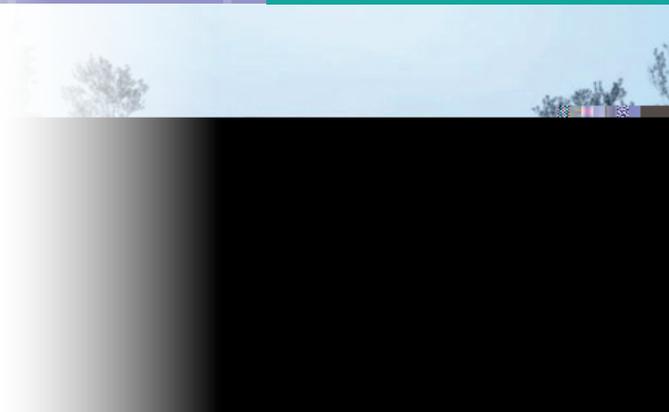
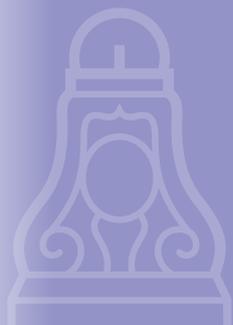


TSINGHUA 2023 ISSUE 1 NEWSLETTER

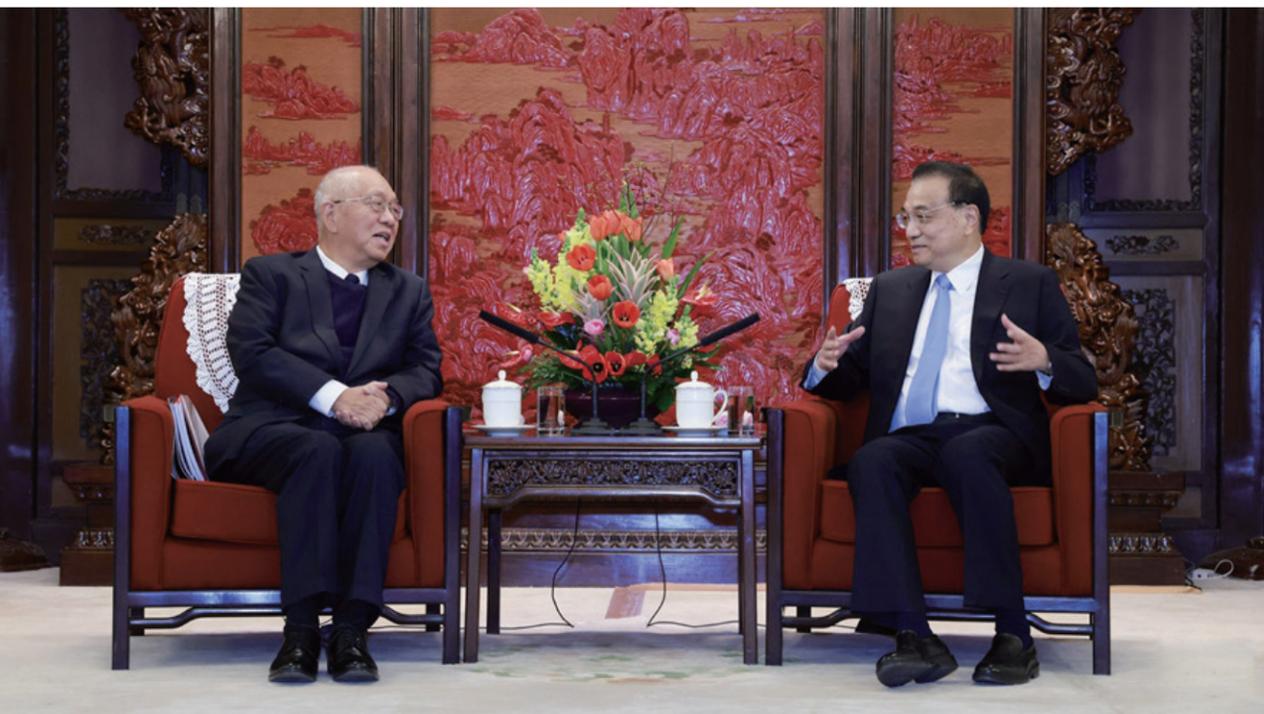


清华大学
Tsinghua University



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Li reaffirms China's support for science in meeting with mathematician



Premier Li Keqiang highlighted the need to shore up research in basic science and support researchers in amplifying their imagination and creativity to make new breakthroughs while meeting with Chinese-American mathematician Shing-Tung Yau in Beijing Feb 24.

Li noted mathematics is the pillar for fundamental science, urged respect for the laws of science and encouraged building up the foundation for scientific and technological innovation and growth.

It is important to respect talent, create an environment that enables them to employ their expertise and strengthen international exchanges and cooperation, he said.

Yau, the first ethnic Chinese to win the Fields Medal, often referred to as the mathematical equivalent of the Nobel Prize, has been committed to the development of basic disciplines and the training of outstanding mathematical talent in China.

Tsinghua launches "International Joint Mission on Climate Change and Carbon Neutrality"



Tsinghua University held the launch ceremony of the "International Joint Mission on Climate Change and Carbon Neutrality" on Mar 14, demonstrating its commitment to environmental protection. During the event, Tsinghua inaugurated a green-style initiative it sponsored together with 11 well-known multinational corporations, including Hitachi, Toyota, MHI, bp, Rio Tinto, Volkswagen, Microsoft, IHI, Daikin, Apple, and Saudi Aramco. Tu Ruihe, head of the UN Environment Programme (UNEP) China Office, and Qiu Yong, chairman of Tsinghua University Council, attended the event. The ceremony was hosted by Liu Yiqun, dean of Tsinghua's Research & Development Affairs Office.

In his speech on "Cooperate to Address Climate Change and Build a Better Homeland for Mankind", Qiu pointed out that climate change and carbon neutrality are major issues related to the fate of the earth and human beings, and are important for everyone. "Facing a serious climate crisis, Tsinghua has promoted the initiative of the International Joint Mission on Climate Change and Carbon Neutrality. Today's launching ceremony is a positive action to actively respond to it," said Qiu. He said that Tsinghua is willing to work closely with the council members, member units, "observer" enterprises and local governments to jointly promote this cause that concerns the future of mankind. He looks forward to more partners joining the Joint Mission in the future.

Qiu emphasized that a world-class university should have a world-class mission, play a leading role in addressing climate change, and make contributions with hard-core technologies. "Let us take action to prove our firm belief in the bright future of mankind, promote international cooperation on climate change and carbon neutrality, and continue to contribute to the construction of a beautiful homeland for mankind," said Qiu.



Tu and Qiu awarded the "Council Member Cup" for 12 co-initiators of the Joint Mission.



forward to taking action with international partners in the fight against climate change.

Representatives of council members recorded videos to express their affirmation of the value of the Joint Mission and anticipation of strengthening dissemination of green ideas, cultivation of carbon-neutral talents, and innovation of technology through the Joint Mission so as to provide practical solutions to the challenge of global climate change and to realize the carbon-neutral vision of the international community.



The International Joint Mission on Climate Change and Carbon Neutrality Proposal was released during the ceremony. It has five main joint elements: jointly publicizing the concept of carbon neutrality, jointly cultivating experts in the field of carbon neutrality, jointly taking a leading role in carbon-neutral technological innovations, jointly carrying out integrative demonstrations of carbon neutrality practice, and jointly promoting industry transition

Tu said in his speech that the earth is the only home for human beings. The basis for progress and success in global environmental governance is to adhere to multilateralism and the spirit of international cooperation. Climate change affects the entire planet, and is related to every country, every region, every industry, every enterprise, every family, and every individual. Addressing climate change and reducing greenhouse gas emissions requires action from all sides. The Joint Mission is a complete embodiment of the two keywords "cooperation" and "action". He called on all parties to take urgent and more effective action to implement the goals that have already been achieved and looked forward to fruitful results from the initiative.

The international academic community paid great attention on the Joint Mission. Toshiya Ueki, executive vice president of Tohoku University, and Nigel Brandon, dean of the Faculty of Engineering, Imperial College London, congratulated the ceremony via video speeches, saying they look



towards carbon neutrality. It calls on different entities to join forces to provide comprehensive and effective solutions for a wide range of issues such as energy saving and emission reduction, technological innovation, and industrial transformation, and to jointly promote the realization of carbon neutrality.



At the ceremony, the first 10 innovative scientific research funding projects implemented by the Joint Mission were officially released. Twelve experts and scholars in relevant fields were invited to form an expert committee to provide consulting advice

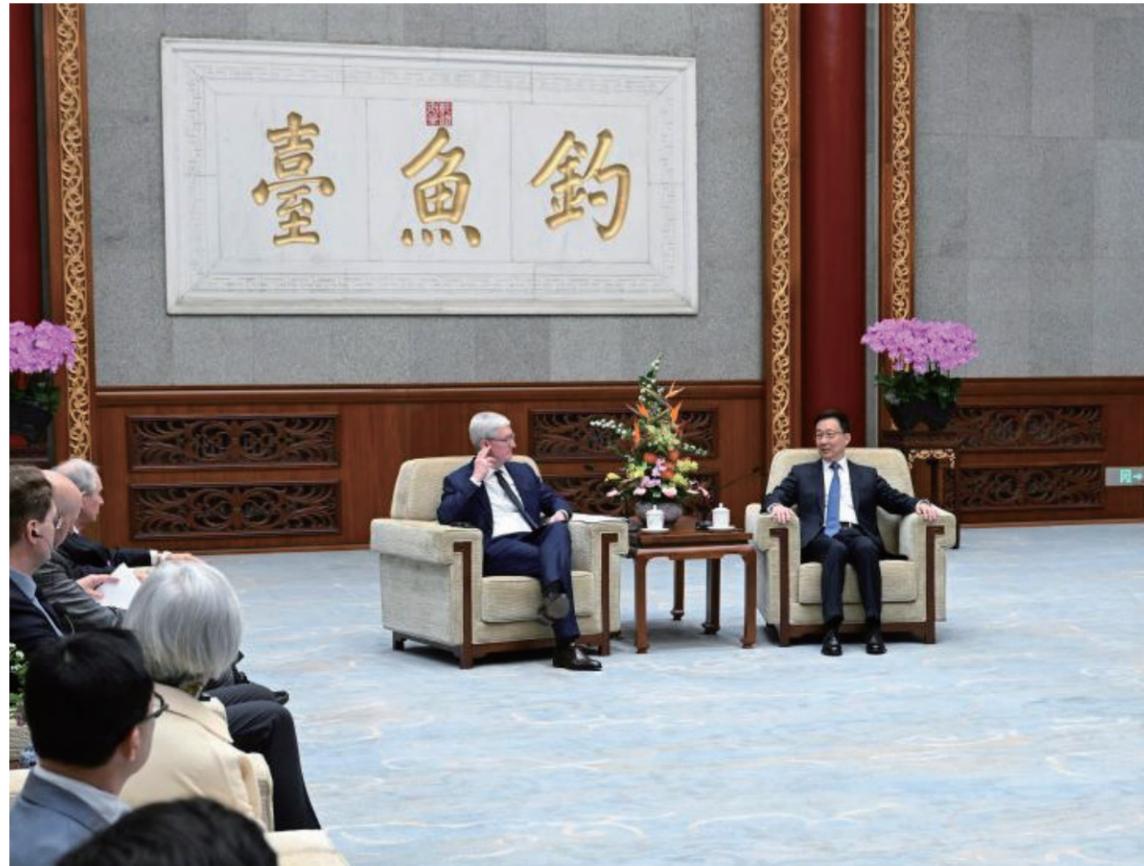
on research and major academic activities, and to supervise and guide project implementation. Tsinghua Vice President Zeng Rong and He Kebin, academican of the Chinese Academy of Engineering and dean of Institute for Carbon Neutrality, Tsinghua University, as representatives of all the governing units of the Joint Mission presented appointment letters to the members of the expert committee.

In the keynote session, Ouyang Minggao, an academican of the Chinese Academy of Sciences and professor of Tsinghua's School of Vehicle and Mobility, Zhang Xian, head of the Division of Social Services and Regional Development of the Administrative Center of China's Agenda 21, and Shi Mengying, a PhD candidate of Tsinghua's Department of Earth System Science, gave reports.

The Joint Mission was initiated by Tsinghua and 11 top enterprises around the world. All parties are committed to responding jointly to climate change, sharing the mission, contributing wisdom, acting together, sharing results, and striving to make new and beneficial contributions to achieving the goal of carbon neutrality and promoting global sustainable development.



Chinese vice president holds discussions with Tsinghua University advisors



Chinese Vice President Han Zheng holds discussions with the advisory board of the Tsinghua University School of Economics and Management in Beijing, capital of China, March 28, 2023. (Xinhua/Zhang Ling)

BEIJING, March 28 (Xinhua) -- Chinese Vice President Han Zheng held discussions with the advisory board of the Tsinghua University School of Economics and Management in Beijing on March 28th.

To understand today's China, one must have an in-depth understanding of the strategic plans for the coming period set by the 20th National Congress of the Communist Party of China (CPC), Han said.

The goal of the CPC is to ensure a better life for the over 1.4 billion Chinese people, said Han, adding that the central task of the CPC is to advance the

rejuvenation of the Chinese nation on all fronts through a Chinese path to modernization.

Han explained the historical logic and distinctive features of Chinese modernization and emphasized that no modernization model should be regarded as the only model. "It must be based on national conditions and in line with the realities of each country," he stressed.

Han said China adheres to the path of prosperity for all, promotes harmony between humanity and nature, and commits to high-quality development, and

all these are the essential requirements of Chinese modernization.

China will adhere to the national policy of opening up, constantly ease market access, improve the business environment, and make joint efforts with enterprises from all over the world to maintain the stability of the global industrial chain and supply chain, Han added.

While commending the board members for their long-term concern and support for China's education cause, Han expressed the hope that the board members will continue to deeply participate in China's development and actively commit themselves to educational, scientific, and technological exchanges and cooperation between China and other countries.

The advisors, led by Apple CEO Tim Cook, introduced their educational exchanges and personnel training cooperation with China.

They highly appreciated the Chinese government's commitment to greater opening up for mutual benefits and win-win results, saying that they are full of expectations for new opportunities brought by the Chinese modernization.

The board members said they would continue to expand investment in China and increase spending on the green economy, sustainable development, and innovative research and development to assist with China's high-quality development.



Chinese Vice President Han Zheng holds discussions with the advisory board of the Tsinghua University School of Economics and Management in Beijing, capital of China, March 28, 2023. (Xinhua/Zhang Ling)

GLOBAL ENGAGEMENT

Wang Xiqin visits German universities to deepen bilateral cooperation

Wang Xiqin, president of Tsinghua University, headed a delegation to Germany's RWTH Aachen University (RWTH Aachen) and the Technical University of Munich (TUM) to further strengthen bilateral strategic collaboration from January 12 to 14.

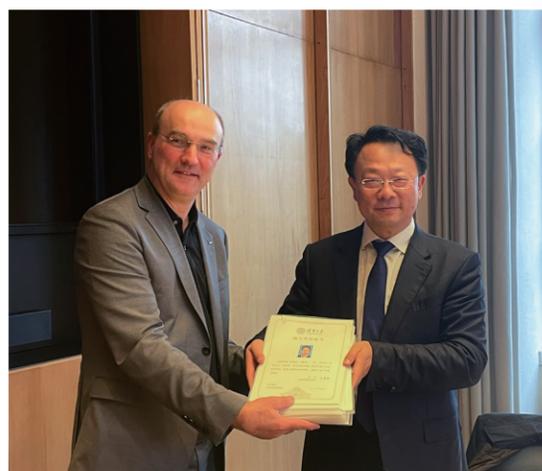
At a meeting with RWTH Aachen Rector Ulrich Rüdiger and Vice-Rector for International Affairs Ute Habel on January 12, Wang noted that the partnership between two universities can be dated back to the 1980s and that their joint graduate program has drawn the participation of over 1,000 students, becoming a successful connection between Chinese and German universities since its establishment in 2001.

