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Tsinghua, UW and Microsoft launch
Global Innovation Exchange Institute

Tsinghua Newsletter



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Editor-in-chief: Li Jinliang
Executive Editor: Zhang Chuanjie, Song Peijing
Editors: Lin Yuan, Guo Jing, John Olbrich,
Larry Neild
Photographer: Yuan Jie, Li Chenxi, Fan Yang

Contact: Office of Global Communications and
Outreach, Tsinghua University
E-mail: overseas@tsinghua.edu.cn

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Data Science and Engineering Masters program in flipped classrooms

Tsinghua has launched China's first professional masters program based on Massive Online Open Course, or MOOC and flipped classrooms. All courses within the program, "Data Science and Engineering", will be uploaded onto XueTangX.com for students to preview and study. The students will also be able to have face-to-face discussions on campus with their classmates and lecturers or professors on related issues and questions. Professional practice on real questions will also be included in the curriculum.

The first intake will enroll in 2016. The program offers professional training based on big data analysis, data storage, advanced algorithm design, data mining, machine learning algorithm and strategic executive, etc.

An important reference when enrollment decisions are being made will be the record of a student's online study activities, while the interview will focus on the candidate's innovative and practical capabilities.

Wu Yongwei, head of the program, said: "The enrollment procedure makes the big data of online learning behavior

an important indicator of the candidate's potential capability. It focuses more on capability than on knowledge."

The practice-targeted curriculum involves not only courses given by faculty in computer, software, automation, and interdisciplinary information sciences, but also business case studies presented by experienced professionals. Student practice bases will be co-founded with internet companies including Baidu, Alibaba, and Tencent.

Dual Degree Masters focuses on global politics and economics

Eighteen students, the first intake of Tsinghua's Dual Degree Master's Program focusing on global politics and economics, started their journeys in September.

Half of the students are from overseas, including the United States, Canada, and South Korea, with the rest coming from China. Some have extensive work experience in institutions such as the World Bank, the U.S. Treasury Department, and the Clinton Global Initiative. Some have published commentaries on current foreign affairs.

The Tsinghua-SAIS Dual Degree Master's Program was launched in 2014. After fulfilling the requirements of both universities, students will be granted a Masters of Law degree from Tsinghua's School of Social Sciences and a Masters of Arts from Johns Hopkins University's Paul H. Nitze School of Advanced International Studies (SAIS).



The curriculum emphasizes an interdisciplinary breadth, a solid foundation in economics, and a rigorous understanding of key world regions. Students will be prepared to actively participate in global governance, while at the same time contributing

significantly toward China's development. Over the next two and a half years, they will become a close and vibrant community through their work in a self-organized think tank, tailor-made public policy training and international research investigations.

First North America Tsinghua Alumni Convention held in Manhattan

About 700 Tsinghua alumni and friends joined the first North America Tsinghua Alumni Convention held on August 29th in New York's Manhattan.

Nearly 40 branches of the Tsinghua Alumni Association located in the US and Canada connect about 20,000 alumni residing in North America. This was the first time representatives and delegates from all these branches had organized a joint gathering in the US.

The alumni were so excited about the event that some made special videos for the reunion, including "A Mysterious Invitation from New York"

and "Tsinghua University Anthem." For historical reasons, branches of the Tsinghua Alumni Association are shared by alumni from both Tsinghua University in Beijing and the National Tsing Hua University in Hsinchu.

Professor Chen Xu, Chairperson of the Tsinghua University Council and an alumna, joined the reunion and introduced Tsinghua's plan for its second hundred years. She shared Tsinghua's most recent developments and progress in teaching, research and internationalization, and emphasized that alumni, both at home and abroad,

are an important asset of the university. National Tsing Hua University President Hong Hocheng encouraged alumni from both universities to expand exchanges and deepen their collaborations.

The full day event consisted of two parts: a convention in the morning and forums in the afternoon aimed at strengthening connections between alumni in China and overseas, promoting friendship between alumni from Beijing and Taiwan, and promoting cross-regional, cross-disciplinary exchanges and cooperation. The afternoon forums focused on six



Some former members of Tsinghua Sports Team at the Manhattan reunion

“Top Talk” for academic communications

Tsinghua students created an interactive platform, “Top Talk”, to communicate with world-class academic masters. For the 15 forums being held, a number of Nobel Prize laureates and Turing Award winners were invited to help enlighten, through academic discussions, creative and critical thinking.

Founded and organized by student themselves, “Top Talk” aims to break through traditional learning methods to inspire students to challenge leading authorities in the world of academia.

Unlike the usual question and answer sessions at lectures, nearly three quarters of the forum’s time is taken up by intensive academic discussions between students and professors. Students usually spend hours preparing for the forums. A ‘challenge’ team of about five members are selected from different schools. They either study in related major subjects, or have a strong interest in the area of expertise matching that of the academics invited. ‘Challenge’ team members would also



gather before the forum to brainstorm and discuss the questions they would like to ask.

