatives and share their Tsinghua stories with the world across various platforms.

Meet the first batch of Tsinghua Global Student Ambassadors

Cassandra Ler Yiying is a graduate student from Singapore as part of a dual master's degree program with the University of Geneva in Public Policy and Sustainable Development Goals. At the Global Communication Office, she produced creative and compelling content for traditional and digital media. She was awarded the Excellent Student Journalist Prize in 2019. On campus, she hosted various events to promote cross-cultural exchanges.

Natalie Meyer is a graduate student from Australia. She has participated in the Global Chat Room show of CGTN on behalf of Tsinghua University to share her school life under COVID-19. She delivered many presentations towards international students regarding Tsinghua's global communication. The campus series she shoots, Discover Tsinghua, has been reposted by *China Daily* and other official media on Twitter. She has also been the host of Tsinghua Gala Night.

Ekaterina Kaligaeva is an undergraduate student from Belarus. She was awarded Belarus Outstanding Student Studying Overseas and won the National Chinese Competition. She has been Belarus and Tsinghua Representative on CCTV and multiple cultural shows like Happy Camp and Informal Talk. She was the host of the Tsinghua Gala Night and the Freshmen Students Enrollment Ceremony. Every year, she takes part in the events organized by Minsk Confucius Institute, promoting Belarus-Sino Friendship and Culture.

Zhang Ruiru is an undergraduate student from Wuhan, Hubei. During the COVID-19 pandemic in the spring of 2020, her parents were unfortunately hospitalized with the COVID-19. She stayed at home in Wuhan alone. During the period, she participated in the Vision China hosted by *China Daily* on behalf of Tsinghua, and gave a widely acclaimed speech in English. This speech has gained over 100 million views, was reposted by *China Daily* as well as *People's Daily*, and was listed No.1 in Micro-blog hot search.

Darine Razmadze is a graduate student from Georgia majoring in Chinese Politics, Foreign Policy. She once worked at the Ministry of Foreign Affairs of Georgia. On campus, she shoots videos to introduce her life. Recently, she also had an interview with *China Daily* regarding the Two Sessions, and with a Georgian News agency on her journey to Tsinghua, post-COVID life in China and Sino-Georgian relations.

Nik Gu is an undergraduate student from Russia. He attended the 2020 Principal's symposium as International Student Representative of Tsinghua University. He is also a member of SCOLAR Network and host of the "International Day of Nowruz" at the SCO Secretariat. He participated in COIFAIR2020 as a translator for The Forum on the Development of SCO Demonstration Zone. Additionally, he gave an interview for CGTN Russian regarding the Two Sessions, and was the host of the 2021 Tsinghua University Gala Night.

Born in Hong Kong and graduated from Schwarzman College, Enoch Wong is the Senior Development Manager for Online Education and International Cooperation at Tsinghua University, the Assistant Secretary-General of the Global MOOC Alliance, and the Associate Researcher at MOE Research Center for Online Education. Since 2020, he has appeared on multiple media, including on CCTV News, CGTN, VOICE OF CHINA, and China Daily. Additionally, he was chosen as a youth representative at the show on China's National Day.

Katherin THOUVENIN is a graduate student from France. As an intern at the Global Communication Office since September 2020, she has got multiple hands-on opportunities to practice story-telling skills. Through her lenses, students around the world are able to feel the Tsinghua campus. She interviewed the freshmen and participated in CGTN shows, hosted the Gala Night and took part in the videos about Tsinghua Art Museum.

At the ceremony, a total of 59 staff members from 49 divisions and departments, who had participated in the second phase of the Tsinghua Global Communication Competence Development Program, were awarded the certificate of completion of the program. The two phases of the program covered 18 themed lectures, two field visits, one workshop, and two team-building sessions.

With the participants from the first phase combined, altogether 110 Tsinghua staff members received training in global communication competence development, a figure that echoes Tsinghua University's 110th anniversary.

SCIENTIFIC INNOVATION

Qionghai Dai and Dong Li's group develop novel deep neural networks for image super-resolution in optical microscopy

Professor Qionghai Dai's group from the Department of Automation at Tsinghua University, in collaboration with Professor Dong Li's group from the Institute of Biophysics at the Chinese Academy of Science, published a research paper in Nature Methods on January 21, 2021, entitled"Evaluation and development of deep neural networks for image super-resolution in optical microscopy", evaluating the state-of-the-art (SOTA) deep learning-based super-resolution (DLSR) models and developing a novel super-resolution (SR) deep neural networks model for optical microscopy.