Wang described the reform and development of Tsinghua University and called on the two sides to deepen bilateral exchanges and seek more cooperation opportunities.

Rüdiger welcomed Wang and said that RWTH Aachen is proud of the long-term stability of its strategic cooperation partnership with Tsinghua University, attaches great importance to cooperative projects between them, and will seek wider and deeper collaboration and exchanges in the future.

The visiting delegation of Tsinghua University also brought with them diplomas and degree certificates for German graduate students of the joint education program who could not visit China and receive their certification in person because of the COVID-19 pandemic in the past three years.

After the meeting, Wang visited the Central Facility for Electron Microscopy and other research institutions at RWTH Aachen where he held in-depth discussions with experts there over cutting-edge technologies and prospective innovation-driven cooperation between the two universities.



Wang Xiqin (R), president of Tsinghua University, presents to RWTH Aachen Rector Ulrich Rüdiger with graduation certificates for graduates of the joint program between the two universities who were unable to visit China and receive their certificates in person because of the COVID-19 pandemic in the past three years.

Wang and the delegation paid a visit to the TUM's campuses in Garching and Munich on January 13. He met with TUM President Thomas F. Hofmann and other senior officials of the German university at its Munich campus.

Juliane Winkelmann, senior vice-president of TUM for International Alliances & Alumni, Claudia Peus, senior vice-president of TUM for Talent Management & Diversity, and Gerhard Kramer, senior vice-president of TUM for Research & Innovation attended the meeting.

Wang said that there is a solid foundation for the cooperation between Tsinghua University and the TUM and that their collaborative partnership bears great significance for the further development of higher education in China and Germany and beyond.

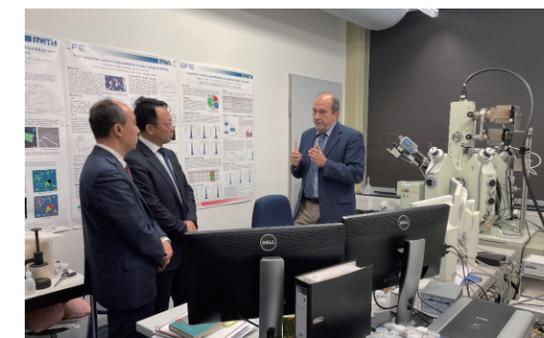


Wang Xiqin, president of Tsinghua University, poses for a group photo with senior RWTH officials.

Noting that worldwide higher education has been faced with lots of challenges and that universities of all countries have been undertaking reform and restructuring against the backdrop of profound changes in international landscapes, Wang said that Tsinghua University has closely followed the workforce development strategy, pushed for all-round reform in such fields as talent management, education, sci-tech research, and international exchanges and cooperation, and made great strides in modernization of its governance system and capacity over the past decade.

Wang pointed out that talent is the top priority, and talent cultivation is the central task of universities. He summed up four typical and globally significant university talent cultivation models, namely the model of innovative universities focusing on professionals and postgraduate training developed by the US, that of research universities focusing on disciplines and postgraduate training developed by Germany, the liberal arts college pattern focused on disciplines and undergraduate training developed by the British, and the model of vocational universities focusing on professionals and undergraduate training developed by the former Soviet Union.

Wang said that Tsinghua University is striving to make full use of those conventional educational models in its own talent cultivation. He emphasized that higher education shapes the future of mankind, and world-class universities have the responsibility to work together to cope with global challenges. Tsinghua University is willing to strengthen its cooperation with the TUM on cross-disciplinary research and frontier technologies on the basis of complementary strengths, resource sharing and mutual benefit.



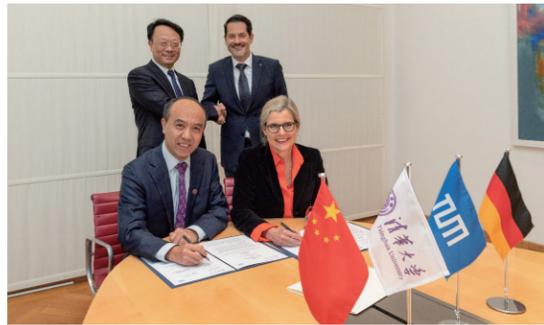
Wang Xiqin, president of Tsinghua University, visits laboratories and holds talks with experts at RWTH Aachen University.

Hofmann said that the delegation of Tsinghua University was the first Chinese university delegation that had visited the TUM since the outbreak of the COVID-19 pandemic. He underscored the importance of inter-university cooperation to enable the international community to better cope with all kinds of risks and challenges, reviewed the notable achievements of the TUM in discipline integration, innovation and entrepreneurship, international cooperation and lifetime education, and looked forward to more exchanges and cooperation with Tsinghua University in scientific research, student exchange and joint education programs, innovation and entrepreneurship, and personnel training.

When visiting the TUM campus in Garching, Wang held a meeting with Thomas Hamacher, director of the Munich Institute of Integrated Materials, Energy and Process Engineering (MEP), Alois Knoll, chair of Robotic/AI/Embedded Systems, and leading figures from other disciplines.



The visiting Tsinghua University delegation meets with their counterparts from the Technical University of Munich.



Representatives of Tsinghua University and the Technical University of Munich sign an exchange program for doctoral students.

Later, Wang, accompanied by the Center's Vice President Helmut Schönerberger, also visited the TUM Entrepreneurship Center and heard reports by young entrepreneurs describing their business experiences.

Wang Hongwei, vice-president of Tsinghua University, signed an exchange program for doctoral students between Tsinghua University and the TUM with Juliane Winkelmann, senior vice-president of the TUM for International Alliances & Alumni, and Gerhard Kramer, senior vice-president of the TUM for Research & Innovation, which was witnessed by Wang Xiqin and Hofmann.

During their stay in Germany, the visiting delegation also attended a meeting with Tsinghua alumni who work and live there. Wang expressed his thanks for their care for and support of the university's overall



Wang Xiqin, president of Tsinghua University, visits the TUM Innovation & Entrepreneurship Center.

work and called on them to promote its spirit, facilitate understanding and cooperation between China and the West, and make contributions to the building of a community with a shared future for mankind.



Wang Xiqin, president of Tsinghua University, visits the TUM campus in Garching.



Members of the visiting delegation meet with Tsinghua alumni in Germany.

Wang Xiqin conducts meetings at WEF in Davos

Wang Xiqin, president of Tsinghua University, took part in a series of bilateral and multilateral talks with his counterparts from worldwide universities, foreign officials, academics, businesspeople and representatives of international organizations during his attendance at the 2023 annual meeting of the World Economic Forum in Davos from January 16 to 18.

When meeting with Indonesia's Luhut Binsar Pandjaitan on the morning of January 16, Wang expressed appreciation to Pandjaitan and the Indonesian government for supporting cooperation between Tsinghua University and partners in Indonesia and beyond.

Wang said as a vital component of Tsinghua University's global development strategy, the Tsinghua Southeast Asia Center in Indonesia should position its development toward the entire



Tsinghua President Wang Xiqin conducts a meeting with Yves Flückiger, president of the University of Geneva and members of the Geneva-Tsinghua Initiative Advisory Board on Sustainable Development on January 17.

region, underscore the principles of innovation, entrepreneurship and sustainable development, become a global innovative ecological platform for collaboration among universities, governments and enterprises, provide young Indonesian people with guidance and assistance in their innovation and entrepreneurship, and facilitate Indonesia's economic growth and industrial restructuring.

Pandjaitan congratulated Tsinghua SEA on its opening and expressed hopes it will develop into a leading platform for the two countries to deepen their exchanges and cooperation, respond to common challenges with concerted efforts, strengthen the communication between young Indonesian and Chinese people, and advance pragmatic cooperation between experts from the two countries.

Tsinghua Vice-President Wang Hongwei and Nani Hendiarti, vice-minister of Indonesia's Coordinating Ministry for Maritime Affairs and Investment, signed an MOU on the building of a global entrepreneurship and innovation ecological platform. They also agreed to conduct in-depth and high-quality cooperation in education and scientific research and transform the Tsinghua SEA in Indonesia under the framework of both the Belt and Road Initiative and the Bali Prosperity Roadmap for a New Era.

On the afternoon of January 16, Wang also met with Stephen Schwarzman, chairman and CEO of



Tsinghua President Wang Xiqin and Indonesia's Coordinator for Cooperation with China and Coordinating Minister for Maritime Affairs and Investment Luhut Binsar Pandjaitan jointly observe the signing of an MOU on the building of a global entrepreneurship and innovation ecological platform on January 16.

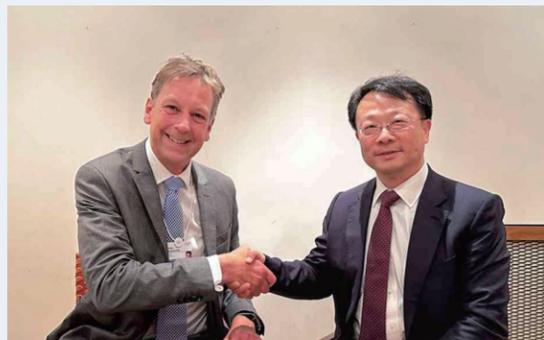


President of Tsinghua University Wang Xiqin on January 17 meets with Martin Vetterli, president of the École Polytechnique Fédérale de Lausanne, and Jean-Paul Kneib, director of the EPFL's Astrophysics Laboratory.

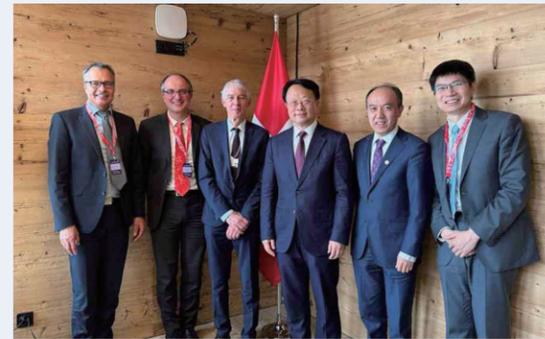
Blackstone Group, a global private equity firm. They reviewed fruitful achievements made over past years and exchanged views on the further development of the Schwarzman Scholars program.

Wang conveyed thanks to Schwarzman for his long-term support for the development of the program, noting it has become a demonstration project for educational cooperation between China and the US and achieved new progress despite multiple challenges. He pledged Tsinghua will show full support to Schwarzman Scholars in its future development, and called on the US to take the long view and work with China to strengthen talent cultivation for the entire world.

Schwarzman said he was happy to see many people have successfully graduated as Schwarzman Scholars and shouldered their responsibilities in



Tsinghua President Wang Xiqin, right, meets with Rio Tinto CEO Jakob Stausholm.

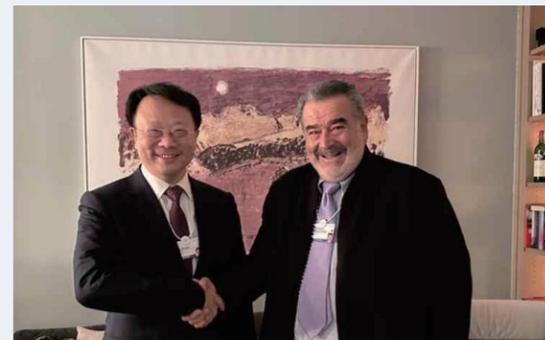


Tsinghua President Wang Xiqin, third from right, meets with Martin Vetterli, president of the École Polytechnique Fédérale de Lausanne, Jean-Paul Kneib, director of the EPFL's Astrophysics Laboratory, and others on January 17.

tackling global challenges, adding Blackstone will work with Tsinghua to support the program further.

At their meeting on January 17, Wang and Yves Flückiger, president of the University of Geneva, recalled achievements in the promotion of the Geneva-Tsinghua Initiative over the past five years and held exchanges over cooperation models in the future.

Wang said the two universities have conducted pragmatic cooperation in many fields like talent cultivation, academic research, curricular programs in holidays and innovation since they launched the Geneva-Tsinghua Initiative five years ago, adding they should maintain their pre-pandemic cooperation momentum, foster more talent with a global vision and international competitiveness, and advance the implementation of the UN sustainability goals.



Tsinghua President Wang Xiqin, right, meets with the chairman of Chile's Luksic Group Andronico Luksic.

Those in attendance of the meeting also included Nikhil Seth, the UN assistant secretary-general and executive director at the UN Institute for Training and Research, and Cherie Nursalim, vice-chair of GITI Group and vice-president of United in Diversity (UID) Foundation, both of whom are members of the Geneva-Tsinghua Initiative Advisory Board on Sustainable Development.

On January 17, Wang also talked with Martin Vetterli, president of the École Polytechnique Fédérale de Lausanne (EPFL), and Jean-Paul Kneib, director of the EPFL's Astrophysics Laboratory, over the feasibility of the EPFL's participation in the building of the Multiplexed Survey Telescope (MUST).

Wang said the EPFL is an important partner for Tsinghua University and called on the two universities to expand bilateral cooperation in talent cultivation, scientific research and people-to-people exchanges.

Vetterli noted MUST has become a demonstration program for scientific research between China and Switzerland and the EPFL is willing to further deepen its cooperation with Tsinghua University in astronomy and basic physics.

When attending the Global University Leaders Forum (GULF) on the afternoon of January 17, Wang joined counterparts from 17 top universities and scientific research institutions in 13 countries to share views around the topic "Global Cooperation in a Fractured Context". He spoke with them about



Tsinghua President Wang Xiqin attends a gathering with alumni of Tsinghua University in Switzerland.

the building of a multi-ethnic community with a shared future and the implementation of the "one country, two systems" principle.

During his stay in Davos, Wang also met with Victor Dzau, president of the US's National Academy of Medicine, CEO of Rio Tinto Jakob Stausholm, chairman of Chile's Luksic Group Andronico Luksic and Deloitte China Vice-Chairman Wu Weijun, all of whom expressed willingness to strengthen their cooperation with Tsinghua and seek common development.

Wang also held a meeting with alumni of Tsinghua University in Switzerland. He urged them to promote the university's traditions, deepen mutual understanding and cooperation between China and the West and make contributions to the building of a community with a shared future for mankind.



Tsinghua President Wang Xiqin attends a gathering with alumni of Tsinghua University in Switzerland.

Wang Xiqin visits Singapore to promote cooperation on education and scientific research



Wang Xiqin, president of Tsinghua University, and Ivy Ng, chief executive officer of Singapore Health Services Pte Ltd (SingHealth), sign a memorandum of understanding on cooperation between Tsinghua University and SingHealth on January 10.

From January 10 to 11, Wang Xiqin, president of Tsinghua University, headed a delegation to visit Singapore to strengthen bilateral exchanges on higher education, sci-tech innovation and international cooperation, explore new approaches to promote talent cultivation and scientific research collaboration, deepen pragmatic cooperation in the medical sector, and respond to global challenges with innovative and collaborative methods. Wang Hongwei, vice-president of Tsinghua University, attended the delegation.

On the morning of January 10, Wang held a meeting with Ivy Ng, chief executive officer of Singapore Health



Services Pte Ltd (SingHealth), Thomas Coffman, dean of Duke-NUS Medical School and board member of SingHealth, and others from SingHealth.

Wang briefed attendees on the general development of Tsinghua University and its efforts to deepen reform and the building of its medical disciplines. He said that Tsinghua University has further strengthened the development of its medical disciplines and the cultivation of innovative talents with rich clinical experience, sci-tech research capabilities, high humanistic care and international vision, and that can engage in scientific research, medical service, education and management in the medical field, adding that it is looking forward to advancing bilateral cooperation on the cultivation of medical experts, drug research and development, pharmaceutical innovation, the vocational training of medical workers, and innovation-driven development in medical education and research.