The students obtain knowledge and methodologies from the hours spent with the forum masters, with many of them left inspired by the process of discussion. The challengers also help to popularize science for the audiences participating in the forums.

Anthony James Leggett, who was recognized with a Nobel Prize in Physics in 2003 for his pioneering work on superfluidity, said he enjoyed the equal and relaxing atmosphere of Top Talk. “Don’t have blind faith in the so-called academic masters”, he commented, adding “On the journey of research, nobody’s opinion is always correct.”



topics: environmental friendly new energy, finance, Internet technology, biomedicine, education and culture, and real estate.

Yang Wenkui (Class of 1985), President of Tsinghua Alumni Association of Greater New York, said the convention would have a profound and positive impact on Chinese people in political, business and academic circles, not only in New York area, but throughout North America.

Alumni sing the Tsinghua University Anthem

Electric bicycles powered by smart technology

A smart electric bicycle developed by a team at Tsinghua goes on sale this October. The team, named “Tsinova”, uses an inbuilt smart power system they call “Veloup!” The bicycles will be marketed both online and in more than 300 shops.

“Tsinova” was set up in late 2014. Most members were postgraduates at Tsinghua. Du Lei, co-founder and Chief Operating Officer of “Tsinova”, is currently studying for a PhD in the Department of Automotive Engineering. Du introduced the “Veloup!” power system as the bicycle’s core technology, which can “read” the road situation and “feel” the user’s riding intention. The system comprises a sensor, control system and a high-speed electric engine. The communication protocol, chip and belt used on the bicycle’s torque sensor all derive from automotive technology. The “Veloup!” system automatically

senses the level of resistance and offers the power needed in real time.

“The system parameter of every bicycle is the same as preset at the factory, but it changes after the bicycle understands the user’s riding habits, and adjusts accordingly”, Du said. “It means we will have a thousand different bicycles if we have a thousand individual users.”

Another highlight is the design of the bicycle’s frame. The fashionable style was also attractive to customers wanting a user friendly experience. Its trapezoidal frame structure reduces the vibration transferred to the handlebar and the seat, making it more stable and comfortable than the traditional triangular frame.

The “Tsinova” bicycle is also customized to satisfy the customer’s individual choice of color, the material of the handlebars, the number of the



gears, and other accessories.

The bicycle offers a relaxed and faster ride. One can journey twice as fast using the same amount of strength. The cycle takes only two hours to charge, and once fully charged can last for 50 to 70 kilometers. Commuters can ride it for about one week before a re-charge is needed. The battery can be recharged more than 1000 times.

Riders will also be able to share their real-time location with an app on a mobile phone. It can also provide navigation service and related information such as nearby shops and restaurants.

Chen Tengjiao, the founder and chief designer of the “Tsinova” bicycle, graduated from Tsinghua’s Academy of Arts and Design with a major in vehicle design. He said their aim was to provide a bicycle able to ‘understand’ what users really wanted in order to meet the demands of today’s younger generation.



Blue water technology attracts global orders



BluePHA wins the championship in the second Tsinghua President's Innovation Challenge in May 2015.

An enterprise consisting primarily of students determined to tackle the issue of white pollution by providing biodegradable and biocompatible PHA materials, has completed a number of commercial orders since launching its sales platform in March 2015.

BluePHA Co. Ltd., created by students from Tsinghua's School of Life Sciences in November 2014, reached initial agreements with several companies, including Toray, LG and Nathon Medical Technology, and signed further strategic partnership agreements with a number of medical institutions.

PHA is the short name for polyhydroxyalkanoates, natural linear polyesters produced by bacterial fermentation of sugar or lipids. PHA is recognized as one of the most promising bioplastics. It can replace petroleum-based plastic which has been widely used for over half a century. Unlike traditional plastics, synthesis of polyester occurs naturally in microorganisms. It can be readily adjusted and processed into many different biomedical materials and biodegradable packaging materials. Not only is it

expected to replace existing non-degradable plastics, but it can also be processed into materials that exhibit a variety of special properties.

Compared to other bioplastics, PHA is the only one that is completely synthesized from microbes, and has a great variety of properties. Most importantly, PHA production is almost 100% compatible with current fermentation industry, which attracts huge attention from entrepreneurs who are seeking to upgrade this traditional industry. With over 20 core patents, BluePHA Co. Ltd. is the only enterprise that provides all kinds of PHA materials customized according to the needs of clients. Besides, BluePHA can exclusively

provide fifth generation PHA (P3HP, Poly (3-hydroxypropionate)), which is highly valued in many emerging fields, including nanotechnology, tissue engineering, 3D printing, and intelligent manufacturing.