In this work, the joint research group home built the multi-modality structured illumination microscope (SIM) that first integrated their previously developed SIM techniques of TIRF-SIM, Grazing Incidence (GI-SIM) [Cell 175, 1430-1442. 2018], and Nonlinear SIM [Science 349, 944, 2015] together, and acquired a high-quality artifact-free experimental dataset of well-registered pairs of diffraction-limited wide-field and ground truth SIM images named BioSR. This comprehensive dataset provides a benchmark to systematically assess the fidelity and quantifiability of the SOTA and future DLSR models in terms of the complexity of observed biological structures, the signal-to-noise ratio (SNR) of input low-resolution images, and the desired upscaling factors. However, it turns out that current DLSR models hardly gain as high-fidelity SR information as the conventional hardware SR microscopy under the commonly used live-cell imaging conditions, which potentially impedes their widespread application in practical experiments.

To further improve the DLSR imaging performance, the joint research group devised the deep Fourier channel attention network (DFCAN) and deep Fourier generative adversarial network (DFGAN) that utilized the power-spectrum-coverage (PSC) of individual feature maps to adaptively rescale their weightings when propagating through the network. Because the PSC difference in the Fourier domain is more prominent than the difference of detailed structures in the spatial domain between diffraction-limited input images and ground truth SR images, the discriminative learning ability of DFCAN/DFGAN is significantly enhanced. Therefore, DFCAN/DFGAN is able to outperform the conventional SR microscopy under most routine live-cell SR imaging conditions, suggesting that it has great potential to democratize super-resolution imaging with commonly used conventional microscopes.

To demonstrate the capability of DFCAN and DFGAN for SR live-cell imaging under tenfold lower fluorescence conditions, the joint research group applied them to the study of fragile biological processes that are challenging for conventional SR microscopy and other DLSR models, revealing:

• the partition and merging of mitochondrial nucleoids are regulated by the remodeling of mitochondrial inner membrane ultrastructure;

• both large plant cells and relatively small animal cells are capable of generating spiral rotational streaming to facilitate the circulation of intracellular contents, so as to maintain homeostasis of the intracellular environment;

• mitochondrial division and coalescing loci often locate at the membrane contact sites between ER and mitochondria;

• actin filaments interact with clathrin-coated pits in the late stage of endocytosis that facilitate the pits detaching from the plasma membrane.

Professor Qionghai Dai from the Department of Automation at Tsinghua University and Professor Dong Li from the Institute of Biophysics at the Chinese Academy of Science are the co-corresponding authors of this work. Ph.D. candidate Chang Qiao from the Department of Automation at Tsinghua University, assistant research fellow Di Li, postdoc fellow Yuting Guo and Ph.D. candidate Chong Liu from the Institute of Biophysics at the Chinese Academy of Science are co-first authors of this work. This work was supported by grants from the National Natural Science Foundation of China, the Ministry of Science and Technology, the Chinese Academy of Sciences, the China Postdoctoral Science Foundation and the Tencent Foundation through the XPLORER PRIZE.

Paper link:
https://www.nature.com/articles/s41592-020-01048-5

Tsinghua Professor wins ION Thurlow Award

Dr. Lu Mingquan, Professor from Tsinghua's Department of Electronic Engineering, was awarded the Thurlow Award and elected as a Fellow of the Institute of Navigation (ION), as was announced at the ION International Technical Meeting (ITM) on January 28.

Established in 1945, the Award recognizes individuals who have made an outstanding contribution to the advancement of navigation. As the ION's oldest and most influential award, it is given to one honoree every year. Professor Lu is the first scientist from China to have received this prestigious Thurlow Award since the ION began offering the award 76 years ago.

To date, 75 well-known experts and scholars in the field of navigation have won the award, including the GPS gurus and pioneers, Roger L. Easton (1978), Bradford W. Parkinson (1986), and Per Enge (1996) et al.

Launched in 1998, the ION elects at most three Fellows each year. As the highest honor for ION members, the ION fellowship is awarded to those who have contributed to the art and science of positioning, navigation and timing. Lu is the second scholar from China to be elected as an ION Fellow.

Professor Lu is the Director of the Tsinghua PNT Center and a member of the Experts Group of the BeiDou Navigation Satellite System. He has long been committed to the theoretical and practical research and development work related to satellite navigation, and has produced a series of original results with international influence.

First Observation of a Quantum Phase Transition from a Single Trapped Ion

Professor Luming Duan's group at Tsinghua University reported the first experimental evidence that a quantum phase transition (QPT) can occur in a system composed of only a two-level atomic ion and a single-mode bosonic field, described by the quantum Rabi model (QRM). The research, entitled Observation of a quantum phase transition in the quantum Rabi model with a single trapped ion, was recently published in the journal Nature Communications.

The quantum Rabi model (QRM) is widely recognized as a fundamental model for light-matter interaction. The study on the QRM is under the spotlight in theoretical and experimental physics. In trapped-ion systems, previous works on the simulation of the QRM have been performed by various groups. Professor Duan's group successfully observed a QPT from its normal phase to the phonon super-radiance phase associated with the QRM realized in a single trapped ion system. They measured the spin-up state population and the average phonon number of the ion as two order parameters, and observed clear evidence of the phase transition via adiabatic tuning of the coupling between the ion and its spatial motion. An experimental probe of the phase transition in a fundamental quantum optics model without imposing a thermodynamic limit opens a new window for controlled study of QPTs and quantum critical phenomena.