Ng gave an introduction to the main achievements made by SingHealth in medical and health education and cutting-edge academic studies, as well as its development plans. Coffman talked about the



Wang Xiqin, president of Tsinghua University, visits Singapore General Hospital, the National Cancer Center of Singapore and Duke-NUS Medical School on the afternoon of January 10.

organizational structure, cooperative forms and talent cultivation programs of Duke-NUS Medical School.

Both expressed their willingness to strengthen exchanges and cooperation with Tsinghua University and to make concerted efforts to promote talent cultivation and sci-tech research.

Later, Wang and Ng signed a memorandum of understanding on cooperation between Tsinghua University and SingHealth in such sectors as medical education and training, scientific research, clinical nursing, medical services and management.

In a visit to Singapore General Hospital, the National Cancer Center of Singapore and Duke-NUS Medical School on the afternoon of January 10, Wang held exchanges with experts, administrative and medical



Wang Xiqin, president of Tsinghua University, and other members of the delegation hold a meeting with officials from Singapore's Agency for Science, Technology and Research on the morning of January 11.

workers and learned of their practices and experiences in facilitating medical research, service and education.

The visit also brought Wang and the delegation to Singapore's Agency for Science, Technology and Research (A*STAR) on the morning of January 11, where Wang held talks with Frederick Chew, chief executive officer of the A*STAR.

A*STAR is a subordinate organization of Singapore government, aiming at promoting the integration of scientific research and talents in Singapore and assisting Singapore to transform and move towards knowledge-based economy pattern. It has two major councils including biomedical research and scientific & engineering research, and manages several institutes to carry out scientific research in related fields.

Wang said that in the past decade, Tsinghua University has implemented its workforce development strategy, conducted reforms in many fields like personnel system, education, sci-tech research, international exchanges and cooperation, and state key laboratories, and established academies and special schools, adding that it will strengthen exchanges and mutual learning with its global partners, study and benefit from advanced international experiences, and based on national conditions of China to make new contributions to the country.

Wang called on the two sides to further deepen bilateral people-to-people exchanges and scientific research cooperation in bio-medicine, engineering technologies and the commercialization of research results.



Wang Xiqin, president of Tsinghua University, and Frederick Chew, chief executive officer of the A*STAR, sign a memorandum of understanding on cooperation between Tsinghua University and A*STAR on January 11.

Noting that the delegation of Tsinghua University was the first Chinese delegation to visit A*STAR in the post-epidemic era, Chew agreed with Wang's proposals to strengthen bilateral collaboration in the above-mentioned sectors.

Later, Wang and Chew signed a memorandum of understanding on cooperation between Tsinghua University and A*STAR.

When visiting the National University of Singapore (NUS) on the afternoon of January 11, Wang met with Bernard Tan, senior vice-provost for undergraduate education at the NUS. They conducted in-depth discussions on the challenges confronting worldwide higher education, the corresponding measures and bilateral cooperation.

Wang said that Chinese President Xi Jinping, also general secretary of the Communist Party of China Central Committee and chairman of the Central Military Commission, visited Tsinghua University ahead of its 110th anniversary. Xi emphasized that the development of science and technology as the primary productive force, the cultivation of talents as the primary resource, and the enhancement of innovation as the primary driver of growth should be better combined to better serve the reform and opening up and socialist modernization.

In the report of the 20th CPC National Congress, education, science and technology, and human resources are planned and carried out in tandem, and are placed in a prominent position after the "high-quality development". It highlights that science and technology as the primary productive force, talent as the primary resource, and innovation as the primary driver of growth are the foundational and strategic pillars for high-quality development.

Wang said that the three primaries correspond to the three roles of research institutions, educational institutions and social service institutions undertaken by universities, and correspond to the three duties of scientific research, talent cultivation and social services that universities need to perform. Tsinghua University has been working on the integration of the three duties. He hoped that the two universities will deepen bilateral exchanges and



Wang Xiqin, president of Tsinghua University, visits the National University of Singapore (NUS) on the afternoon of January 11.

cooperation and make full use of their resources in supporting talent cultivation.

Tan talked about efforts made by the NUS to align with Singapore's Industry 4.0 (i4.0) transformation initiative, provide undergraduate students with general education, and strengthen inter-disciplinary integration and the lifetime education of all alumni. He also agreed with Wang on furthering bilateral exchanges and cooperation.

Wang also had exchanges with Benjamin Tee, assistant vice-president and head of the entrepreneurship department of the NUS, and Yue Chee Yoon, director of the enterprise organization.

On the afternoon of January 11, Wang also visited the Yong Loo Lin School of Medicine, the Cardiovascular Research Institute and the Institute for Health Innovation & Technology (iHealthtech), all of which are affiliated with the NUS. He talked with experts, professors, researchers and students, and learned more about experiences and measures taken by the NUS in scientific research, talent cultivation, the application of research findings, and management.

Wang said that Tsinghua University will seek to consolidate the development of its medical disciplines with the advanced experience of the NUS, and that more efforts should be made to strengthen bilateral collaboration on scientific research, talent cultivation, management and training, as well as to promote the building of international cooperation and innovation platforms for medical disciplines.

Yeoh Khay Guan, senior vice-president for health affairs at the NUS, said that the Yong Loo Lin School of Medicine highly values its cooperation with Tsinghua University, and expressed the hope that the two sides will conduct exchanges and dialogues on a wide range of topics and explore more opportunities for cooperation.

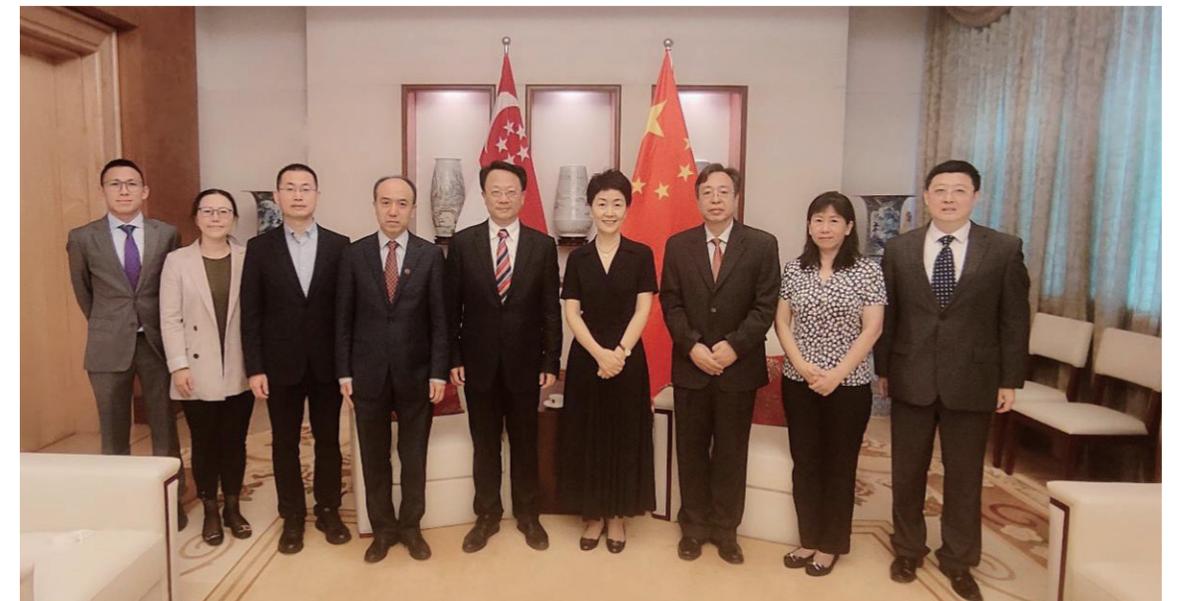
During his visit to Singapore, Wang also met with Cherie Nursalim, vice-chair of GITI Group and vice-president of the United in Diversity (UID) Foundation. He thanked Nursalim for her efforts in the building and development of the Tsinghua Southeast Asia Center (Tsinghua SEA) in Indonesia and voiced his hope that the center will grow into a leading platform for Tsinghua University to strengthen its cooperation with Indonesia and other Southeast Asian countries and will foster more talented people for Indonesia in its economic development and industrial upgrading.

Wang also visited the Chinese embassy in Singapore and held talks with ambassador Sun Haiyan on Chinese and Singaporean education and China-Singapore cooperation in scientific research.

Wang introduced a series of development and reform measures taken by Tsinghua University in recent years. He emphasized that universities play an important role in promoting international cooperation and exchanges and coping with common challenges that all people face. Tsinghua University is willing to further increase exchanges and cooperation with Singapore, Southeast Asia and countries involved in the Belt and Road Initiative.

Sun extended a warm welcome to Wang and the delegation. She pointed out that there is great potential for cooperation between China and Singapore in the fields of education and scientific research, and Tsinghua University can play an important role in promoting China-Singapore dialogue and cooperation.

When meeting with alumni of Tsinghua University in Singapore, Wang conveyed his thanks to them for their consistent care and support in the university's development, and urged them to continue to participate in its further growth and contribute to building it into a world-class university with Chinese characteristics.



Wang Xiqin, president of Tsinghua University, visits the Chinese embassy in Singapore during his two-day tour.

China-Italy Youth Cultural Inheritance & Innovation Forum held

On the morning of Feb 11, 2023, the China-Italy Youth Cultural Inheritance & Innovation Forum co-hosted by Tsinghua University and Politecnico di Milano (POLIMI) was held at China-Italy Design Innovation Hub of Tsinghua University in Milan.

Guo Yong, Vice Chairman of Tsinghua University Council, Giuliano Noci, Vice-Rector for China of Politecnico di Milano, Zhang Hong, Deputy Consul-General of the Chinese Consulate-General in Milan, and Lucio Lamberti, Delegate for Chinese Relation of Graduate School of Management of Politecnico di Milano, attended the forum.

The forum was hosted by Zhang Jin, academic advisor of China-Italy Design Innovation Hub and associate professor of School of Economics and Management of Tsinghua University. More than 130 students and faculty from Tsinghua University and POLIMI attended the forum.



Speech by Guo Yong

According to Guo Yong, China and Italy are outstanding representatives of Eastern and Western civilizations, and both write splendid chapters in the history of human progress. The two countries have set an example for dialogue and cooperation between the East and the West. President Xi Jinping noted in his congratulatory letter to the opening ceremony of the exhibition "Tota Italia - Origins of a Nation" that mutual respect, solidarity, and harmonious coexistence are the right path for the development of human civilization. Young people hold the key to cultural inheritance, innovation, as well as civilization exchange, and mutual learning. They shoulder great responsibilities and missions in cultural inheritance,

innovation, and inter-civilizational mutual learning. We believe that the dialogue between the students of POLIMI and Tsinghua will contribute their strength to cultural exchanges and mutual learning between China and Europe, the community with a shared future for mankind and a new form of human civilization.



Speech by Zhang Hong

Zhang Hong said in her speech that culture is the spirit and soul of a country and a nation, as well as a powerful force for national development and rejuvenation. Cultural inheritance and innovation secure the eternal vitality and cohesion of a nation. China and Italy are outstanding representatives of Eastern and Western civilizations and have created splendid cultures for mankind. As President Xi Jinping pointed out: "Amity between people holds the key to sound state-to-state relations, the hinge of which lies in youth's communication." At present, China-Italy cooperation advances in various fields in a profound manner, and scientific, cultural, and academic exchanges continue to extend, in which young people are playing an important role. The 20th National Congress of the Communist Party of China called for encouraging the whole nation to participate in cultural innovation and creation, deepening cultural exchanges and mutual learning, and promoting Chinese culture to the world. It is believed that these initiatives will bring new opportunities for China-Italy cultural exchanges and cooperation. The Chinese Consulate-General in Milan will continue to support exchanges and cooperation between the universities of the two countries, so as to contribute to the booming Chinese culture, the profound and solid cultural communication between China and Italy, and their everlasting friendship.



Speech by Giuliano Noci

According to Giuliano Noci, Politecnico di Milano and Tsinghua University share common vision and mission. Words cannot express how proud he is of the collaboration and network created among young students from POLIMI and Tsinghua University, and their engagement toward the preservation of cultural inheritance, innovation, and civilization exchange. The first offline event after the outbreak of the pandemic was held in the China-Italy Design Innovation Hub with our historical and long-dated partnership with Tsinghua University, and the ever-lasting support of the General Consulate of PRC in Milan. "Even mountains and seas cannot distance people with common aspirations." We share the aspiration to improve the ecological environment and build a harmonious society and look forward to a bright future through cooperation.



Unveiling Ceremony of Tsinghua University Student Overseas Social Practice Base (Milan)

Guo Yong, Giuliano Noci, Zhang Hong, and Lucio Lamberti jointly unveiled the plate of "Tsinghua University Student Overseas Social Practice Base (Milan)". As the first overseas student social practice base of Tsinghua University, it will serve as a platform for the short-term and long-term overseas exchanges

and internship activities of Tsinghua University students, promote the international exchanges and cooperation between the two universities, and contribute to the extension of Tsinghua University's "circle of friends" in Europe.

Eight groups of students from Tsinghua University and POLIMI addressed the forum. In the group discussion, more than 100 student representatives from the two universities had a heated discussion on "the responsibilities of youth in promoting cultural inheritance, innovation, and civilization exchange".

From February 9th to 10th, more than 50 faculty and students from Tsinghua University participated in the China-Italy Youth Cultural Inheritance & Innovation Program co-organized by Tsinghua University's China-Italy Design Innovation Hub and the Graduate School of Management of POLIMI. They listened to the courses related to China-Europe industrial development and innovation and Italian cultural inheritance and innovation and visited Polihub (an incubator of POLIMI), Made-Smart Factory (an intelligent manufacturing teaching factory), Maserati Factory, Museo Ferrari and other advanced manufacturing enterprises and related institutions.

About China-Italy Design Innovation Hub

Initiated in 2017, the China-Italy Design Innovation Hub (CIDIH) is a design and innovation platform co-established by Tsinghua University and Politecnico di Milano. The Hub and the Tsinghua Arts and Design Institute in Milan (ADIM) were officially unveiled in Milan, Italy in 2018. As the first education and research base of Tsinghua University in Europe, the functions of the China-Italy Design Innovation Hub include education, design research, exhibition and cultural exchange. Through innovative management and operation mechanism, the hub establishes intensive cooperation with industry and actively promotes technology transfer, contributing to the educational, scientific and cultural exchanges as well as the industrial development of China and Italy.

Youth Global Communication Forum held at Tsinghua University

How can we better tell global stories?
How can Gen Zers enhance international cultural exchange?
How can youth contribute to a Community with a Shared Future for Mankind?
These timely questions and many more were explored at the Youth Global Communication Forum at Tsinghua.

The Youth Global Communication Forum, held on March 31st at Tsinghua University in Beijing, brought together government officials, scholars, university faculties, students, and media professionals. Participants addressed the role of Generation Z in international communication and public diplomacy.

The forum focused on empowering Gen Zers in global communication and aimed to discuss strategies for building a more interconnected and prosperous international community by harnessing young people's potential.

The 20th CPC National Congress has made strategic arrangements for strengthening the construction of international communication capabilities, said Jia Peng, deputy director general of the Department



of International Cooperation and Exchanges at the Ministry of Education. He proposed that universities integrate international communication into their curricula and encourage students to pursue practical opportunities and real-world research issues.

He also emphasized universities should implement the spirit of the 20th CPC National Congress and expressed hope for more original research in international communication by universities and greater efforts by scholars to introduce China's modernization path to the rest of the world.



To improve the efficiency of global communication, it's essential to synergize efforts among all stakeholders, said Zhang Dong, vice inspector of the International Communication Bureau of the Publicity Department of the CPC Central Committee.

"Universities, in particular, have a role to play in understanding the characteristics of Gen Z, constructing narrative systems and optimizing communication strategies targeting this particular age group to tell China stories," said Zhang.