The enterprise began with a unique organism found in nature, which produces PHA naturally in its cells, and has the potential to be cultured under open and continuous fermentation processes. Through a series of complex genetic modification, this organism is robust enough to accumulate a great amount of PHA, which can then be purified and processed into bioplastics in a cost-effective way. Compared with traditional fermentation processes, this Blue Water technology (seawater-based open and continuous fermentation process) can reduce production costs, laying the foundation for mass production of PHA.

In more than five years, BluePHA has successfully implemented blue technology in the production of PHB and PHBV (two kinds of commercial PHAs) on a pilot scale. Once the technology is proved to be stable and practicable, it will be applied to all kinds of PHA and other biochemical production. Based on this, PHA production could be scaled up to meet the needs of global market which has been occupied by petroleum-based plastics since the 1950s.



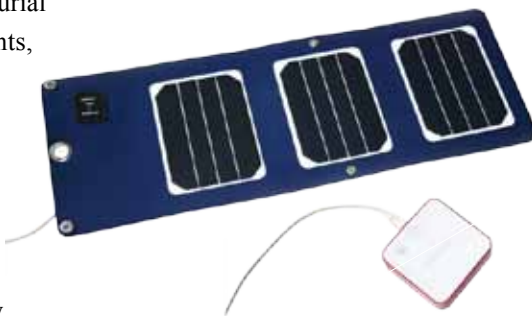
The concept map of Blue Water Technology

Liu Yifeng and his solar panel technology

With two successful entrepreneurial experiences, eight individual patents, and more than 100 technological innovation awards, Liu Yifeng and his team have attracted much attention. A solar charger program they developed has received financial investment, and related products have been put in new media markets.

Liu Yifeng became interested in solar energy seven years ago when he was still a secondary school student. After entering Tsinghua University as an undergraduate, research on the flexible crystalline silicon solar panel impressed him most.

By integrating several innovative technologies, including stealth technology on grating lines, a voltage-



Mobile charger

stabilizing commutation circuit, packaging technology, coating processes, surface melting and anti-reflection coating technology, Liu and his development team produced solar charger bags embedded with three flexible crystalline silicon solar panels. Their product looks just like an ordinary, daily-use wallet, but can

recharge an iPhone in about 2 hours with solar power.

The panel on the bag combines the advantages of silicon solar panels and amorphous thin-film silicon solar panels. It is highly-effective, soft and lightweight, making it the best raw material for mobile solar charging devices.

Liu Yifeng, now a junior student in the Department of Thermal Engineering, said the next step is to develop a solar charger wallet and solar charger for the front cover of a mobile device.

“We hope to build a whole set of solar systems in the future,” Liu said, adding: “My ideal is to develop all kinds of renewable, clean and storable solar charging products.”



Shi Yigong's group reveals structure of yeast spliceosome and splicing mechanism



Shi Yigong (second from right) with his team

A research team led by Professor Shi Yigong from the School of Life Sciences, Tsinghua University, published two side-by-side research articles on August 21st in *Science*, reporting the long-sought-after structure of a yeast spliceosome at 3.6 Å resolution determined by single particle cryo-electron microscopy (cryo-EM), and the molecular mechanism of pre-messenger RNA splicing.

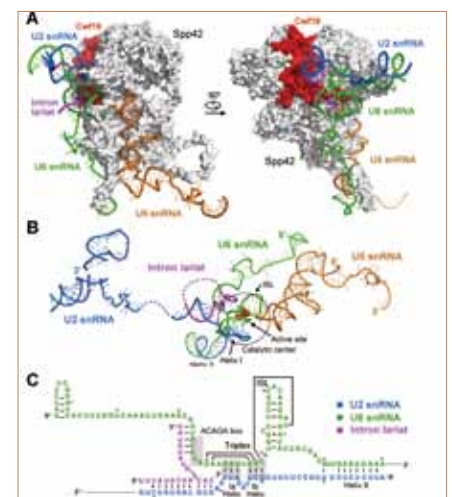
Gene expression is the basic principle of all living cells. During the process known as the Central Dogma, the genomic information stored in genome DNA sequences is delivered to pre-mRNAs by transcription and finally to functional proteins by translation. In eukaryotes, pre-mRNAs are intervened by coding sequences containing exons and untranslated introns. The excision of introns and ligation of exons is named as pre-mRNA splicing, and executed by spliceosome. This macromolecular machinery consists of five small nuclear ribonucleoprotein particles (snRNPs), nineteen complex

(NTC), NTC related (NTR), and a number of associated enzymes and cofactors. In total, more than 100 proteins and at least 5 RNAs were identified to be the core and auxiliary components of spliceosome. The involved proteins and RNAs assemble into and dissociate from spliceosome in a strict order during splicing, endowing the extreme dynamics and flexibility of the spliceosome. These features guarantee the accomplishment of the complex splicing reaction, but at the same time tangle the structural investigations of spliceosome.