Co-first authors of the paper are IIIS Ph.D. candidates Minglei Cai, Zidu Liu and Wending Zhao, and the corresponding author is Professor Luming Duan. Other co-authors include the IIIS postdoc Dr. Yukai Wu, IIIS Ph.D. candidates Quanxin Mei and Yue Jiang, IIIS associate researchers Dr. Li He and Zichao Zhou, and Associate Professor Xiang Zhang from the Renmin University of China. The work was funded by the National Key Research and Development Program, the Beijing Academy of Quantum Information Sciences, the National Natural Science Foundation, and the Natural Science Foundation of Beijing.

The paper is available at:
https://www.nature.com/articles/s41467-021-21425-8

Two Tsinghua papers honored by an international academic journal

Two papers written by students and teachers from the Department of Electrical Engineering of Tsinghua University have been included among the seven Best Papers of the years 2018-2020 by IEEE Transactions on Power Systems, an internationally recognized academic journal.

One is "Incorporating Massive Scenarios in Transmission Expansion Planning With High Renewable Energy Penetration", which was published in August 2019 by first author Zhuo Zhenyu, a doctoral student at the department. Its corresponding authors are Associate Professor Zhang Ning and Kang Chongqing, and the co-authors include Professor Xia Qing and Assistant Researcher Du Ershun.

The other is the "Distributed stability conditions for power systems with heterogeneous nonlinear bus dynamics", published in November 2019. Yang Peng, also a doctorate student of the department, is the first author. Associate Professor Liu Feng is the corresponding author. The co-authors are Professor Shen Chen and Dr. Wang Zhaojian.

They were the only two award-winning papers from China among about 1,200 that appeared in the journal over the past three years.

The journal publishes about 400 papers every year. Around seven or eight "Best Papers" are selected for their high quality, originality and academic influence by its editorial board after being recommended by editorial board members.

Research reveals characteristics of skin microbiome of Han Chinese

A collaboration between Associate Professor Liu Xiao from the Tsinghua Shenzhen International Graduate School (Tsinghua SIGS) Institute of Biopharmaceutical and Health Engineering and researchers from Fudan University and BGI-Shenzhen has revealed the characteristics of skin microbiome in the Han Chinese population. The finding provides a theoretical basis for further exploration of the function of skin microbiota and its use in improving skin conditions.

The skin is a complex ecosystem with a wide variety of bacteria, fungi, and viruses. These collections of microorganisms, known as the skin microbiota, play an important role in maintaining host skin homeostasis and normal skin barrier function. Previous studies on skin microbiome mainly focused on Caucasian populations in Europe and America, while few studies have been done on skin microbiota in Asian populations, particularly metagenomics studies.

The team is the first to study skin microbiota in a large sample of Han Chinese. In this study, a total of 822 metagenomics samples from about 300 healthy individuals were collected from three facial sites (forehead, nose, cheek). The sequenced data was combined with 538 North American samples from the Human Microbiome Project (HMP) to establish the first cross-population human skin microbiome gene set (integrated Human Skin Microbial Gene Catalog, iHSMGC). The iHSMGC contained 10,930,638 genes and detected 4,879,024 new genes. It also revealed bioactive molecules such as Ectoin that are already applied to whitening and anti-aging, suggesting that the skin microbiome gene set is a great treasure to be further explored.

Comparing to the North American dataset, researchers found that seven species of bacteria, including Cutibacterium acnes and Staphylococcus aureus, were common across all samples, regardless of location or ethnicity. The researchers also identified a microbial species, Moraxella osloensis, that was significantly enriched in the Chinese population.