Xiang Botao, deputy secretary of the Communist Party of China Tsinghua University Committee, highlighted in his opening remarks that Gen Zers have become significant participants and influencers in the global public opinion landscape.

He emphasized the importance of universities providing platforms for showcasing Gen Z's talents on the world stage, amplifying their voices, and helping them share Chinese stories globally.



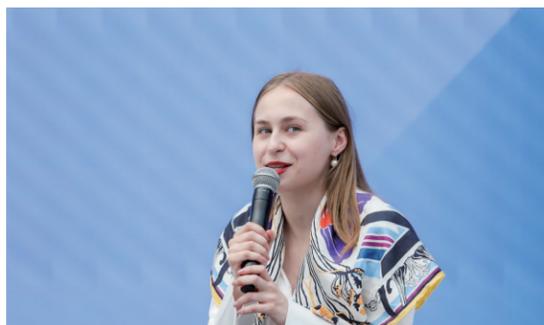
During the event, Zeng Qingkai, editor-in-chief of China Daily 21st Century English Education Media, and Sun Ming, deputy director of the Academy of Contemporary China and World Studies, delivered keynote speeches, offering insights on the changing landscape of international communication and the pivotal role that Gen Z plays in representing China globally.



Representatives from Tianjin University, Xi'an Jiaotong University, University of International Business and Economics, Peking University, and Tsinghua University introduced innovative measures and inspiring thoughts related to the international communication work of Gen Zers.



The forum included a youth dialogue featuring students, influencers and journalists from Belarus, India, Russia, the United States, and China, who shared their unique perspectives on promoting understanding among nations.



Thomas J. Scheuer, a Tsinghua University undergraduate student from the U.S. and table tennis pro, expressed his desire to introduce more foreigners to China through table tennis. Scheuer starred in the Chinese movie "Ping Pong: The Triumph," released in January. He emphasized that it was essential to tell China's story passionately and evoke the emotions and strength behind the story.

"I actually saw China's policies being implemented not just in writing but in practice," said Kate Kaligaeva, a graduate student from Belarus at Peking University at the dialogue, sharing her experience of collaborating with Chinese media to tell stories about China's poverty alleviation, rural revitalization, and green development. "I saw infrastructure being built from scratch in the countryside, improving villagers' material and cultural lives."



The forum concluded with the release of a report on empowering Gen Zers in international communication by Shi Anbin, a professor at the School of Journalism and Communication at Tsinghua University.

Professor Shi emphasized the importance of providing young people with an open, diverse, inclusive, and innovative education and training environment to nurture their cross-cultural competence, communication skills, content production abilities, and potential to impact society.



SCIENTIFIC INNOVATION

Tsinghua University and Simcere announce the establishment of Joint Research Center for Innovative Drug Discovery

Tsinghua University and Simcere Pharmaceutical Group announced that they have signed a strategic collaboration agreement on building the "Tsinghua - Simcere Joint Research Center for Innovative Drug Discovery" (hereinafter referred to as the "Joint Research Center") on Dec 23. The project has already received approval and license from the school, which marked the official establishment of the Joint Research Center.

This is the first university-level collaboration project carried out by Tsinghua University with a leading Chinese Pharma company in the field of biomedicine. The Joint Research Center will focus on innovative drug discovery in the fields of Central Nervous System (CNS) diseases, oncology and autoimmune diseases, the center will also facilitate academic-industry communication, as well as promoting talent cultivation for both Tsinghua University and Simcere's R&D team.

The Joint Research Center has established innovative drug project-oriented PI (Principal Investigator) mechanisms in three major therapeutic areas and director responsibility systems under the leadership of management committees. The Joint Research Center will be part of the School of Pharmaceutical Science with the laboratory constructed on Tsinghua University's campus. In addition, Simcere's Beijing Innovation Center will also provide lab space and R&D resources for the PI teams in need.

"We are very pleased to work with Tsinghua University to establish a Joint Research Center. Tsinghua University has the top academic talents and rich resources for early discovery in China and is an important partner in Simcere's synergistic innovation strategy. Simcere's expertise and capabilities in the pharmaceutical field will help transform Tsinghua's



laboratory discovery to clinical benefits for the patients. With the complementary advantages between the two sides, we will jointly hunt for breakthroughs that can provide today's patients with medicines of the future," said Ren Jinsheng, Chairman and Chief Executive Officer of Simcere.

"China's innovation power has attracted worldwide attention in recent years and was ranked 11th in the Global Innovation Index 2022 by WIPO, which is among the top of the 36 upper middle-income economies. Behind such remarkable growth, the basic research and talent support from top academic universities and the market-oriented cultivation from industrial companies are two important driving forces," said Dr. Renhong Tang, Ph.D., executive director of Simcere, deputy director of the Management Committee of the Joint Research Center, "as a Chinese pharmaceutical company driven by innovative R & D, Simcere has gained many successful experiences and faith in synergistic innovation. I believe the Joint Research Center will become another groundbreaking and powerful alliance for producing cutting-edge breakthroughs in the biopharma field."

"The Joint Research Center provides an exciting future as it combines the academic potential of Tsinghua

University with the industrial impetus of Simcere, a leading Chinese pharma company to develop innovative drugs with significant clinical needs. We look forward to its beginning of operation soon. The University will also provide active support in terms of expert teams, academic resources, etc,"said Professor Wang Hongwei, Vice President of Tsinghua University and Director of the Management Committee of the Joint Research Center.

"Tsinghua University has accumulated profound basic scientific research in the fields of neurological diseases, tumors, and autoimmune disease. We look forward to partnering with Simcere with an innovative spirit to deepen scientific understanding, and generate more core technologies," said Professor Qian Feng, Dean of the School of Pharmaceutical Science of Tsinghua University and director of the Joint Research Center.

Plotting a course for realistic and equitable decarbonization

Expectations based on previously published scenarios that would limit global warming to 1.5°C or even 2°C will need to be re-set, he says. Guan was a lead author for the chapter on regional development and cooperation for the 5th Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC). AR5 was a key document in the establishment of the 2015 Paris Agreement, when almost 200 states agreed to take action to reduce greenhouse gas emissions to limit global warming to well below 2°C compared to pre-industrial levels. The 6th Assessment Report is currently being written ahead of 2023's United Nations Climate Change Conference in the United Arab Emirates.



Dabo Guan, a distinguished professor of climate change economics, was a lead author for the chapter on regional development and cooperation for the 5th Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC), a key document in the establishment of the 2015 Paris Agreement.

International mitigation efforts focus on the large emitters and, to some extent, neglect the emerging emitters, Guan warns. "Without any new policies, these emitters are most likely putting us on a trajectory for 2.5°C rise in global average temperature," he says.

These unanticipated emissions require urgent non-emitting energy deployment across these emerging emitters, and faster and deeper reductions in emissions from other countries, say the authors. "We're calling for more attention on emerging emitters because their emissions are growing faster than we imagined," says Guan.

2.5° C scenario likely

Between 2010 and 2018, it appears that all major emissions growth has come from China, India and these emerging emitters, Guan explains. Based

on data from the International Energy Agency, his group showed that the average annual growth rate of emissions was 6.2% – the average of all nations worldwide was 2%. Collectively the annual emissions of the emerging emitters grew by roughly 41% in this eight-year period.

In fact, the study showed that the aggregated emissions of emerging emitters were larger than India, "which caught our attention", Guan says. The two Asian populations giants, India and China, have actually gradually flattened their emissions, he says, and thus global emissions' increments are currently dominated by the emerging emitters.

"We are at a tipping point for energy transition," explains Guan. Emerging emitters are countries in development categories ranging from the least developed country to economy in transition. In most cases with gross domestic product per capita substantially less than the global average. From their analysis of historical emissions drivers, Guan's group shows that industrialization and extended energy infrastructure are the driving forces of the emissions surges and these factors are likely to continue to cause emissions to grow.

So, what can be done?

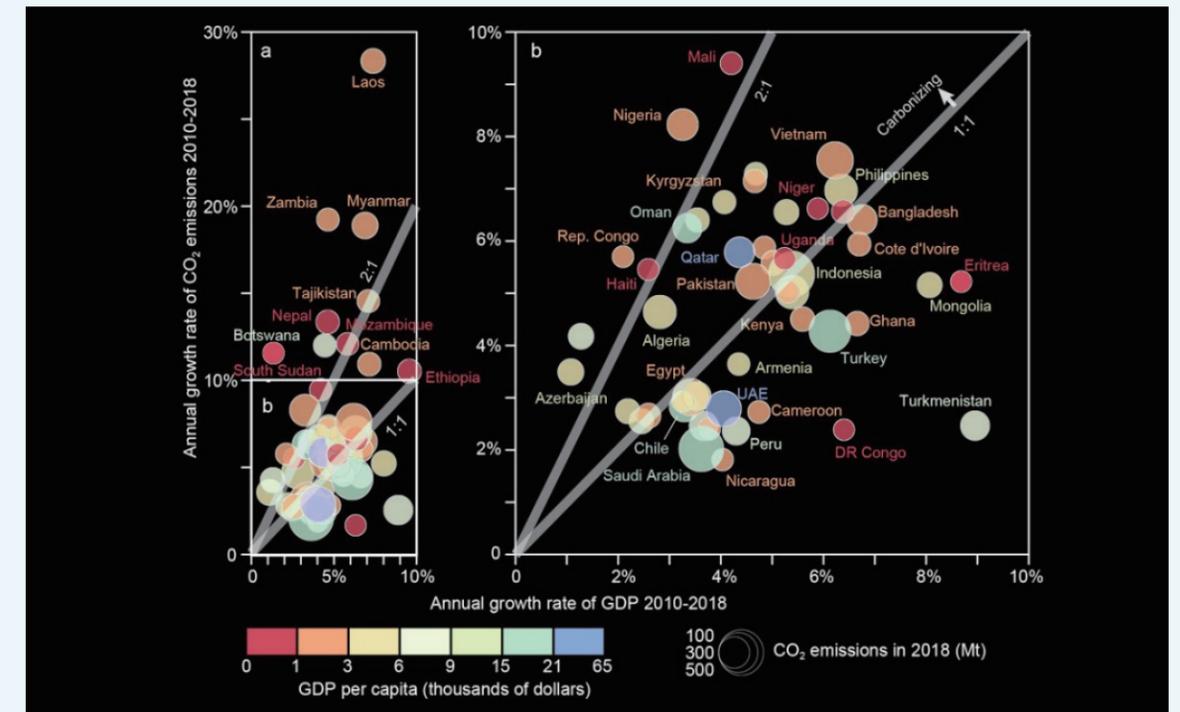
There are huge differences among these emerging emitters, notes Guan. Each has a unique economic status and disparate circumstances, he says.

Some emerging emitters have recognized the necessity of carbon neutrality and already started the energy transition to decarbonize already. For example,

the study showed that emerging emitters, Uganda, Peru, and Colombia are already decarbonizing with carbon and energy intensity indicators both decreasing in recent years. They all also maintained population and GDP growth, Guan points out. "However, they absolutely have potential for lower carbon energy systems that will comprise hydro, geothermal, and solar energy," he says. "We will see a more promising model of development tomorrow than today."

Other countries rely on energy mixes that are more carbon-intensive, but cheap, which suits varied priorities, including meeting many of the United Nation's sustainable development goals that focus on better, more equitable living conditions. In 2017, the authors point out that emerging emitters were home to 698 million people living on less than US\$1.9 per day in purchasing power parity value.

"These economies are not decoupled from emissions, yet," Guan points out. The coupling of carbon dioxide



*This shows the relative increase between 2010 and 2018 of carbon dioxide (CO2) emissions and Gross Domestic Product (GDP) for the 59 'emerging emitters', countries with emissions growing faster than the average of all nations' (excluding China and India). The clustering of low GDP per capita countries at the top of the chart suggests that growing economies with low GDPs tend to see their emissions increase significantly. *The lower grey lines marks the point where the CO2 emission growth rate is the same as GDP growth. Countries above this line are on their way to continuing to steadily increase their CO2 emissions.*

emissions and gross domestic product is currently considered necessary in early stage industrialization. “Meanwhile, the annual costs of keeping emissions at a low level are in many cases 0.2%–4.1% of a countries’ gross domestic product, so there are trade-offs with poverty reduction goals and low-carbon technology investment,” says Guan.

“Emerging emitters need to decarbonize without jeopardizing living conditions and economic development,” he argues. He thinks that this will mean that emitters that are already industrialized should help by decreasing their emissions more to create more room for emerging emitters. Other countries should also provide support and assistance, technically or financially, to help the emerging emitters install the right technology as they industrialize, setting them a path towards a low carbon future.

Installing systems for solar, wind, hydraulic, and geothermal energy requires financial support from countries that have historically had large emissions and have mitigation experience, argues Guan. “We know that Denmark has invested heavily in supporting with climate-change adaptation in 24 countries, representing 70% of the global CO2 emissions, including Kenya, South Africa, Egypt and Ethiopia, for example,” says Guan. Emerging emitters Myanmar, Laos, Zambia and Ethiopia are all on their way to industrialization, and probably lack the means to install low carbon developments on their own, he says.

Playing out the scenarios

“If emerging emitters stop their emissions surging, and other countries stay on track for the 1.5° scenario – globally we’re likely to land at a 2.2° rise in global average temperature,” Guan says. The achievable rate of emissions reductions sits somewhere between the 2.5°–2.0° scenario and the 2.0°–1.5° scenario.

In an ideal world however, Guan says, emerging emitters reduce by nearly 4% a year and other countries reduce emissions by a significant 5% a year to pursue a global 1.5°C target. That’s close to the goals of the 2.0° rise in temperature scenario for emerging emitters.

But if the emerging emitters aim to collaborate with other countries toward a common 1.5°C target, they need a huge amount of help from other countries, Guan stresses. For that reason, it’s urgent that they get this help, he says.

“And of course, academia can work harder to call for more action from the non-emerging emitters,” he says.

Guan co-ordinated this research for the Carbon Emission Accounts and Datasets, a group of experts from the United Kingdom, the US and China who work on emission accounting for China and other emerging economies.

Plant-based diets may help release cognitive decline

Could promoting plant-based diets help protect against air quality-related cognitive decline?

Research is increasingly showing an association between air pollution and cognitive decline. So, how can we reduce the risks of ubiquitous dirty air on our brain? A new study has found that a plant-based diet may mitigate the detrimental impacts of fine particulate pollution (PM2.5) on cognitive function in older adults.

“We are on the cusp of establishing a causal role for air pollution on cognitive impairment and

dementia, based on mounting evidence linking neurodegeneration with dirty air,” says John Ji, the principal investigator of the study published in The Lancet Regional Health – Western Pacific, and an associate professor at the Vanke School of Public Health at Tsinghua University.

The study followed 6,525 participants in China aged between 65 and 110 years for several years, all of whom had normal cognition at baseline. It found that those living in areas with the highest quintile of cumulative PM2.5 levels in the study areas had a 46%



Dr. John S. Ji is an associate professor at Tsinghua University's Vanke School of Public Health.