Besides the basic biological importance of spliceosome, numerous diseases are related to the dysfunction of spliceosomal regulation or splicing errors. Almost 35 percent of genetic disorders result from incorrect splicing, exemplified by an unusual expression of alternative splicing that leads to frontotemporal dementia driven by tau mis-splicing. The mutation of key spliceosomal proteins like Brr2 or Prp8 can lead to Autosomal Dominant

retinitis pigmentosa. Some cancers are also associated with abnormal splicing.

Professor Shi has long been intrigued by the mechanism of splicing and his group has been working on the spliceosome since 2009. In 2014, Shi's group reported in *NATURE* on the first crystal structure of the Lsm complex, which is a key component of the spliceosome. Driven by his ambition and not stopped by the immediate success, Professor Shi's group continued their research on the intact spliceosome. This year, they have reached a major milestone in obtaining an endogenous intact yeast spliceosome with high purity. This was made possible by the substantial improvement in the tandem-affinity purification. Using the most advanced cryo-EM reconstitution techniques, the spectacular 3-D atomic model was resolved, which consists of 10,574 amino acids from 37 proteins and 4 RNA molecules. The combined



The diagram for molecular basis of pre-mRNA splicing

molecular mass was approximately 1.3 mega-Daltons. Based on the structural analysis together with existing knowledge, the group provided the first structural insight into the molecular mechanism for pre-mRNA splicing: the spliceosome is in essence a protein-directed ribozyme, with the protein components essential for the delivery of critical RNA molecules into the close proximity of one another at the right time for the splicing reaction.

Since the discovery of “split genes” in 1977, scientists are constantly exploring the molecular mechanism of pre-mRNA splicing. In 1983, Steitz, J.A. group isolated five U snRNPs; in the same year, Sharp, P.A. and Keller, W group set up *in vitro* splicing assay independently. Until now, decades of genetic and biochemical experiments have identified almost all proteins in spliceosome and uncovered some functions. Yet its structure has remained a mystery for a long time. The work primarily performed by Dr. Chuangye Yan, Jing Hang, and Ruixue Wan under Professor Shi Yigong’s supervision, settled this Holy Grail question and established the structural basis for related areas.

This work has been supported by funds from the Ministry of Science and Technology and the National Natural Science Foundation of China. The EM data was acquired on the Tsinghua Cryo-EM Facility and processed on the Explorer 100 cluster system of the Tsinghua National Laboratory for Information Science and Technology.

Nine projects win funding from National Program on Key Basic Research Projects

Nine research projects from Tsinghua obtained funding from China’s National Program on Key Basic Research Projects, accounting for almost 6% of the total awardees. Six professors have been appointed Chief Scientists, and another three appointed project leaders in subjects for Young Scholars.

The nine projects include four in the National Basic Research Program, also known as the “973 Program”, and five National Key Science Research Projects.

The six professors named as Chief Scientists are Feng Xue from the School of Aerospace, Zhu Wenwu from the Department of Computer Science and Technology, Nan Cewen from the School of Materials Science and Engineering, Yan Nieng and Wu Li from the School of Medicine, and Wang Yayu from the Department of Physics. The three Young scholars are Li Guoliang from the Department of Computer Science and Technology, Yu Pu from the Department of Physics, and Wu Hui from the School of Materials Science and Engineering.

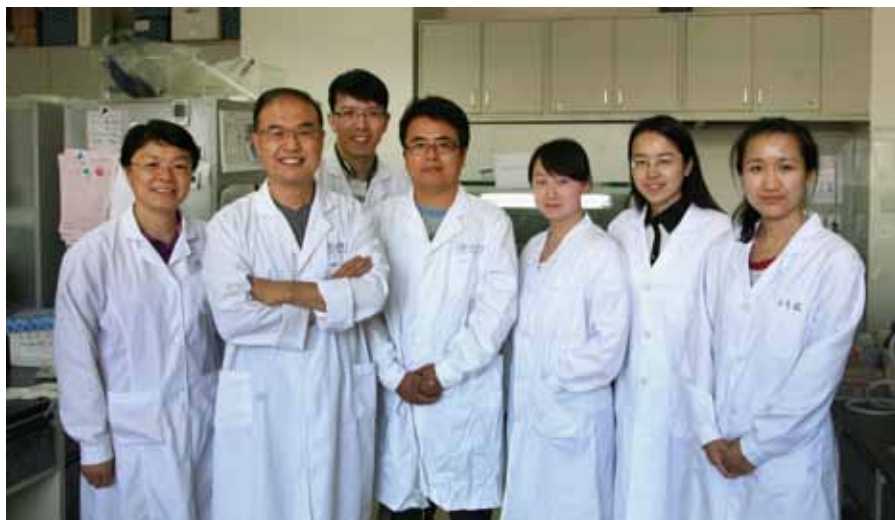
The National Basic Research Program (also known as the 973 Program) is China’s keystone basic research program, which was approved by the Chinese government in June 1997 and is organized and implemented by the Ministry of Science and Technology. Tsinghua has undertaken

85 projects since the program was founded, with 85 scholars appointed as Chief Scientists. In both the numbers of projects and Chief Scientists, Tsinghua ranks top among Chinese universities.