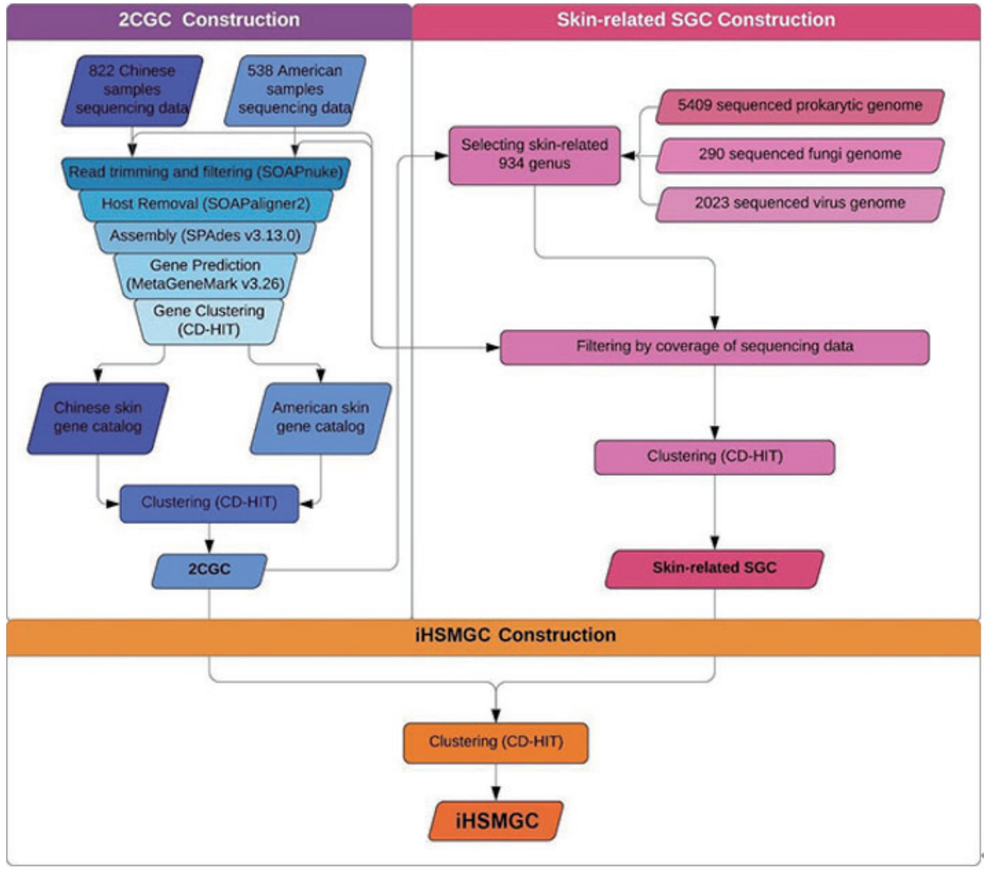
Moreover, the researchers were first to report two human skin patterns based on stable microbial communities on human skin named cutotypes: M-cutotype dominated by Moraxella osloensis and C-cutotype dominated by Cutibacterium acnes.

This new cutotype-based classification will greatly simplify the assessment of individual microbial differences, allowing people to capture major differences in core modules, and realize the potential for personalized diagnosis and precision intervention.

The study demonstrated for the first time the human skin resistome of healthy Chinese population, and it was found that normal skin symbiotic bacteria, such as Staphylococcus SPP, are an important storehouse of drug resistance genes in vivo.

iHSMGC will act as an important tool for data analysis in later skin metagenomic studies while greatly broadening our understanding of the functional diversity of skin microorganisms. The results of this study were published online on February 17, 2021, under the title "Characterization of the human skin resistome and identification of two microbiota cutotypes" in Microbiome, a leading microbiology journal.

Link to full article: https://microbiomejournal.biomedcentral.com/articles/10.1186/s40168-020-00995-7#Fig4



DIVERSE CAMPUS

Tsinghua New Year Gala Held

Tsinghua University New Year Gala was held online on the eve of the new year 2021.

Tsinghua President Qiu Yong and University Council Chairperson Chen Xu delivered New Year's speeches at the annual cultural event, which was broadcast live on various social media platforms, including Facebook, Twitter and Bilibili.

Qiu extended his New Year greetings to all those watching the gala, expressing hope and optimism for 2021.

"I believe that the days we spent and the stories we wrote in 2020 will be deeply inscribed in our collective memory," he said. "We will never forget the year 2020; we all await expectation for the year 2021."

Stating that 2020 was an extraordinary year in human history, President Qiu said that Tsinghua firmly upheld the mission of talent cultivation, assumed its responsibility in the scientific research to combat COVID-19, made headway with its reforms, and strove for excellence.

He said that standing at a new historical juncture, a more innovative, international, and humanistic Tsinghua sets higher goals and constantly puts forward higher expectations so as to grow into a great university that is more open, integrative, and resilient.

He mentioned that in the new year, Tsinghua would march forward to future excellence with more confidence and vigor, breaking new ground and exploring new paths for university development.

"I also believe that regardless of time and space, the Tsinghua community will always stand together, and together we will create a vibrant Tsinghua," he added.

Chen Xu extended her new year wishes to all faculty members, students and alumni at home and abroad, and to all friends who have extended support and care for Tsinghua.

She said that 2021 was a special year for Tsinghua as the new year also marked the university's 110th anniversary, opening a new chapter towards becoming a leading world-class university.

She said Tsinghua would set sail on its course towards achieving its development goals of 2030 and 2050 in the new year with unwavering dedication.

"Let us seize the day, answer the call of our times, stay grounded, and create a better future," she said, "Let us hope that all of humanity will unite to soon win the battle against the pandemic. May the new year bring health, joy and peace to the world."

At the gala, the students of the year were announced.

The gala featured dancing, singing, comedy and drama performances by students.

New semester begins on schedule at Tsinghua

Tsinghua University's 2021 spring semester started as scheduled on February 22. Both online and offline teaching was carried out smoothly and successfully.

At 7 o'clock sharp in the morning, a the 2021 spring semester national flag-raising ceremony was held at the plaza in front of the Main Building.