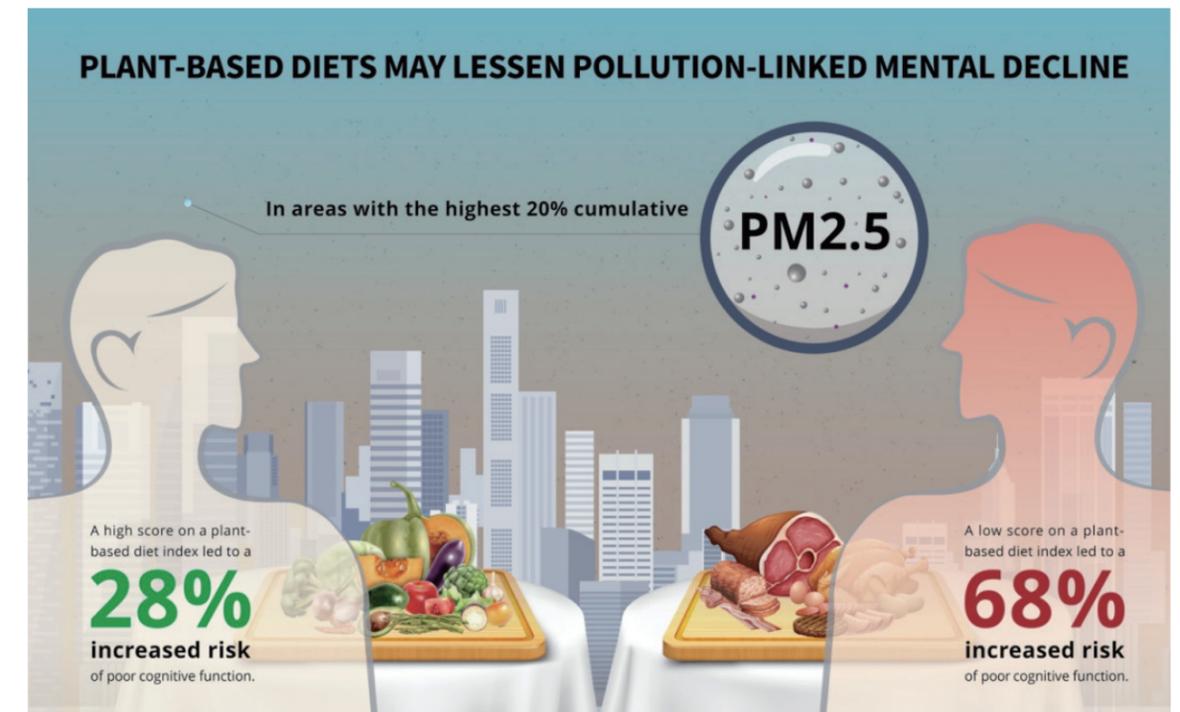
increased risk of developing poor cognitive function compared to those living in areas with the lowest cumulative PM2.5 levels. The authors also found that those who consume a more plant-based diet experienced harmful health impacts from air pollution than those who consume fewer plants. A high score on a plant-based diet index attenuated the impact of

living in high air pollution from 68% to 28% in the risk of developing poor cognitive function over time.

Evolving research now focuses on the molecular mechanisms, indicating air pollution may cause inflammation in the brain by dysregulating the activation of brain-based immune cells called microglia, or by indirectly affecting the brain via the bloodstream after entering the lungs, explains Ji.

“Once cognitive decline begins, we rarely can see a reversal, but we believe there may be anti-inflammatory factors at play on the biomolecular level that can slow down the decline in people who engage in a healthy aging lifestyle, such as ensuring the intake of plant-based diets,” he adds.

Ji is optimistic about positive change in the meantime through a combination of personal and systemic adjustments. “Individuals should work hard to live a brain-healthy life, and policymakers should realize that they can have a huge impact on the health of communities through their ability to affect pollution,” he says.



Dr. John S. Ji from Tsinghua University has found plant-based diets may modify the negative effects of air pollution on cognitive decline.

Floquet engineering of black phosphorus reported by Shuyun Zhou and collaborators

Light-matter interaction plays critical roles in experimental condensed matter physics and materials sciences, not only as experimental probes for revealing the underlying physics of low-dimensional quantum materials, but more importantly, as effective control knobs for manipulating the electronic structures and quantum states in the non-equilibrium state, with the fascinating opportunities to induce new physical phenomena beyond those in the equilibrium state.

In a paper entitled "Pseudospin-selective Floquet band engineering in black phosphorus" published in *Nature*, researchers led by Prof. Shuyun Zhou from the Department of Physics at Tsinghua University reported the first experimental realization of light-induced transient manipulation of the electronic structure in a semiconductor – black phosphorus - via Floquet engineering. This work is the first experimental demonstration of Floquet band engineering in a semiconductor, which paves an important step toward

light-induced emerging phenomena in quantum materials, such as topological phase transition via Floquet engineering.

Low-dimensional quantum materials exhibit rich properties. So far, research about these materials has been focused mostly on their equilibrium properties, while the ultrafast dynamics in the non-equilibrium state are still in the developing stage. Capturing the transient electronic structure on ultrafast timescales (picosecond or even femtosecond, 10⁻¹² or 10⁻¹⁵ seconds) and manipulating their nonequilibrium material properties is a fascinating field, which not only extends our knowledge about non-equilibrium physics, but also can lay important foundations for the development and application of future high-speed devices.

Time-periodic fields provide unprecedented opportunities for tailoring the quantum states of

matter by Floquet engineering. In solids, the periodic arrangement of atoms leads to electronic structure, which is periodic in momentum. In analogy, time-periodic drive can lead to Floquet states, which are periodic in energy (Fig. 1). More importantly, the interaction between electrons in the material and time-periodic driving field can further lead to modifications of the electronic structure, symmetry, and topological properties, etc. Such Floquet engineering can result in light-induced emergent phenomena that are otherwise not possible in the equilibrium, for example, turning a topologically trivial material into a topological nontrivial material, realizing topological superconductivity far away from equilibrium, etc.

Floquet engineering has attracted extensive interest over the past few decades, and has been applied to condensed matter physics, cold atoms, and optical lattices ever since then. Nowadays, Floquet engineering has become an active and fast-developing research field in condensed matter physics and material science. However, in contrast to the rich theoretical predictions on intriguing light-induced topological phase changes, experimental progress along is extremely limited. Many fundamental questions still remain to be answered from experimental results. For example,

can Floquet engineering be realized in conventional materials such as a semiconductor under realistic experimental conditions? Addressing questions like this will be a critical step toward the long-sought goal of light-induced emerging phenomena such as light-induced topological phase transition.

The experimental group led by Prof. Shuyun Zhou focuses on the electronic spectrum and ultrafast dynamics of two-dimensional materials and topological materials. Especially, they have been implementing instrumentations that are favorable for investigating light-induced emerging phenomena, and have been searching for experimental conditions realizing Floquet engineering in these materials. Because Floquet engineering requires low photon energy and a strong peak electric field, they have invested a lot of efforts to develop high-intensity mid-infrared pumping pulses. In addition to developing the state-of-the-art time- and angle-resolved photoemission spectroscopy (TrARPES) instrumentation, they have chosen a nearly-ideal semiconductor sample to start with – high-quality black phosphorus with a small band gap and high mobility. By fine tuning the photon energy, they found that upon near-resonance pumping, the band structure of black phosphorus evolves dramatically from a nearly-parabolic shape to a "Mexican hat" shape,

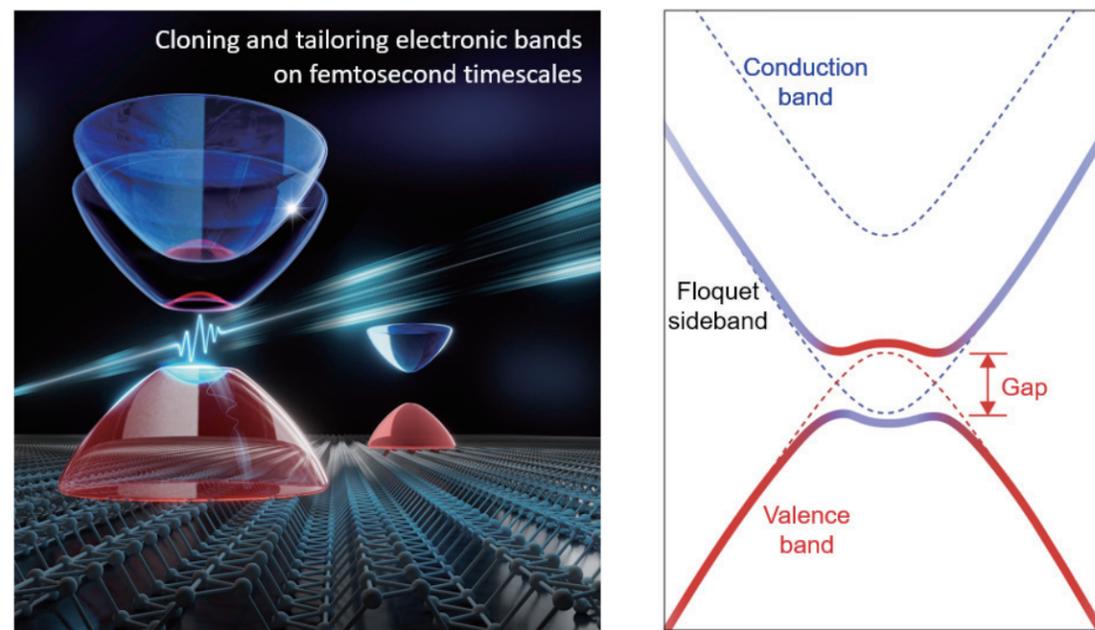


Figure 1: Schematics for Floquet band engineering in semiconductors

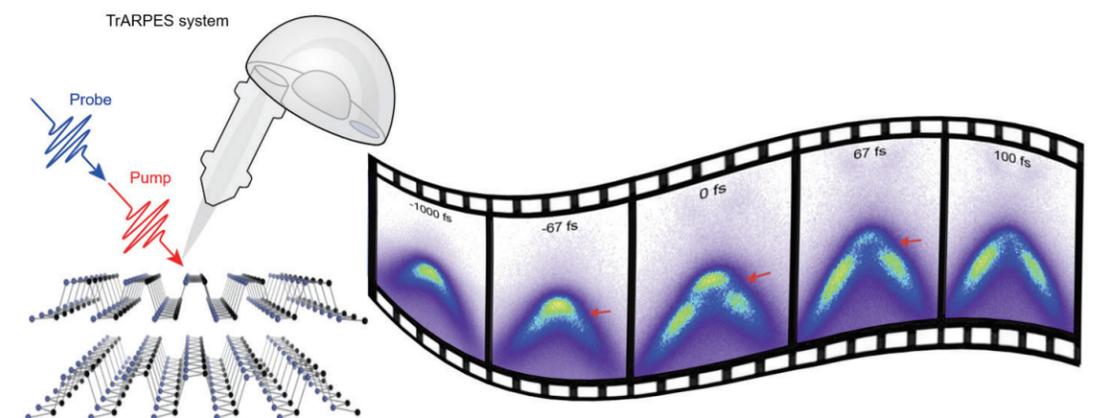


Figure 2: Experimental evidence of Floquet band engineering in black phosphorus by TrARPES. The arrows mark the light-induced gap opening in the transient electronic structure.

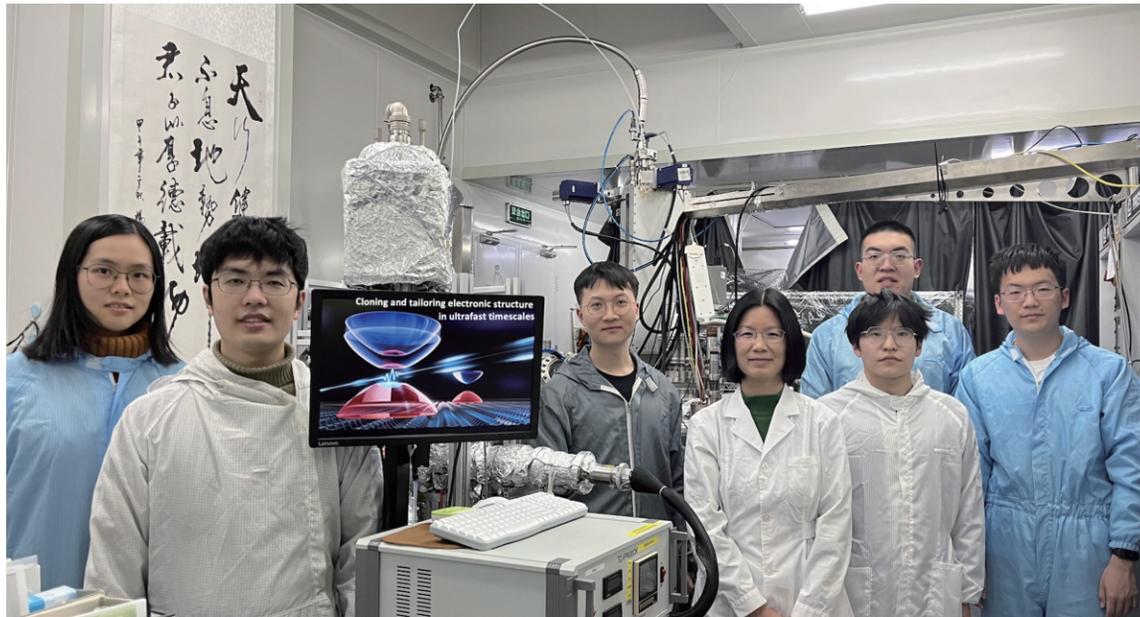


Figure 3: Members from Zhou group at Tsinghua University.

indicating that light-induced hybridization gap opening (pointed by the red arrows in Fig. 2) in the transient electronic structure. The light-induced gap emerges simultaneously with the Floquet sidebands, and through a systematic investigation of the light-induced gap with delay time, pump fluence, and electron doping, they conclude that the light-induced gap is caused by Floquet band engineering, namely, light-induced manipulation of the transient electronic structure.

More interestingly, they found that the Floquet engineering in black phosphorus shows a strong pump polarization dependence: the Floquet engineering induced gap emerges only when the pump polarization is along the armchair direction of black phosphorus, suggesting that there are also optical selection rules for Floquet engineering. Combining these experimental results with theoretical analysis, they found that the observed polarization selectivity originates from the coupling to the pseudospin degree of freedom (the two sublattices in black phosphorus can be viewed as a two-level system as spin). This work provides important insights for Floquet engineering

of a semiconductor, and lays an important foundation for further exploring the transient manipulation of topological states, and correlated states such as magnetism and superconductivity.

This work is a collaboration between Shuyun Zhou's group at the Department of Physics, Tsinghua University, Pu Yu at Tsinghua university, and theoretical efforts from Wenhui Duan group at the Department of Physics, Tsinghua University, Peizhe Tang from Beihang University, and Sheng Meng group from Institute of Physics, Chinese Academy of Sciences.

This research was mainly supported by the National Key R&D Program of China (2021YFA1400100), the National Natural Science Foundation of China (11725418, 12234011, 11427903). Funding support from National Key R&D Program of China (2020YFA0308800, 2016YFA0301004, 2021YFA1400201), National Natural Science Foundation of China (51788104, 12025407) and Chinese Academy of Sciences (YSBR047) is also acknowledged.

China national archives of publications and culture shows Tsinghua's wisdom



An aerial view of the China National Archives of Publications and Culture ©THAD

The China National Archives of Publications and Culture in Beijing was designed by the Architectural Design & Research Institute of Tsinghua University Co., Ltd. (THAD). Zhuang Weimin, a member of the Chinese Academy of Engineering, led the project in 2019.

The project sits at the foot of Yanshan Mountain, a scenic area nicknamed the "Xanadu of Northern Beijing". Professor Zhuang and his team transformed an abandoned quarry into the environmentally-friendly buildings we see today.



Wenhua Hall ©THAD

The China National Archives of Publications and Culture, which contains historical records dating back thousands of years, melds seamlessly with its environment, creating a functional cultural destination that fuses heritage with contemporaneity.

Professor Zhuang's team figured out suitable measures for local conditions by carrying out ecological restoration, which created both cultural and ecological value and brought the development philosophy of the new era into practice.

A courtyard layout was adopted to demonstrate the country's majesty and grandeur. The whole building complex is axisymmetric with an exposed north side. The courtyard style satisfies requirements of the China National Archives of Publications and Culture for cultural exchanges, exhibitions, and collection and research.

The design highlights the openness and modernity of the buildings through modern materials and techniques, while also featuring the uprightness, elegance, simplicity and majesty of traditional cultural architecture.