The newly awarded nine projects are:

- Fundamental Research on Stretchable and Flexible Inorganic Electronic and Photonic Devices
- Crowd Computing: Hybrid Human-Machine Computing on Big Data
- Some fundamental issues in inorganic dielectrics of high energy density
- Structure and mechanism study of membrane transport proteins in eukaryotes
- Surface and Interface Manipulation of Macroscopic Quantum States
- Development of gut mucosal immune system and implications in relevant human diseases
- Theory and Methods of Big Data Computing across Cyber-Physical-Human and its application to Smart City Management
- Quantum manipulation of the magnetic and electronic properties in complex oxide thin films and related heterostructures
- Research on Flexible Energy Storage Nanomaterials.

Potent neutralizing antibodies to inhibit MERS-CoV infection



From left: Shi Xuanling, Zhang Linqi, Zuo Teng, Wang Xinquan, Zhang Senyan, Yu Xiaojuan, and Jiang Liwei

MERS, or Middle East Respiratory Syndrome, is a viral respiratory disease caused by a novel coronavirus (MERS-CoV) first identified in Saudi Arabia in 2012. According to the World Health Organization, there have so far been at least 1,400 confirmed cases of MERS globally and approximately 36% of reported patients with MERS have died.

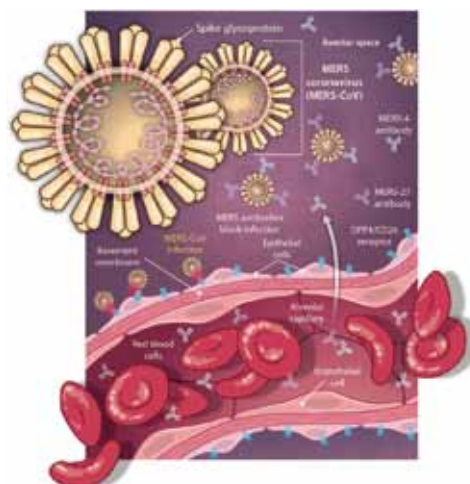
Although the origin and intermediate host of MERS-CoV remain uncertain, the existence of MERS-CoV in several animal species allows further zoonotic transmission and introduction to humans. Despite no current evidence of sustained human-to-human transmission, MERS-CoV may evolve to spread quickly among humans and affect wider geographic areas, such as the recent break out in South Korea. There is clearly an urgent need for an effective antiviral therapy and vaccines for this disease.

Professor Zhang Linqi from Tsinghua's School of Medicine and Professor Wang Xinquan from the School of Life Sciences have been studying MERS-CoV since early

2013. In early 2014, in *Science Translational Medicine* they reported the identification and characterization of two human monoclonal antibodies (MERS-4 and MERS-27) with potent neutralizing activities against MERS-CoV infection. These two antibodies exerted their neutralization activities by binding to the receptor binding domain (RBD) of MERS-CoV spike glycoprotein and then inhibiting the interaction of MERS-CoV with its specific cellular receptor dipeptidyl peptidase 4 (DPP4). Both of the two human mAbs were able to inhibit infection of pseudotyped and live MERS-CoV with IC₅₀ (half-maximal inhibitory concentration) at nanomolar concentration. MERS-4, in particular, bound soluble RBD with an about 45-fold higher affinity than DPP4. Combination of MERS-4 and MERS-27 demonstrated a synergistic effect in neutralization against pseudotyped MERS-CoV, indicating that MERS-4 and MERS-27 recognized distinct regions in RBD.