Later in the morning, Tsinghua Vice Presidents Yang Bin and Peng Gang reviewed the teaching arrangements on the first day of the semester to ensure that pandemic prevention and control work were carried out as required.

On February 22, the first day of the new semester, the university provided a total of 135 courses, involving 31 teaching units, of which 43 courses were carried out with hybrid teaching. In the spring semester of 2021, Tsinghua University offers a total of 4,353 courses, involving 2,784 teachers and 176,912 students. Among the courses, 183 courses are taught online, and 1,812 courses are taught with hybrid teaching, both online and offline.

Tsinghua holds Faculty & Staff meeting in new Spring semester

Tsinghua University held its Spring semester Faculty and Staff meeting on February 25.

The meeting, held both offline and online, coincided with the university's two-month countdown to its 110th anniversary, which fell on April 25, 2021.

University leaders Qiu Yong, Chen Xu, Ji Junmin, Yang Bin, Li Yibing, You Zheng, Guo Yong, Zheng Li, Xiang Botao, Peng Gang, and others attended the meeting. Jiang Shengyao, Vice Chairperson of Tsinghua University Council, presided over the meeting.

"The meeting is being held in the first week of the new semester, which embodies our spirit of seizing the day and working hard, and our pursuit of continuing to strive and achieve better results," said Chairperson of the University Council Chen Xu.

As Ms. Chen mentioned, facing the challenge of the COVID-19 pandemic, all teachers, students, faculty, and staff of the university have passed the test with exceptional results. In 2021, when the 100th anniversary of the founding of the Communist Party of China and the 110th anniversary of the university are celebrated, Tsinghua will make an even bigger success.

Ms. Chen set the requirements for the upcoming activities and events, emphasizing that they should be "humble, warm, pragmatic and sharing". Taking the opportunity of the 110th anniversary, it's necessary to comprehensively summarize the university's achievements and experience of the past 110 years, condense intelligent ideas, and make scientific goals for 2030, laying a solid foundation for the second decade of Tsinghua's new century.

In 2021, Tsinghua will implement the 14th Five-Year Plan (2021-25) and step onto a new stage, moving towards the forefront of world-class universities, said Ms. Chen.

She added that Tsinghua will further deepen reforms, formulate and implement a new phase of the "Double First-Class" (First-Class University & First-Class Discipline) development plan, adhere to intensive development, and improve its management and service capabilities and standards.

"Tsinghua has demonstrated its spirit of self-improvement through meticulous deliberation and actions taken in 2020," Tsinghua University President Qiu Yong said, adding that Tsinghua takes teaching and educating people as an indispensable responsibility together with its international colleagues in higher education.

He reviewed the development and achievements of Tsinghua in talent training, scientific research, international exchanges and cooperation, campus construction, and school administration over the last year.

For instance, Tsinghua's 2020 spring semester took place on schedule. Tsinghua also conducted anti-epidemic scientific research, jointly launched a large-scale online job fair with universities in Hubei province, established the Vanke School of Public Health, and convened an online COVID-19 response experience-sharing dialogue with alliance members and other university partners as the chair of the Asian Universities Alliance.

Moreover, Tsinghua and UNESCO convened a special dialogue attended by global university partners, held an online graduation ceremony and co-hosted the China-US University Presidents' Online Forum with Yale University.

The 2020 Advisory Board Meeting of the Tsinghua University School of Economics and Management and the first Global MOOC Conference were also initiated by the university.

President Qiu believed that it is necessary to take a historical view of Tsinghua's development and achievements in 2020. He mentioned the comprehensive reform of Tsinghua, saying that conscious responsibility for the mission of the university is a powerful endogenous driving force for reform.

"Culture, Self-confidence and Composure" were three key words shared by President Qiu. He stated that leading up to 2030, Tsinghua will improve the quality of talent training, raise the level of academic innovation, and enhance international exchanges and cooperation with higher standards.

At the meeting, President Qiu also introduced the preparations and activities for the 110th anniversary. Tsinghua's Global Forum of University Presidents 2021 will be held from April 19-24. A series of other activities such as the 110th anniversary conference, the anniversary party, and the university history exhibition will also take place.

Tsinghua launches 'Global Hybrid Classroom'

At the beginning of the 2021 Spring semester in February, Tsinghua University launched the "Global Hybrid Classroom" project, leveraging hybrid education to share the vision of more innovative, integrated, and international education, regardless of physical distance.

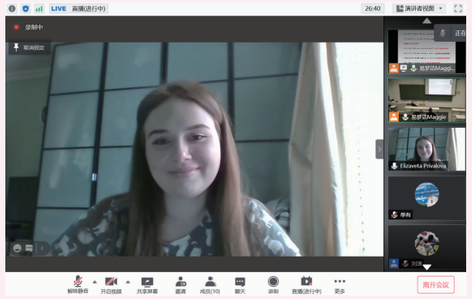
Through the project, students from both Tsinghua and leading overseas universities will have the opportunity to take online courses provided by different universities and obtain credits.