East-west secondary axis ©THAD



Wenhan Pavilion ©THAD



Lobby of Wenxing Building ©THAD

All conservation and storage spaces are connected to form a whole, ensuring smooth transportation, processing and preservation. The design meets requirements for waterproofing, moisture resistance, flood prevention, seismic resistance, security, civil air defense and other various aspects to high standards to guarantee the safety of the China National Archives of Publications and Culture.

The Wenxing Building, the Wenhua Hall and the Wenhan Pavilion have different functional divisions.

The Wenxing Building is the entrance hall of the China National Archives of Publications and Culture and the preface hall of a series of exhibitions.

The Wenhua Hall is the main exhibition venue of the China National Archives of Publications and Culture. At the center of the Wenhua Hall is the National Study.

More than 30,000 classic books from ancient and modern times are kept here.

A themed exhibition occupies the first three floors of Wenhan Pavilion. At the top is the octagonal caisson ceiling that draws on the pattern of the flower stem of persimmon fruits. It presents the magnificent scene of the vast galaxy, to imply the profoundness of Chinese civilization.

The China National Archives of Publications and Culture integrates the natural environment and cultural landscapes through modern materials and techniques to create a cultural landmark with strong Chinese characteristics.

It is the general repository of national archival resources and the bank of Chinese cultural seeds. It is also a collection, exhibition, research and exchange center.

Painting a "health portrait" of modern Chinese cities with big data: Launch event of "Tsinghua Urban Health Index 2022"

The launch event of "Tsinghua Urban Health Index (TUHI) 2022" was held in February, jointly hosted by the Vanke School of Public Health, the Institute for China Sustainable Urbanization, and the Institute for Healthy China of Tsinghua University.

Tsinghua Urban Health Index (TUHI) is an ongoing third-party evaluation project on city health levels in response to the "Healthy China 2030" strategy and the "Healthy China Initiative". Since the project was launched in March 2020, TUHI has published a number of reports on findings for three consecutive years. With spatiotemporal big data mining technology, the team has successfully completed a "health portrait" of modern Chinese cities, which has won high recognition and widespread attention from all sectors of society. In 2022, the research team further optimised the measurement methodology and expanded various data sources to complete "TUHI 2022" for the new year, which for the first time achieved full coverage of 296 cities above prefecture level in China, devoting Tsinghua's insight to the promotion of the concerted construction and governance of people's cities.

The launch was attended by Mao Qun'an, Deputy Director of the Healthy China Initiative Promotion Office, Director General of the Planning Division of the National Health Commission and Deputy Director of the National Patriotic Health Campaign Office, Jiang Shengyao, Deputy Director of the Tsinghua University Council and Dean of the Institute for China Sustainable Urbanization, Tsinghua University, Tang Weimin, Director of the Patriotic Health Campaign Office of Beijing Municipal Health Commission, Huang Hui, Deputy Director of Chengdu Municipal Health Commission, Yang Xin, Director of the Patriotic Health Campaign Office of Chengdu Municipal Health Commission, Yin Zhi, Executive Vice President of the Institute for China Sustainable Urbanization, Tsinghua University, and Wang Kaibo, Deputy Dean and Head of the Party Working Group of the Vanke School of Public Health, Tsinghua University. The host was Huang Cunrui, tenured professor at the Vanke School of Public Health, Tsinghua University.

Jiang Shengyao said that the report of the 20th National Congress of the CPC has made "Healthy





China” an important aspect of China’s overall development goal for 2035, and it is timely to promote the construction of healthy cities with the concept of “whole life cycle management”. In the new journey of promoting Chinese modernization, as the main battleground of “people’s health”, cities’ sustainable development has constantly been taking new implications and values, which requires us to promote scientific research and innovation in the field of urban health from a strategic overall perspective. Based on multi-source big data, TUHI has constructed a measurable, comparable and implementable scale for urban health evaluation. This is not only a challenging practical task, but also a forward-looking and cross-disciplinary issue. The project outcomes can facilitate governments at all levels in terms of health issues to judge the development trend, shape their unique strengths and improve the effectiveness of governance, and provide intellectual support for Chinese input of healthy city construction.

At the launch event, Dr. Li Dong, Senior Research Specialist at the Institute for China Sustainable Urbanization, Tsinghua University, presented the findings of TUHI 2022. It is reported that this presentation introduces a comprehensive evaluation of the health level of Chinese cities based on data from 2021.

Two major optimisations have been made to the index based on project findings. Firstly, the index system was improved in response to the demands of governments at all levels. It has Health Products upgraded to a first-tier index and now comprises six major evaluation sections (first-tier indexes) of Health Services, Health Products, Health Actions, Health Installations, Health Environment and Health Results, with 17 evaluation areas (second-tier indexes) and 39 evaluation items (third-tier indexes). Secondly,

city samples and data scope were expanded. Except for Hong Kong, Macao and Taiwan and Sansha City, we have completed the in-depth analysis of data from 296 cities above prefectural level nationwide, of which multi-source social data accounts for 75%. The volume of data is richer, covering 600,000 pieces of health industry chain data, 1 billion pieces of exercise behaviour data and 300 trillion pieces of health consumption data, etc.

Meanwhile, TUHI adopts a tournament-based evaluation method that emphasises relative rather than absolute performance and pursues no best but better. The evaluation results are interpreted separately after dividing cities into large city groups and small and medium city groups based on the population size of urban areas, to promote “one city, one policy” and “city-by-city” customized and differentiated urban health development.

TUHI 2022 project has found that, in terms of the general trend, the national urban health level has been steadily improving; the urban health level of the small and medium-sized city group is growing faster and its gap with that of the large city group is gradually decreasing. In terms of the major cities, Beijing, Shanghai, Hangzhou, Nanjing and Shenzhen of the large city group are leading the country; Huzhou, Quzhou, Weihai, Huangshan and Benxi of the small and medium-sized city group rank in the top five; in terms of major regions, Pearl River Delta and the Yangtze River Delta cities has significantly advantaged health levels. From the perspective of industrial characteristics, the development of the big health industry is bucking the trend. As for health installations, the “last mile” for urban residents to access health services still needs to be solved.

In addition, to create a high-level open research platform, TUHI will soon be launched on the website to visually present cross-city, cross-year, cross-region and multi-faceted analysis of the index results.

In the city rankings of TUHI 2022, Beijing is ranked first in China and Chengdu first in the western region. The launch event invited Tang Weimin, Director of the Patriotic Health Campaign Office of Beijing Municipal Health Commission, and Huang Hui, Deputy Director of Chengdu Municipal Health Commission, to share the significant achievements and typical experiences of the two cities in urban health development.

Research group led by Prof. Kihwan Kim has made progress in the research of ion trap phononic computing

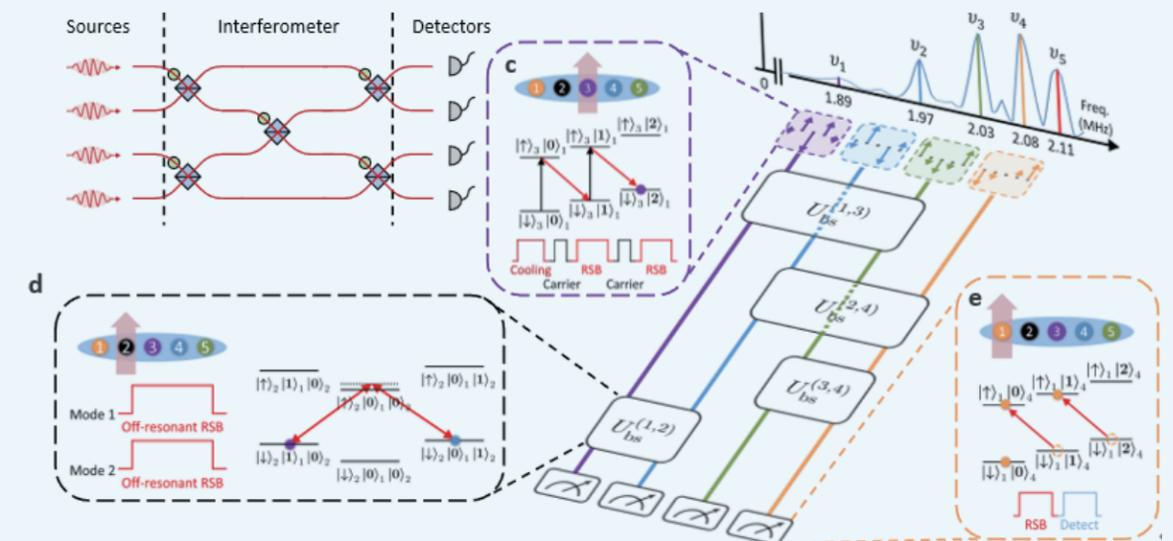
Different from qubit-based quantum computer, a quantum computer can be realized with bosons, where the realization has been mostly pursued in optics systems with photons. Recently rapid progresses in photonic systems have been reported toward the realization of practical quantum computers such as the demonstration of quantum advantages of Gaussian boson sampling. In principle, it would be ideal if the photons are deterministically prepared and detected without loss in the direction. However, it is seriously challenging to realize such an ideal quantum system with photons due to the fundamental nature of photons.

Phonons are ubiquitous as a controllable quantum system for quantum technologies, which can be an alternative attractive choice to realize bosonic networks. However, quantum computing or simulations using phonons have been challenging despite some of the promising components developed, due to technical challenges in integrating all the techniques; initial state generation, gate

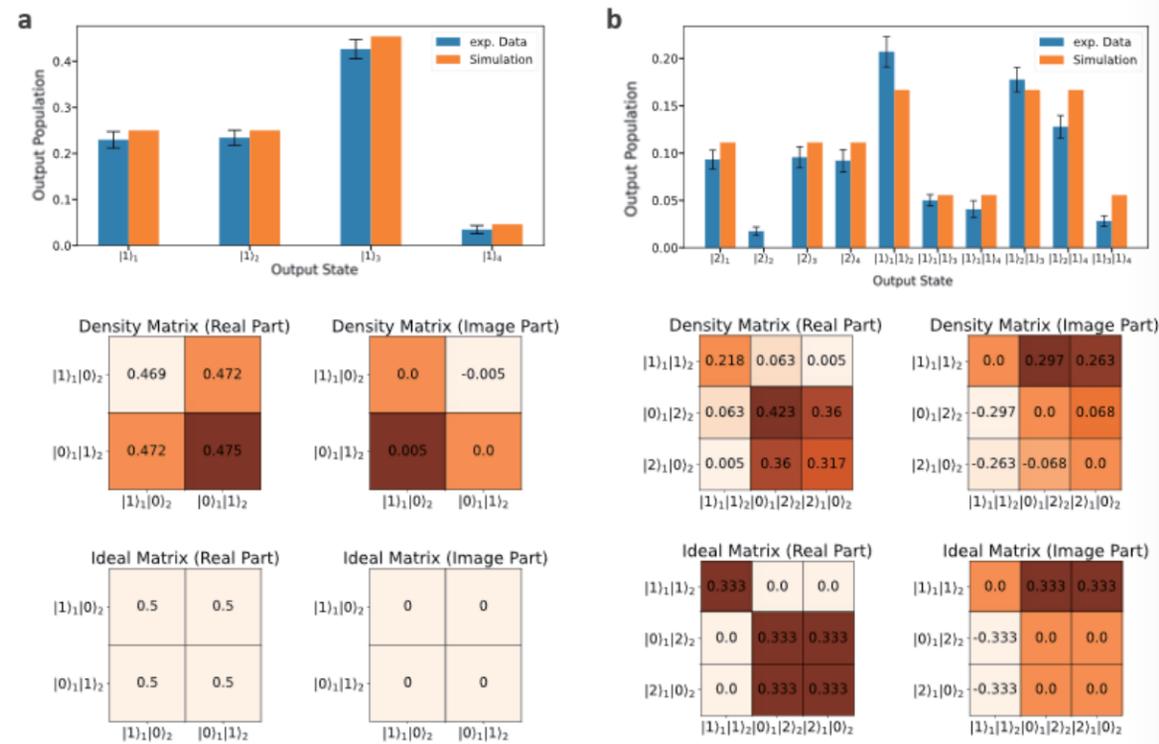
operations and efficient measurements have never been demonstrated on a single platform.

Recently, a new study conducted by a research team led by Prof. Kihwan Kim of the Department of Physics at Tsinghua University made an important breakthrough by demonstrating scalable and programmable phononic networks using ion trap systems, which is the most advanced experimental demonstrations with phonons. The researchers found that the collective motional modes of one-dimensional ion chains are less susceptible to uniform electric field noise and generally allow phonon number conservation.

By using four collective motional modes from five ions, the team was able to demonstrate a phononic network (Figure 1b) that contains all the basic operations. By controlling the carrier and sideband operations of the ions, the phonon state in each mode can be deterministically prepared (Figure 1c) and detected (Figure 1e). At the same time, any beam splitter (Figure



(a) Schematic diagram of a bosonic system structure. (b) Schematic diagram of a four-mode phononic network. (c) Phonon state preparation scheme. (d) Phonon beam splitter implementation scheme. (e) Phonon state detection scheme.



(a) Single-phonon state reconstruction experimental result. (b) Two-phonon state reconstruction experimental result.

1d) between two different modes can also be achieved by using Raman transitions of the ions with the strongest coupling, and the rotation angle and phase of the beam splitter can be controlled by the duration and relative phase of the two Raman beams.

The researchers benchmarked the performance of arbitrary multi-mode phononic networks with fixed phonon numbers using typical tomography algorithms, and obtained high fidelity in the reconstruction of single-phonon (Figure 2a) and two-phonon input states (Figure 2b). These research results demonstrate a clear path to extend phononic networks for quantum information processing and overcome some of the technical limitations of classical and photon systems. The demonstration clearly shows the deterministic preparation and detection of phonons in multiple modes and a programmable control of beam splitting

operations between any pairs of modes with negligible loss. It can be straightforwardly scaled up to over hundreds of modes by trapping comparable numbers of ions in a single trap.

This work was published on February 27, 2023, under the title "Scalable and Programmable Phononic Network with Trapped Ions" in Nature Physics. The corresponding authors of the paper are Wentao Chen from Tsinghua University, Prof. M.S. Kim from Imperial College London and Prof. Kihwan Kim from Tsinghua University. The first author of the paper is Wentao Chen. The work was supported by the innovation Program for Quantum Science and Technology and the National Natural Science Foundation of China.

Link to the full article: <https://www.nature.com/articles/s41567-023-01952-5>

International Exchange Centers Index 2022 released in Beijing



The International Exchange Centers Index 2022 was released in Beijing on Wednesday, aimed at reflecting the development of major international exchange centers around the world and providing guidance for policymakers in creating city development plans.

International exchange centers are global or regional cities that have the function of linking and serving the world, are capable of gathering international high-end factors, and play a key role in global affairs. They are crucial nodes and hubs in the dynamic network of international exchanges, says the report.

Jointly compiled by the China Institute for Development Planning of Tsinghua University and Deloitte China, the report is the first of its kind in the world. It evaluates 37 major cities across the globe based on a framework including three first-level indicators of "attractiveness, influence and connectivity," as well as 11 second-level indicators and 25 third-level indicators.

London, New York, Paris, Singapore, Seoul, Hong Kong, Beijing, Tokyo, San Francisco and Copenhagen are the top 10 cities by ranking on the index. China's capital city Beijing was the only Chinese mainland city

to make the top 10, ranking third in influence, 24th in attractiveness, and 13th in connectivity.

In terms of second-level indicators, the report highlights Beijing's strength in sci-tech innovation, as it ranked second in this category, benefiting from the city's high-quality sci-tech innovation resources. Over the past five years, Beijing has had the second highest number of highly cited sci-tech papers, with the fifth highest number of PCT (Patent Cooperation Treaty) applications among the 37 cities in the report.