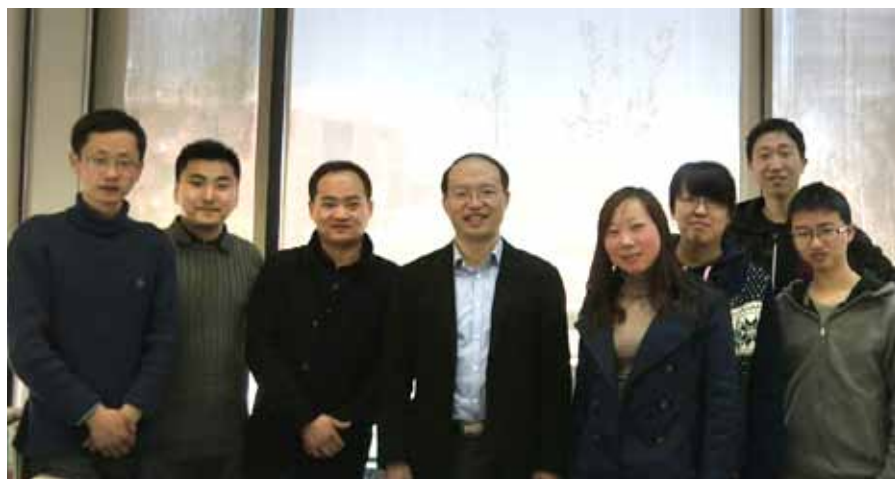
They further determined that the

crystal structure of MERS-CoV RBD bound to the Fab fragment of MERS-27 antibody at 3.20 Å resolution. The MERS-27 epitope in the RBD overlaps with the binding site of the MERS-CoV receptor DPP4. Further biochemical, viral entry, and neutralization analyses identified two critical residues in the RBD for both MERS-27 recognition and DPP4 binding. One of the residues, Trp535, was found to function as an anchor residue at the binding interface with MERS-27. Upon receptor binding, Trp535 interacts with the N-linked carbohydrate moiety of DPP4. Thus, MERS-27 inhibits MERS-CoV infection by directly blocking both protein-protein and protein-carbohydrate interactions between MERS-CoV RBD and DPP4. These results shed light on the molecular basis of MERS-27 neutralization and will assist in the optimization of MERS-27 as a tool to combat MERS-CoV infection. These latest results were published in *Scientific Reports* in August 2015.



Mechanism of monoclonal antibodies inhibiting MERS-CoV infection

Self-fuelled liquid metal mollusk



Professor Liu Jing (middle) and his team

Professor Liu Jing's lab at Tsinghua's School of Medicine is where the magic of science comes alive. He demonstrates to students that science experiments can be fun as well as intriguing.

For more than 14 years Professor Liu has been playing, and at the same time working to be more orthodox, with his favorite experimental substance, liquid metal. His favorite 'magical toy' at the moment, liquid metal mollusk, has attracted vast attention from the academic world and the science community.

The "mollusk" is a liquid metal droplet, which appears to resemble the action of "eating" aluminum as "food". The magic happens when the droplet changes shape to conform closely to the geometrical space in which it is

voyaging.

Professor Liu and his team have observed an extraordinary self-propulsion of new synthetic motors, based on liquid metal objects on a scale of millimeters and centimeters. Such motors are seen to swim at a high velocity of the order of centimeters per second. This remarkable action takes place in a circular Petri dish and different shaped channels containing aqueous solution. The swimming activity can last for more than one hour without the assistance of any external energy.

So far, many experiments have been performed on the locomotion and rotation of liquid metal under the influence of external electromagnetic or electric fields. These kinds of movement

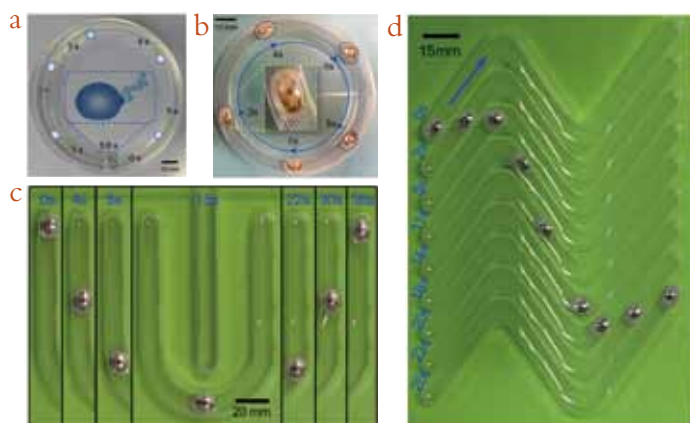
were subjected to external energies which in some circumstances may be difficult, if not impossible to employ. In regard to self-propulsion, common sense tells us that only living organisms can move autonomously along with the consumption of their internally stored bioenergy. Yet inspired by these highly efficient living organisms, Professor Liu and his students found that by just "feeding" a tiny amount of aluminum flake, the liquid metal droplet could then move spontaneously in the aqueous solution without the need for any complex preparation or fabrication procedures. He named it biomimetic liquid metal mollusk.

Various factors can affect the performance of the autonomous locomotion, including channel geometry, droplet volume, the amount of aluminum, properties of the solution, and substrate material.

Liquid metals possess many favorable properties, including large surface tension, desirable flexibility, and high electrical conductivity, which make them promising in the design of soft robot or microfluidic systems. Macroscopic motors based on soft materials are capable of deformation, and as such are competent for performing special missions under tough conditions.

According to Professor Liu, the artificial mollusk system suggests an exciting platform for soft material liquid metal to fundamentally advance the field of self-motion in soft robot design, microfluidic systems, and could eventually lead in the near future to the envisioned dynamically reconfigurable intelligent soft robots or machines.

Their article "Self-Fueled Biomimetic Liquid Metal Mollusk" was published in *Advanced Materials* in March 2015, and was quickly picked up and featured in many scientific journals and websites.