As the first phase of the project, seventeen of Tsinghua's hybrid classes are open to the founding members of the Global MOOC Alliance, including St. Petersburg State University, Singapore's Nanyang Technological University, and the Polytechnic University of Milan, covering a wide range of fields such as computer sciences, economics, humanities, architecture, civil engineering, electronic engineering, and languages.

"The possibilities of communicating with people from different countries and cultural backgrounds on campus are limited," said Yang Bin, the Vice President and Provost of Tsinghua University. "Through creative education technology and curriculum design, we can provide our students with a more imaginative space, lead them to a broader journey, and in the meantime, help to shape a resilient educational system that faces the globalization era and the future."

68 students from St. Petersburg State University have joined the project on the first week of its launch. Tsinghua students will also be able to join overseas universities' classes, including RWTH Aachen University, Nanyang Technological University, Rice University, and the University of Toronto, and other overseas universities in the near future.

"Using innovative education methods, the project aims to nurture talent by providing students with a more international, diverse and high-quality learning experience, and helping them to shape a global perspective," said Professor Chen Wenguang from Tsinghua's Department of Computer Science and Technology.



"The project provides an opportunity for leading universities around the world to pool high-class education resources together," said Shen Yuan, Associate Professor from Tsinghua's Department of Electronic Engineering. "It allows students from different regions and cultural backgrounds to exchange opinions and inspire each other in the same 'classroom', making education more international and open."

Associate Professor Liu Xiao from Tsinghua's School of Economics and Management has offered three courses this semester, including "Behavioral Economics" and "Experimental Economics", which will involve a lot of research on China's digital economy platform.

"On the one hand, this is an opportunity to enable foreign students to understand the development of the digital economy in China," Liu stated. "On the other, through in-depth exchanges between Chinese and foreign students, they can grasp a clearer understanding of the diverse results generated by identical economic mechanisms across different countries and regions. This further promotes the importance of recognizing international differences and promoting global exchanges.

Associate Professor Yang Fang from the Language Center of Tsinghua University expressed her expectations for the project. "Students can share their research with their peers from around the world through group academic exchanges during and after the class, learn to communicate with people from different cultural backgrounds and enhance mutual understanding," said Yang.

Fedor Ivachev, a Russian postgraduate from the Tsinghua Department of Computer Science and Technology, nominated himself as a teaching assistant.

"As a Russian, I am happy to help my peers from St. Petersburg State University." Fedor said, "This is a good opportunity for them to understand Tsinghua and get access to the courses here. I hope that the project can help stimulate more in-depth exchanges and cooperation between universities in Tsinghua and Russia."

In the future, Tsinghua will further enhance cooperation with other universities, continue to learn from the large-scale online education amid the COVID-19 pandemic, use information technology to transform education concepts, reform education models, and continue promoting international cooperation in higher education to bolster a more open, integrated and resilient university.

Tsinghua hosts job fair for 2021 graduates

Tsinghua University launched a four-day large-scale annual campus job fair for graduates on March 16.

More than 300 companies from 22 provinces and cities across China, including the China Aerospace Science & Industry Corporation, the China North Industries Group Corporation Limited, the China Electronics Technology Group Corporation Limited, Meituan, ZTE Corporation and SenseTime, participated in the 2021 Tsinghua Job Fair, which was held both online and offline.

Nearly 100 employers, including Xinhua News Agency and North Industry Co., Ltd. aimed to recruit international students in this year's event. In order to make things easier for visiting international students, high-quality services such as bilingual publicity, bilingual consultation, and an online bilingual communication system, as well as bilingual signs, were put into place at the job fair.

Moreover, around 80 alumni enterprises, including Vicino, Meituan and Iqiyi, took part in the job fair to attract talents, encourage and support the development of alumni enterprises, and provide high-quality jobs for graduates.

The participating companies offered more than 8,000 job positions to graduates at the job fair.

Tsinghua is the first university to host a 2021 campus recruitment fair among all the universities across China.

While the offline venue of the job fair has been set up at the Career Development Center on the Tsinghua campus, job-seeking graduates could also access the job fair online via career.tsinghua.edu.cn.

The job fair was divided into seven industry sessions: 1. Manufacturing, 2. Finance; 3. Cultural and Academic; 4. Informational Technology; 5. Infrastructure Construction; 6. Enterprises and Public Institutions; and 7. Online mutual selection.

The first day of the job fair attracted a large number of graduates.

Qiming Sun, a Ph.D. graduate from the Department of Engineering Physics, will go to work at CNNC North Nuclear Fuel Components Co., Ltd in Baotou, Inner Mongolia. "It was my original intention to do professional work on the frontier line of the industry," he said.