In addition, thanks to its rich historical and cultural resources and higher education resources, Beijing ranked third in terms of culture and education. The city has also demonstrated strong economic competitiveness, with its ranking of fifth in economic development. Beijing has played a crucial role in global economic development and resource allocation by gathering China's top economic policy and financial resources, and it boasts the largest number of headquarters of Fortune 500 companies among the cities in the report.

Yang Weimin, a member of the Standing Committee of the Chinese People's Political Consultative Conference

(CPPCC) and deputy director of the Committee for Economic Affairs of the CPPCC National Committee, noted that the report examines the development of cities from the perspective of international engagement as China continues its efforts to build a modern socialist country and advance high-level opening-up.

"It has policy implications not only for cities positioned as international exchange centers, but also for other cities in China to expand opening-up and engage in international exchanges," he said.

In the future, efforts will be made to improve the evaluation framework and increase the number of cities being evaluated, as well as enhance the data collection process and the building of a robust database, said Yang Yongheng, leader of the research group and the associate dean of the China Institute for Development Planning of Tsinghua University, adding that the results will be released on a regular basis.

Around 100 experts and representatives from the CPPCC National Committee, government departments, embassies and enterprises attended the event, where they exchanged ideas on promoting international exchanges among cities.

For Reference

Beijing ranks 7th on Int'l Exchange Centers Index 2022
Xinhua New Agency

BEIJING, Feb. 8 (Xinhua) -- China's capital Beijing ranks seventh on the International Exchange Centers Index 2022, according to a report released on Wednesday.

The report was jointly compiled by the China Institute for Development Planning of Tsinghua University and Deloitte China, following comprehensive research on 37 cities across the world.

The report says that international exchange centers are global or regional central cities that have the function of linking and serving the world, are capable of gathering international high-end factors, and play a key role in global affairs. They are crucial nodes and hubs in the dynamic network of international exchanges.

The report aims to identify the regularities and existing problems in the development of international exchange centers and provide reference for creating city development strategies and plans.

The report defines an evaluation framework including three first-level indicators, namely attractiveness, influence and connectivity, as well as 11 second-level indicators and 25 third-level indicators. Beijing ranks 24th in attractiveness, third in influence, and 13th in connectivity.

London, New York, Paris, Singapore and Seoul are the top five cities on the index.



TSINGHUA COMMUNITY

Sustainable energy supply is crucial: Fu in Sri Lanka

Editor's Note

Tsinghua University plays an active role in promoting the 17 UN Sustainable Development Goals (SDGs) by nurturing innovative talents, enhancing research, among many other important ways.

Fu Honghui, a postgraduate student at Tsinghua University, once spent two years in Sri Lanka, dedicated herself to promoting a stable power supply, while working on the Lakvijaya power plant constructed by China Machinery Engineering Corporation (CMEC).

Fu grasped a deep understanding on working in a cross-cultural context and the underlying challenges faced by some developing countries between sustainability and development. Let's listen to her story.



One of the professional encounters she recalls: "I clearly remember, on 17 August 2020, due to the external power grid failure, a fault occurred to three units of the power plant I worked on, and the electricity supply of nearly half of the country was cut off, disrupting everyone's life there."

Fu worked on the Lakvijaya power plant project constructed by China Machinery Engineering Corporation (CMEC), which is the first and only coal-fired power plant in Sri Lanka.

Fu was not involved in the technical work of the project, but she took charge of overall interpretation, communication and business work in the boiler section as a coordinator.

Four years ago, standing at the crossroads of her future and trapped by the common confusion among most Tsinghua undergraduate students, Fu had no idea whether to continue her study as a master's student or devote herself to the career directly.

Studying at the School of Economics and Management, Tsinghua University, she made the brave decision to work abroad in Sri Lanka for two years, in pursuit of "exiling myself in a strange environment, learning more about myself and exploring more possibilities in my quest."

Her two-year journey, rendered her enough time not only to think about her future deeply but also to adjust herself to the new living and working environment in Sri Lanka. This meant learning the diversity of cultures and the meaning of cross-cultural communication and implementing it throughout her stint in Sri Lanka.



Fu worked as the interpreter in the office



An aerial view of the power station

“At the beginning it was difficult,” Fu recalled, “because I didn’t major in any similar discipline to power generation in my undergraduate.”

The first thing Fu needed to get familiar with was the composition of the boiler and the plant.

“Ask more and learn more,” Fu concluded so, “I joined the engineers in their routine patrol every day and I would ask them the names and places of certain equipment on the way.”

With continuous learning, Fu became proficient in dealing with both routine work and emergencies. But difficulties existed in not only the lack of knowledge of technical expertise but the differences in working habits.

“When in Rome, do as the Romans do,” Fu said. For example, Sri Lankans are mostly used to contacting by phone calls or in-person meetings, so after sending an email, she needed to attach a text or call as a reminder to ask for a reply as soon as possible.

Electricity is a basic need for modern society, while Sri Lanka, a developing island country on the Indian



Sri Lankans blessed the power station with a traditional ceremony

Ocean, has long suffered from high electricity costs and an unstable power supply.

“When I worked in Sri Lanka, though our camp was just near the plant, we would experience power loss at least two or three times a day. Having a sustainable power source is crucial.”

Planned in the 1980s, implemented in 2007 and finally coming into operation in 2014, the Lakvijaya power plant is of such significance to Sri Lanka’s energy supply, that in 2011, the government printed its image on the Sri Lankan banknote of 100 denominations.

“I’ve seen young couples take wedding photos at the station in memory of their most important moment,” said Fu, smiling.



The Sri Lankan banknote of 100 denominations

“And that always reminded me of the significance of the power plant and it also promotes a resilient infrastructure in a relatively undeveloped country.”

According to her, this is also an example of the energy access problems still faced by some developing countries today.

“Under the urgent challenge of climate change, fossil fuels will gradually take a back seat in the energy system, becoming an auxiliary rather than the main way to obtain energy.

“But for many developing countries, achieving easy access to energy supply to ensure normal life of residents is as urgent as national economic development, and fossil fuels are now their main source to secure stable energy.”

In 2021, considering Climate Change, China declared not to build any new coal-fueled power plants overseas.

CSEE awards Tsinghua professors for contributions to electrical engineering



Professor Lu Chao accepts the award on behalf of Professor Wu Weihan

The Chinese Society for Electrical Engineering (CSEE) Annual Meeting 2022 was held on Feb 9 in Wuhan, Hubei province. During the meeting, the CSSE granted Yu-Hsiu Ku Electrical Engineering Award, China Electric Power Science and Technology Award, and China Electric Power Science and Technology Person Award. Among the winners were professors at the Department of Electrical Engineering, Tsinghua University.

In the meeting, which is themed “Technological innovation supports the construction of a renewable energy system”, experts were invited to exchange views on technological developments in the fields of new power systems, offshore wind power, high-temperature gas-cooled reactor nuclear power, and renewable energy. They also analyzed the current problems, opportunities and challenges, and explored the trends and paths of future development.

Professor Wu Weihan won the 2022 Yu-Hsiu Ku Electrical Engineering Award, becoming the department’s third recipient of the honor. Wu made a speech via video link. He is one of the Chinese pioneers in research on overvoltage in power systems who has made important contributions in electromagnetic transient numerical analysis, overvoltage protection and insulation coordination.

The annual award was co-established by the CSEE and the IEEE PES in 2010 to commend scholars who have made important contributions to the advancement of electrical engineering.

Professor Dong Xinzhou and Tsinghua University won the first prize of China Electric Power Science and Technology Award because of the project named “Research and application of relay protection



The awards ceremony at the 2022 China Electric Power Science and Technology Award

technology to ensure the security of renewable energy power system". In addition, the department also won one first prize, two second prizes, and four third prizes.

The China Electric Power Science and Technology Award is the most influential and authoritative award in the field of China's electric power industry, aimed at rewarding scientific and technological projects that play an important role in the progress of China's electric power industry. It also honors units and individuals that have made important contributions to China's advances in electric power science and technology.

The China Electric Power Science and Technology Person Award was established in 2015 in recognition of engineering technicians and university teachers and students who have made outstanding contributions to scientific and technological research and engineering practice in the field of electric power.

Professor Lu Chao won the China Electric Power Science and Technology Outstanding Contribution Award. This year marks the sixth consecutive year that the department's teachers have won this award. Professor Zhong Haiwang won the Award for Outstanding Young Talent of China Electric Power Science and Technology.



The award ceremony of China Electric Power Science and Technology Person Award

Empowerment of Youth: Yifan's experience in UNDP

Editor's Note

Tsinghua University plays an active role in promoting the 17 UN Sustainable Development Goals (SDGs) by nurturing innovative talents, enhancing research, among many other important ways.

Yin Yifan, a PhD student at Tsinghua, from the Department of International Relations, has a passion for promoting SDGs, making joint efforts with global youth and pursuing a shared future of sustainability. She served as a Youth and SDGs Researcher in United Nations Development Programme Thailand by designing an evaluation tool for Youth Strategy 2.0. Today, let's learn more about her story!



change agents, with support from government, civil society, local organizations and private sectors at all levels.

Yin was assigned to design a scale of indicators to evaluate the process of Youth Strategy.

Yin's work began with research, collecting documents and statistics on the three pillars of this strategy, namely civic engagement, economic empowerment and change agent and the challenges the SDGs are facing.

"The summaries were fundamental for my team to set clear objectives on the potential areas of work and target collaboration and partners."

Based on this research, she supported analyzing the outcome framework for evaluation, where she linked the activities with the Youth Strategy approaches and the outcomes and indicators of the Thailand Country Programme Document.

"I hadn't planned to be a United Nations volunteer, but I was fortunate to seize this opportunity."

When Yin Yifan learnt about UNDP Thailand Youth Strategy in June, 2021, from the info bulletin of Tsinghua, she was attracted by this intern position.

As a PhD student who studied Thai language, culture and politics for more than 8 years, she did not plan and prepare to work in any international organizations at first. But the suggestion from her tutor, Professor Zhao Kejin in the Department of International Relations, encouraged her to submit an application and seize the opportunity.

After joining the Youth Team of United Nations Development Programme in Thailand online, Yin was assigned to research on the Youth Strategy 2.0 under the framework of sustainable development goals.

Youth Strategy 2.0 aims to mobilize and empower youth groups in Thailand, which accounts for 20% of the population and will play a defining role in the future.

In order to unleash youth potential, UNDP launches campaigns to guide and shape them into positive



Yin participating group discussions during her work



Three Pillars of UNDP Thailand Youth Strategy for SDGs

After summarizing how the Youth Strategy could help the implementation of CPD and setting a series of indicators for evaluating the main-pillar approaches, the team presented the draft to the UNDP Thailand Office.

For example, the goal of sustainable finance will be specified as a set of statistical numbers of financial mechanisms, including the integrated national financing frameworks, biodiversity finances, and funds that support gender-sensitive growth in youth groups.

Besides, she coordinated the review process of a SDGs Guidebook 2.0 of Thailand, on which the evaluation scale will be published online for public access, which provides a guidance for youth power.

Her supervisor at UNDP, Nitchakan Daramatat, a local social entrepreneur passionate on SDGs, commented that, "Yifan has completed all assigned tasks wonderfully. She has adjusted herself with the new working environment very well and is eager to participate and learn from the meetings. She is open for feedback which is beneficial for completing this role. She is responsible and always takes feed-back and integrate it in the next assigned task."

While committing into the team work, Yin was also critically thinking about the localization of SDGs.

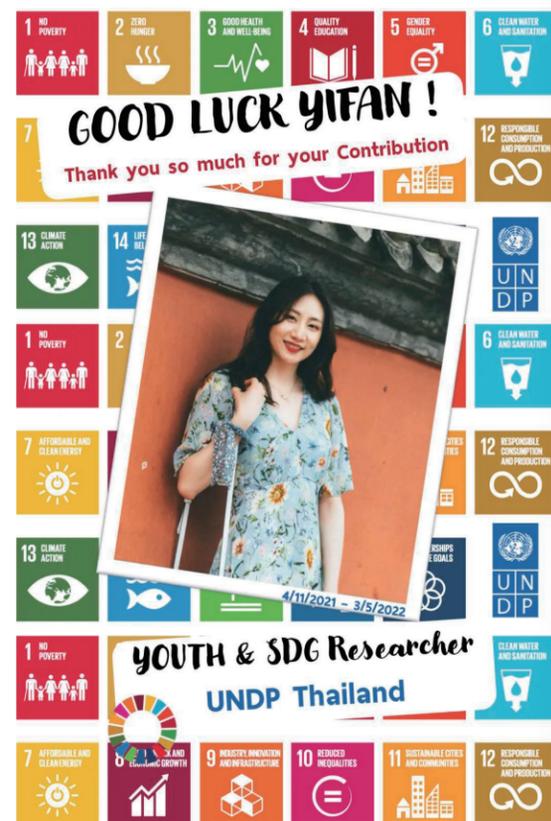
According to her, the guidebooks and campaigns designed by UNDP attracts more urban youth in Bangkok than residents from wider rural areas in Thailand.

From Yin's perspective and based on her research, the term of 'sufficiency economy' in Thailand reflects a more localized sustainable development idea. For this agricultural society, to accelerate growth should be balanced with a stable supply of food and other necessities. Sufficiency has three components:

moderation, reasonableness and self-immunity, based on appropriate knowledge and ethics. Moderation with reason, in the sense of not too much or not too little, is a traditional Eastern concept, but also echoes with 'sustainability'. Self-immunity emphasizes the social and ecological resilience against the risks which arise from internal and external changes. Probably someday the wisdom of sufficiency will contribute to global sustainable development.

For Yin, an internship of six months is only a quick glimpse over UNDP Thailand. But the SDGs within the context of developing countries are her future pursuit.

"The UN calls for a diversity of capacity and talents, it is important for young people to be ready for chances. It is time for youth action. And with a global joint effort of youth power we can expect a shared future for sustainability," Yin says.



The farewell post designed by her group

HLHL Foundation awards Seven Tsinghua professors, researchers, and alumni



Three teachers and four alumni of Tsinghua University were honored with the Ho Leung Ho Lee Foundation award on Feb 17.

Dong Jiahong, dean of Tsinghua University School of Clinical Medicine, won the 2021 Science and Technology Progress Award. Chen Zhiqiang, the principal researcher of Tsinghua's Department of Engineering Physics, and Liu Xueqiang, an alumnus of Tsinghua's Department of Computer Science and Technology, won the 2021 Science and Technology

Innovation Award. Zhang Rongqiao, an alumnus of Tsinghua's School of Economics and Management, and Gong Xiaonan, an alumnus of Tsinghua's Department of Civil Engineering, won the 2022 Science and Technology Progress Award. Feng Xue, a tenured professor of Tsinghua's School of Aerospace Engineering, and Ding Jianning, an alumnus of Tsinghua's Department of Precision Instruments, won the 2022 Science and Technology Innovation Award.

Tsinghua alumni in NGOs: Making the world a better place

Editor's Note

February 27th marks World NGO Day, which is an international day dedicated to recognize, celebrate and honor all non-governmental and nonprofit organizations, and the people behind them that contribute to the society all year around.

Some TsinghuaRen are dedicated to full-time, part-time or voluntary work in many kinds of NGOs. They assist communities where there is a need and contribute to building a better world. Today, let's explore the NGO experiences of three TsinghuaRen.



Li Zhizhong

"Through our knowledge popularization, it shows that cancer science could truly reaching everyone, making reliable information accessible to those in need," said Li Zhizhong (China), an alumnus of the School of Life



Sciences, who co-founded a children-cancer-care NGO in China, which has helped over 80,000 cancer-stricken families with reliable information.

When Li was accepted into Tsinghua in 2001, he had no idea what to devote himself to. It was an unfortunate turn of events, his mother's cancer diagnosis and his feeling of helplessness, that prompted Li to consider the popularization of science. After he received his Ph.D in the U.S., he was even more determined.