Movements of a liquid metal droplet

Students build a bridge and water tanks for remote village

A five-hour drive from the city of Chongqing lies the village of Xingguang in the remote Wuling mountainous region. The village is home to about 2,000 people, mostly older people and children, with agriculture and planting providing the main source of income. For almost a third of the villagers this means an annual income of less than RMB 2,500. Apart from economic deprivation, the residents have very limited access to household water supplies.

In 2014 several students from Tsinghua's Department of Civil Engineering and School of Architecture arrived in Xingguang to find out the most urgent needs of villagers and to do their best to help them. With financial support from the Wu Zhi Qiao (Bridge to China) Charitable Foundation, the

students helped to design and build three channels to transport water as well as an 80 cubic-meter water storage tank. They also restored two other water tanks with the capacity to provide half-a-month's supply of household water for villagers.

Walking is still the primary transportation method in the village, which means most of the children having to walk to their school every day. To cut their journey time by half an hour the young students usually choose to walk along a dirt track instead along the roadway which would mean a two hour walk to reach their destination. When it rains, part of the dirt track can be buried under half-a-meter of flood water, sometimes even deeper. This makes it a very dangerous and hazardous journey for the children.

Volunteer students from Tsinghua, the Chinese University of Hong Kong and other colleges spent their summer vacation of 2015 helping to build a footbridge for the children and villagers living nearby.

Xu Songjian, a postgraduate at Tsinghua's Department of Civil Engineering said: "About 60 children walked over the bridge every day. This was a real project for students to employ both their knowledge and their sense of responsibility."

Xu and his schoolmates did an in-depth survey on the villagers' daily lives and the surrounding environment, and proposed a number of construction plans. The students also painted the walls of the primary school and helped to set up a library for the children.



Assembling the footbridge

'China Food Safety Record' edited by students

Chen Qiaoling, a student from Tsinghua's School of Economics and Management, and her schoolmates have published a book, "China Food Safety Record". The production of the book, which was published on March 9th, was a project supported by Tsinghua X-Lab, a university-based education platform designed to foster the creativity, innovation and entrepreneurship of students.

Chen and her team put together the book of nearly 300 pages and 310,000 words, consisting of 26 chapters. Each chapter tackles a different theme, from problems of lean meat powder to trench oil, and from fake honey to industrial salt. After spending two years visiting farms, food enterprises and wholesale and farmers' markets around China, the research was finally presented in the form of an archive, with cases and data from recent reports on public media and academic research organizations.

Chen said, "Our book doesn't involve any groundbreaking discoveries or expose any new food scandals, but is written in an everyday style as regular reading material to help people easily understand the concept of food safety."

Chen Qiaoling became greatly concerned about the problem of food



safety when she learned of a case in her class on "Enterprise Ethics and Social Responsibility."

"Tsinghua advocates the concept of taking social responsibility", Chen said, "I wanted to run a restaurant in 2011. But when I recognized that the health and safety of food is not under the control of the restaurant, I dropped the idea."

A year later she met Tsinghua alumnus Chen Hongrong at the university's 101st anniversary

ceremony. With a shared interest in raising people's awareness of food safety, and providing solutions for farmers and food manufacturers wanting to raise the quality of their products, the second-year MBA student quit her job at a private equity fund in Beijing, suspended her course and devoted herself to the Yueyaduo food safety research center at Tsinghua.

More than 20 volunteers participated in the project, including Liu Xiaoxia, a postgraduate student at Tsinghua's School of Journalism and Communication. As the associate editor-in-chief of the book, she oversaw the authenticity and accuracy of each chapter, ensuring objectivity and truthfulness, and editing the script to make it easier to follow.

After two years' effort, the book became the first published work of Yueyaduo Center. Just 200 hard copies were printed at their own expense. It can also be read online for free.

The center is now preparing its next book, which will look at the genetically modified food industry in China. It is committed to establishing China's food safety system and standards in order to guide the future behavior of practitioners in the food industry.

Campus Marathon held at Tsinghua

About 3,200 Tsinghua students, faculty members and alumni took part in the U-run 2015 Tsinghua Marathon held on campus on April 12th.

Physical exercise is regarded as a treasured tradition and an important part of campus life at Tsinghua. The University introduced Sunshine Running to encourage first and second year students to run at least once every three days during

semester time and this has had a positive impact on the physical health of many students. According to a survey, over half of the first-year student failed the Step Test when they enrolled at the university. Half a year later, the failure rate in the same test dropped to just 7.2%; and after another year, it had dropped further to 3.1%.

U-run 2015 was the first campus marathon held at Tsinghua, with a choice

of two routes, a half-marathon and a ten-kilometer run. Wang Yi from the Department of Mathematical Sciences won the men's half-marathon race in 1:22.49, while Wang Tingting from the School of Economics and Management won the women's half-marathon race in 1:37.35. Jin Chao and Guo Jing, both from SEM, won the men's and women's ten-kilometer race.