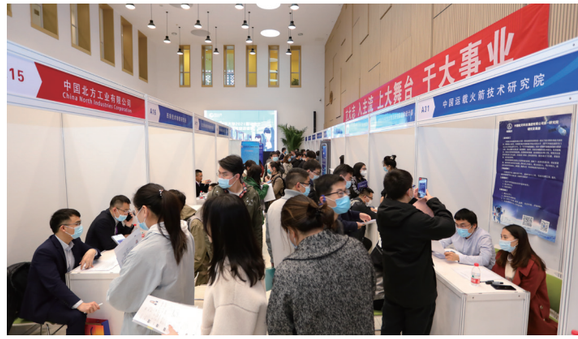
Tengjiao Wang, a Ph.D. graduate from the Department of Electronics, will join Huawei's "Top Minds" Program upon his graduation and work on research into post-5G and 6G wireless communication technologies.

Hasan Mohammad Hasibul, a graduate in the Industrial Engineering Department and the IMEM program of Tsinghua University from Bangladesh, hoped to find a suitable job at the job fair.

"I hope to find a job that can help me contribute to the construction of the Belt and Road Initiative, as my country is located at the intersection of the Silk Road Economic Belt and the 21st Century Maritime Silk Road," he said.

Last year, regardless of the pandemic, Tsinghua was one of the first universities in the country to move job fairs online and held a large-scale virtual job session in collaboration with 126 colleges and universities in Hubei Province. In the spring of 2020, 87 virtual job fairs and six mutual-selection events were held, attracting more than 1,100 employers and recommending 800 students for suitable positions. Likewise, Tsinghua created "Careers Online", to offer new career service ways to its students.

The job fair concluded on March 19.



TSINGHUA COMMUNITY

Six Tsinghua alumni win Sloan Research Fellowships

Six scientists who graduated from Tsinghua University have won this year's Sloan Research Fellowships.

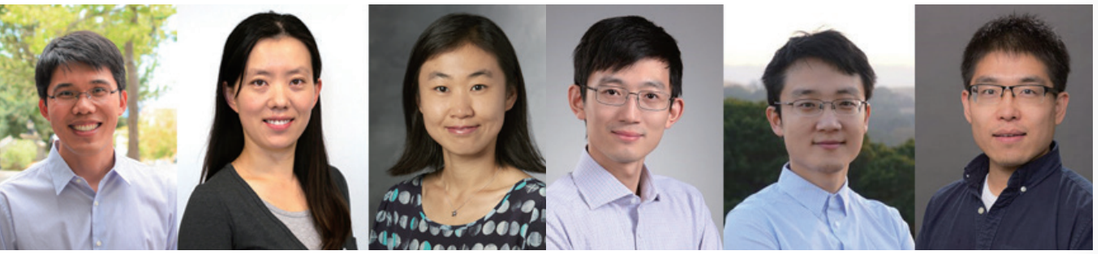
According to a list released on Feb 16, among 128 young faculty from around the world who were granted the awards, six were Tsinghua alumni: Gao Wei, Li Han, Gao Ziyue, Ma Tengyu, Lian Biao and Zhen Bo.

Gao Wei, who received a master's degree from Tsinghua in 2009, is working for the California Institute of Technology as an assistant professor of medical engineering. Li Han, assistant professor of molecular biology and biochemistry at the University of California, Irvine, received a bachelor's degree from Tsinghua in 2008. Gao Ziyue, assistant professor of genetics at the University of Pennsylvania, received a bachelor's degree from Tsinghua in 2010.

Ma Tengyu graduated from the Yao Class of Tsinghua, and now works for Stanford University as an assistant professor of computer science. Lian Biao, who received a bachelor's degree from Tsinghua in 2012, is working for Princeton University as an assistant professor of physics, and Zhen Bo, a 2008 graduate of Tsinghua, is working as an assistant professor of physics and astronomy at the University of Pennsylvania.

The fellowships have been awarded annually since 1955 by the Alfred P. Sloan Foundation to "provide support and recognition to early-career scientists and scholars".

They are open to scholars in eight scientific and technical fields -- chemistry, computational and evolutionary molecular biology, computer science, Earth system science, economics, mathematics, neuroscience and physics.



Meet the Tsinghua women driving change

Marth 8 is International Women's Day. Let's meet some of the inspiring women at Tsinghua who are driving change in their workplace, their communities and beyond, through their relentless pursuit of excellence in their fields of expertise.

Guo Daiheng, Retired Professor, School of Architecture
Dedicating her life to architecture

"As the most splendid royal garden in ancient times, the Old Summer Palace has extremely high historical, cultural and scientific value, making it worthy of further study."

In 1954, Professor Guo Daiheng entered Tsinghua as an architecture student, and six years later, she stayed to teach and research on ancient buildings. Since 1999, Professor Guo has led her team to carry out a series of research on the Old Summer Palace. Considering the development of technology and the public's eagerness to "see it with eyes," she and her team turned to digital technology and decided to build a database of the historic palace.

They integrated historical documents, paintings, and archaeological discoveries, reconstructing the development of the Old Summer Palace over the last 150 years in a series of videos. Eventually, in her 80s, after 18 years of hard work by her team, the virtual reconstruction of the Old Summer Palace was successfully completed.