"The more I studied cancer, the more I realized that, the public exposure of cancer in China was not sufficient and reliable," said Li. With this mind, he wrote popular articles about cancer. In 2017, he co-founded "Sunflower Children" and launched a series of projects, including the online encyclopedia, video clips that makes knowledge understandable, easy-to-check platforms and the publication of his articles.

Li returned as a lecturer and told the students his choice and experience in the course "Cancer and Society", which mainly discusses how to achieve a balanced combination of medical knowledge and social care. Faced with these young students, as young as himself back to 2001, Li believes, despite the dazzling possibilities for TsinghuaRen in a career path, it is the spirit of "Actions Speak Louder than Words" that should guide us forward.



Jin Jiangxin

"The most important thing I get from PEER is the room of trial and the power of action", said Jin Jiangxin, an alumna from the School of Journalism and Communication, who works in PEER, a NGO focusing on educational equality in China.

Although Jin has only worked full-time in the area of public welfare for a few months, she has a rich experience as volunteers. In Tsinghua, she once went to teach on weekends, worked as a volunteer in the hospice, and participated in building solar photovoltaic panels in Sichuan Province as a team reporter. "Tsinghua provided me with an opportunity to volunteer in public welfare." she said.

After working as a volunteer in spare time for two years, Jin became a regular employee at PEER. "PEER set up a student activity center equipped with books, musical instruments, projector...in each school. A long-term volunteer will stay at the center for the whole semester, accompany the students as a mentor and friend, lead them to do research on topics they're interested in. PEER also designs courses such as Sustainable development, Leadership, and Media



Literacy for rural senior school students." She helped to design the courses on media and communication.

In January 2023, Jin participated a PEER winter camp named as "Winter Traveller", which included 14 county high schools from Hunan and Guangxi provinces. An activity called "One Person as a Book" impressed her most. Twenty volunteers with different backgrounds were divided into groups, sharing their life stories to listeners.

"There were so many life experiences and stories circulated in the small gym. They were so meaningful and inspiring." Standing on the roof, Jin took a picture of the scene. In each circle, the speaker and listener connect with each other tightly.

"Education is a long-lasting process. The outcome maybe cannot be seen in a short time. But our actions are proved meaningful by students' positive feedback."

Song Xiaoyu

"More talents, more professional knowledge and information, and more social attention, will provide powerful support to break the plight of NGOs."

It's been more than four years since Song Xiaoyu became a professional volunteer of A Better Community (ABC), the first social enterprise in China to provide management consulting services to social organizations in a professional volunteer model.

In the process of offering consultation, deeply assisting NGO work and conducting NGO operation research, she admired the enthusiasm of those devoting themselves to public welfare, but also



pointed out that there are some common challenges in the development of NGOs in China.

"Many NGOs have vision to change our society, which is highly commendable. There is still further room to explore the fundamental issues of the social causes, and to develop the most effective solutions with entrepreneurship mindset."

Song is optimistic about the future of China's public welfare development. She expects and encourages more talents to enter this field. "ABC's vision is 'A better society, a better us', which means that it not only offers help to NGOs, but also supports participants' personal development."

With ABC, Song has access to a diversified platform. While volunteering for NGOs, she develops friendships with people from various backgrounds who differ in terms of professional knowledge, working experience, values and other aspects.

As they collaborate to achieve the same goal, they communicate with each other, learn from each other and finally cultivate a teamwork spirit. "Not for anything but love, so that you can find the real motivation to persist."



Peng Yuxing: Gender equality opens a window for me

Editor's Note

Tsinghua University plays an active role in promoting the 17 UN Sustainable Development Goals (SDGs) by nurturing innovative talents, carrying out relevant research, among many other important ways.

As a graduate student at the School of Journalism and Communication, Tsinghua University (TSJC), Class of 2020, Peng Yuxing has accumulated rich experience in public service and international organizations for her passion about SDG 5 (Gender Equality).

Since July 2021, Yuxing has been working for UN Women to deepen her understanding of gender issues and to contribute to gender equality.



Peng Yuxing

#1 Journey to Public Service

Born in Nanchang, Jiangxi Province, Yuxing has grown up realizing the unbalanced development among regions and observing society more attentively.

The exchange experience abroad dawned on her to learn more about gender equality and other social issues.

"Feminism gave me a new perspective to view the world. I feel more empathy with other people's lives and more courage to speak up."

More actions started in Yuxing's senior year. During the outbreak of COVID-19, she co-founded a non-profit project with her colleagues in Whiteland, a startup focusing on mental health, to provide free online



Yuxing at Yiqiao Camp, Shanghai

Before becoming a graduate student at TSJC in 2020, Yuxing witnessed one of the biggest International Women's Day Parades in Spain and was impressed by her fellow students' concern for social justice, especially girls'.

Later during a trip to Africa she saw the economic and social inequalities, "then I was motivated to bring changes to the life of people living in disadvantageous conditions and wonder what could be my voice."

Carrying the question in mind, Yuxing resolved to turn to journalism for her master's study and began her journey in local and international non-profit organizations.

Driven by passion and commitment to SDG 5 (Gender Equality), she now serves as Research and Coordination Analyst at UN Women China Office, undertaking research and policy analysis on key gender-related areas and supporting UN system coordination.



Yuxing with kids in an education innovation project in Shaowu, Fujian

peer counseling services for thousands of Chinese students abroad.

After entering Tsinghua, she spent much extra-curricular time doing voluntary work at local social organizations for gender equality, social inclusion, education, and public health.

"I have been engaged in a broad range of actions, because I think the genuine concern for society should be multi-faceted," says Yuxing.

Even though it was not a smooth journey, she has benefited a lot from the experience to understand the dilemma of some key social issues and their deep-rooted causes.

She once doubted whether non-profit projects could gain wide public support, feeling frustrated when some people couldn't recognize its value.

However, she received much more unexpected kindness and support in practical work. "Action really matters," she says.

#2 Road to United Nations

In her second semester at Tsinghua, Yuxing came across a notice of intern recruitment from UN Women reposted by the Career Development Center (CDC) of Tsinghua University and she considered it as a perfect match for her career aspirations.

Then she started working as an editorial intern at UN Women Regional Office for the Americas and the Caribbean responsible for editing Spanish and English content on the official website and social media platforms.

Although Yuxing had to work remotely because of the pandemic, there was good professional teamwork ethics.

She saw her colleagues promptly issue advocacy for women and girls during the Afghanistan conflict and the Haiti earthquake.



Yuxing (first row, second from left) with UN Women colleagues

She knew better the value of the UN and broadened her focus from China to the world, reflecting on the west-centered international order, as well as the intersectional inequality faced by women and girls in underdeveloped regions such as Latin America.

"My initial motivation for SDGs comes from the concern for my homeland and people, so I have aspirations to advance this cause in China."

After completing her work at Americas and the Caribbean Regional Office, Yuxing took another internship at UN Women China Office and worked as Research and Coordination Analyst.

Besides undertaking research and policy analysis in support of drafting speeches and program documents, she also works on UN system coordination to promote gender equality together with other SDGs, particularly as secretariat for the UN Gender Theme Group and coordinator for the 2022 Gender Equality Scorecard Progress Report.

"Different UN agencies may focus on different SDGs, but they are all interrelated," says Yuxing, "since gender equality is a cross-cutting issue, coordination and cooperation within the UN system to advance this goal is a must."

Last July, Yuxing and her team organized a capacity-building workshop for UN staff in China to strengthen the system-wide accountability on advancing SDG5.



Yuxing at gender training for UN in China

"Gender perspective should be incorporated into all walks of life," she said.

"This is what we call 'gender-mainstreaming', the global strategy for achieving gender equality established in the 1995 World Conference on Women held in Beijing," Yuxing explained.

"International organizations can play an important role in coordination and advocacy for key public policies, but the implementation counts on the whole society."

"It will be challenging," Yuxing mentions her aspiration to become a professional in the UN or other international organizations.

"Advancing SDGs for an equal, sustainable and prosperous world needs professionalism, expertise, and perseverance. I am still learning and growing."



DIVERSE CAMPUS

Exhibition on intangible cultural heritage promises immersive experience

The China Science and Technology Museum (CSTM) and Tsinghua's Academy of Arts & Design recently launched an exhibition to showcase the innovative achievements of China in intangible cultural heritage protection.

The exhibits include a wide range of intangible cultural heritage handicrafts connected with amber carving, ink stone-making, embroidery techniques of Li, Bai, and Yi ethnic groups, and the traditional skills of silver and porcelain production.

The items on display were made by the teachers at Tsinghua's Academy of Arts & Design and inheritors of intangible cultural heritage in collaboration. The

artworks they produced were fused with industrial design, modern aesthetics and scientific education, which are aligned with consumer preferences.

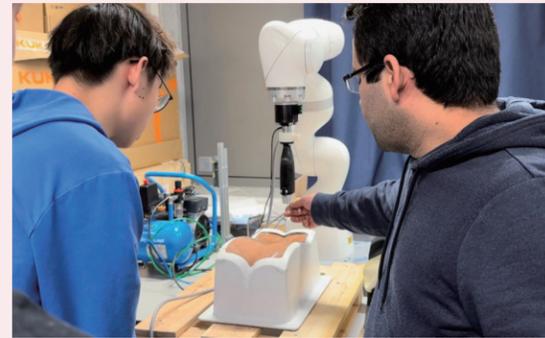
Also displayed at the exhibition are a set of artistic installations that were inspired by items of intangible cultural heritage in Hainan province. The works combine the flavor of the sea, volcanic ashes, and plant materials of embroideries through olfactory design installations to give the intangible cultural heritage a multi-level display, creating a rich interactive experience for the public.

The themed exhibition will be open to the public for free till Apr 15.



Tsinghua restarts overseas social practice programs

At the beginning of the 2023 winter break, Tsinghua University restarted its overseas social practice programs, which had been suspended for three years. Twelve teams went to ten countries to explore the frontiers of international science, technology and innovation through visits and meetings. Through the programs, they witnessed China's contribution to global development, and demonstrated the value of youth in international exchanges.



Doctoral students of KU Leuven discuss the results of scientific research projects with team members from Tsinghua's School of Medicine.

Exploring Academic Frontiers



Professor Jason Scott introduces the solar photothermal hydrogen production system to the team from Tsinghua's Department of Energy and Power Engineering.

With a history of nearly 600 years, KU Leuven is a world-class university renowned in the medical field. On Feb 9, a team from Tsinghua University School of Medicine went to KU Leuven to learn about the training of medical professionals and the commercialization of scientific research achievements. The team members visited laboratories, learned about related research projects, and took a closer look at the surgical robots used in research. They also exchanged ideas with local students on topics such as personal development, career planning, and the future development of the discipline.



The team members from Tsinghua's Department of Mechanical Engineering discuss with Professor Marcelo H ANG Jr.

The University of New South Wales (UNSW), located in Sydney, Australia, boasts the largest engineering school in Australia. On Feb 14, the team from Tsinghua University's Department of Energy and Power Engineering visited UNSW. Guided by Professor Jason Scott, head of one of the university's laboratory on hydrogen energy, the team members visited the exhibition hall of UNSW, where they showcased renewable energy and took a closer look at the solar photothermal hydrogen production system designed and manufactured by UNSW's science and technology innovation teams. They also had a vibrant discussion with local teachers and students on the development of hydrogen energy and solar energy utilization technology.

The National University of Singapore is one of the most prestigious public research universities in Asia. On Feb 1, the team from Tsinghua's Department of Mechanical Engineering visited the university on an academic exchange. The team members learned about the university's talent training, the significance of the establishment of the Singapore-MIT Alliance for Research and Technology (SMART) and the importance of international exchanges and cooperation in student training. Thanks to the considerate arrangements of Professor Marcelo H ANG Jr, the team was able to be hands-on with some scientific and technological innovation results, such as self-driving cars, self-driving wheelchairs and deep learning robots.



Members of Tsinghua's Spark Class go to Europe and communicate with Professor Herbert Mayr.

Members of Tsinghua's Spark Class visited the University of Munich in Germany on Feb 7. In the office of Professor Herbert Mayr, member of the German National Academy of Sciences, students discussed the modern energy shortage in Europe and corresponding scientific and strategic solutions with him.

Exploring Academic Frontiers

Philips is a global leader in the research, development, commercialization and production of medical imaging. On Feb 8, the team of Tsinghua's School of Medicine was invited to conduct an investigation at the company. Guided by Philips staff, the team visited the company's medical equipment exhibition hall, and immersed themselves in the advanced medical equipment and the people-oriented innovative medical scenarios. The trip broadened their horizons in terms of their professional

cognition, refined their understanding of how to put research and commercialization thinking of biomedical engineering into practice, and provided inspiration for their future development.



Members of Tsinghua's School of Economics and Management go for Europe and communicate with head of the WERK1 incubator

On Feb 13, a team from Tsinghua's School of Economics and Management visited the WERK1 incubator in Munich. As one of the most prestigious incubators in Munich, WERK1 currently has 32 digital startups, and has accumulated more than 300 million euros in venture capital. The team members learned about the related services provided by WERK1 for startups, systematically went through the guidance services and mentor programs of WERK1, and gained a basic understanding of how WERK1's mechanism works for the innovation and entrepreneurship of small and medium-sized enterprises in Munich.



Members of Tsinghua's Department of Energy and Power Engineering communicate with heads of local energy and resource enterprises

Western Australia is rich in oil and gas resources, wind energy, solar energy and other renewable energy resources. On Feb 9, the team of Tsinghua's Department of Energy and Power Engineering visited Woodside Energy and other energy resources enterprises in Western Australia to learn about their efforts in developing and utilizing renewable energy, and to investigate the current state of the technology and the market for converting renewable energy into new clean energy, such as hydrogen and ammonia.



Members of Tsinghua's Department of Hydraulic Engineering go to Malaysia and visit the East Coast Rail Link Project.

Feeling China's Strengths



Members of Tsinghua's Siyuan Program learn about smart campus solutions at Huawei's Open Lab in Paris.

On Feb 3, a team from Tsinghua's Siyuan Program visited Huawei's Open Lab in Paris, to explore smart campus solutions and gain an in-depth understanding of Huawei's leading technology and innovative ideas for a digital campus. From the perspective of living on campus, the team members discussed the functions and advantages of the platform in terms of educational resource sharing, teaching management collaboration, student information services, and campus security. This trip deepened their understanding of the combination of advanced technology and higher education.

The East Coast Rail Link (ECRL) project in Malaysia is a railway project undertaken by the China Harbour Engineering Company, and also the largest overseas infrastructure project of China under the Belt and Road Initiative. On Feb 10, a team of Tsinghua's Department of Hydraulic Engineering took part in an onsite investigation of the ECRL project. They

exchanged ideas regarding the key points and difficulties in the construction at Pahang River Bridge with Chinese engineers of the project, and discussed potential solutions.



At TusStar, members of Tsinghua's Weiyang College discuss technology incubation with Tsinghua alumni in Southeast Asia

A team from Tsinghua's Weiyang College arrived at TusStar in Kuala Lumpur on Feb 7, and discussed technology incubation with alumni of Tsinghua in Malaysia and leaders of TusStar. The team members visited TusStar's incubator and heard from Liu Zhiwei, president of Tsinghua's Alumni Association in Malaysia. In the free communication session, team members held a discussion with Tsinghua alumni and TusStar staff on topics such as scientist and technician training, innovation and entrepreneurship, and incubation results.

Tsinghua excels in 13th "Challenge Cup" College Students Entrepreneurship Competition



Tsinghua University excelled in the 13th "Challenge Cup" College Students Entrepreneurship Competition with two golds, one silver, and two bronzes on Mar 19.

Students competed in the five categories of scientific and technological innovation and future industries, rural revitalization and agricultural and rural modernization, social governance and public services, ecological environmental protection and sustainable

development, and cultural creativity and regional cooperation. The competition attracted 330,000 projects in 3,011 schools across the country.

This year's "Challenge Cup" was held at the Beijing Institute of Technology. For over 20 years, this competition is one of the largest and most influential of its kind in China.



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