With the help of precise digital technology, her team established a milestone in architecture, providing a tool for "translating" historical information into a "language" understandable and accessible to any viewers. In Professor Guo's view, using digital technology for the 'restoration' is the best way to fully display the true style of it in various periods across time, as well as to remind the public of such information as "destroyed in 1860", which no other method can match.

"Although solving complex mathematic problems has no effect on real life, the satisfaction from it can last for a long time."

After serving as a Moore instructor at MIT and a postdoc at Geneva University, Professor Wu Hao joined the Yau Mathematical Sciences Center (YMSC) and Department of Mathematical Sciences at Tsinghua University and became a tenured Professor in 2017.

Professor Wu encourages students, especially female students who are interested in mathematics, to follow their hearts and make decisions bravely. She holds the belief that mathematical research has nothing to do with gender, and girls are actually more resilient to frustration, a more important quality than talent to excel in research.

From her perspective, mathematicians are mostly spontaneous, "because we often work on problems that interest us over problems that are practical."

Wu Hao, Professor, Yau Mathematical Sciences Center, Department of Mathematical Sciences
Following the heart to study mathematics

Sun Hong, Ph.D. Student, School of Journalism and Communication
Fighting against forgetting with images

"Images and documentaries are very precious. The moment you begin shooting film, you create a possibility for people in the future to know and understand the past."

Graduating with a master's in 2013, Sun Hong returned to the campus six years later, to pursue a Ph.D. in journalism and communication. For years, she witnessed great changes the media environment has undergone, which in her eyes pose higher requirements for humans to realize values that machines cannot achieve.

During the COVID-19 outbreak in early 2020, Sun Hong's team produced an 18-minute non-profit documentary composed of 112 short videos, recording the real-life conditions of ordinary Wuhan people, whose inner fortitude and optimism have deeply touched audiences.

"Image is the universal language in the true sense. I think it has the possibility to allow people of different cultures, different eras, and different regions to overcome prejudices and have the same emotional understanding," Sun Hong says.

"It is the technology that truly changes people's way of life, and we must move closer to this new trend that will lead and change the future."

As early as her undergraduate period, Song Ting co-founded one of the largest global hacker communities that organize hackathons, focusing on cutting-edge technologies. With extremely diverse experiences, she cultivated a strong interest in open source culture and great enthusiasm for combining art and humanities in technologies.

"In the modern context, the integration of various forms of arts is a necessity," she says. After graduating from Tsinghua, she engaged in crypto art, a category related to blockchain technology. She became the record holder of AI and blockchain art auctions in China last year.

This year, Song Ting wants to continue conducting integration of China's intangible cultural heritage and emerging technology, publishing her science fiction-themed blockchain and AI, and directing the first immersive drama based on a domestic open source machine learning model.

Song Ting, Alumna, School of Humanities
Contributing to digital civilization by humanities

Ye Binbin, Staff, Horticulturist
Turning a bare scene into a beautiful scenery

"I'm always happy and proud to see teachers and students walking through my 'works'. Tsinghua University is rich in plant varieties and site types, which provides great room for me to grow. "

Tsinghua's beauty owes much to the creative and hardworking landscape gardeners. Having worked three years on campus as a horticulturist, Ye Binbin has been engaged in many campus revitalization projects, turning rundown places into scenic landscapes.

Ye Binbin has her own philoshipy: she hopes that her work can be both artistic and scientific. The plants not only give people a sense of beauty, but also conform to the characteristics and functions of different places. "When sketching a garden, I have to locate every single plant in my mind. Many times, I have to repeatedly overturn my ideas," says Binbin.

Besides drawing sketches in the office, she often spends a lot of time outdoors working directly with the workers, with her hard work rewarded upon seeing her beautiful creations.

"I think education in the humanities is, philosophically, about learning to be open-minded, unlearning prejudice, and increasing radical empathy."

After getting her bachelor's in English Literature and Italian from DePaul University in Chicago, Dr. VanWagenen lived in Italy for five years and then attended Harvard to pursue her Ph.D. She worked with Harvard's metaLAB for four years, during which she published numerous articles/book chapters. Last summer, an Italian publisher selected her dissertation to publish as a book in 2022.

After coming to Tsinghua as a postdoctoral fellow, Dr. VanWagenen has taught three courses related to world literature. Functionally, she regards it important to teach students to read and understand complex literature and seemingly simple media (like TV) and to write a good essay. "These practical aspects are important to the ethical goals. A good humanist should be a good able citizen, which means knowing how to listen and knowing how to engage and convince," she says.

From her perspective, the highlight of her time in Tsinghua has been the students, whose earnestness leaves her deep impression. While she always tells university students to "remember that there is no rush to arrive at your future and there is no single correct future."

Julianne VanWagenen, Postdoctoral Fellow, Tsinghua IWLC
Exploring the meaning of education

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