Internet interactive project for autism rehabilitation

An internet rehabilitation project for autism has been developed by the Academy of Arts and Design at Tsinghua University. By integrating social resources from all walks of life, the academy has created an interactive platform, known as “Ingcare”, not only for autistic children in rehabilitation centers, but also for medical staff and parents of autistic children.

Zhang Lie, Head of the Institute of Interactive Media Research at Tsinghua’s Academy of Arts and Design, has been working with colleagues on the rehabilitation of autistic children since 2012. They completed a series of evaluations of autistic children and for autism rehabilitation practices, as well as training for those involved in rehabilitation.

Combining intelligent interaction, internet and big data technologies, the team established three kinds of online productions. These are the Ingcare cloud classroom, VB-MAPP (Verbal Behavior Milestones Assessment and Placement Program) mobile-internet evaluation assistant, and an app for Ingcare family training.

The effectiveness of this treatment will be clearly determined by quantifiable evaluation. Relevant data

has been collected through the VB-MAPP mobile-internet evaluation assistant in order to help with tracking the performance of autistic children, and assessing their language and social skills. Using the app, this data can automatically generate personalized courses for each child.



Tsinghua, UW and Microsoft launch Global Innovation Exchange Institute

Tsinghua University, the University of Washington and Microsoft held a ceremony on June 18th, 2015 to launch the Global Innovation Exchange Institute (GIX) in the Seattle area. This is the first time a Chinese research university has established a physical presence in the United States.

Focused on the pursuit of solutions to some of the biggest global challenges, GIX will bring together students, faculty, professionals and entrepreneurs from around the world to collaborate on real-world technology and design projects.

GIX will open its doors in the fall of 2016 with an inaugural masters degree program in technology innovation. More degree and non-degree programs will be added over the next decade. GIX's emphasis on the interplay between technology development, design, and entrepreneurship will prepare students to contribute solutions to a range of global challenges, including issues such as mobile health, sustainable development, and the continued advance of cloud computing and the Internet of Things.

"In the face of global challenges related to environment, resources and health, we need to cooperate across national boundaries to find solutions," said Tsinghua University President Qiu Yong. "GIX creates an innovative education model that will facilitate international and interdisciplinary integration for technological innovations. It will be a multilateral open platform to cultivate young global leaders with technical talent, an entrepreneurial spirit, and social



President Qiu and President Cauce clap hands after signing the agreement

responsibility."

"GIX will present students with opportunities like no other available at any university in the world today," said UW Interim President Ana Mari Cauce. "Uniting students with faculty, professionals, industry leaders, and entrepreneurs from a variety of disciplines will foster expansive thinking and better prepare a generation of leaders with a passion for discovery and the ability to be nimble."

Representing a unique and equal partnership between Tsinghua and UW, GIX will also engage a select number of world research and development organizations, both companies and non-profit research institutions, as lead partners. Microsoft has become the first of these lead partners, and is providing \$40 million in initial funding.

"Great universities have a lasting impact on the world around them and

GIX is a big bet on the future," said Microsoft CEO Satya Nadella. "Our commitment to GIX is grounded in our belief that technology can empower people to achieve more and help solve the world's biggest challenges."

GIX will develop top students into the leading innovators and entrepreneurs of tomorrow. As part of an intense project-based curriculum that tightly couples technology development, design, and entrepreneurship, private sector companies and non-profit organizations will actively participate with researchers and students, helping to identify critical needs and providing mentors.

On September 23rd, Chinese President Xi Jinping presented a sequoia, a tree native to China, as a gift to be planted at the new GIX facility during his visit to Seattle.

President Qiu Yong speaks on energy and climate change challenges at US-China University Presidents Roundtable



President Qiu Yong speaks at US-China University Presidents Roundtable

Tsinghua President Qiu Yong, a fellow of the Chinese Academy of Sciences, spoke on the role of universities in tackling energy and climate change challenges at the US-China University Presidents Roundtable held at Rice University on June 22th.

President Qiu stressed three key elements to tackle the challenges. First, to promote technology breakthrough; second, close cooperation between US

and Chinese universities; and third, to innovate the modes of cooperation. He introduced the two plus two cooperation scheme between two universities, Tsinghua and the University of Washington, and two regions, Washington State in the US and Sichuan Province in China. The four partners will work closely on regenerable energy technology.

About 50 American and Chinese

university presidents participated in the roundtable co-hosted by Rice University and China Scholarship Council. Chinese Vice Premier Liu Yandong presented the keynote speech for the roundtable. She said that universities were forerunners for people-to-people exchange as well as the binding force for China-US relations.

International Masters Program: Global Business Journalism

The Global Business Journalism Program, launched in 2007 at Tsinghua University, was China's first English-taught international degree program in journalism and communication. Over the past eight years, more than 200 masters students have graduated from the program. Most of them are pursuing careers in the media and press industry in different countries.

Compton Nicholas James, an American who enrolled in the program in 2011, conducted research with Chinese student Liu Zhihua on the children living with their grandparents while their parents were

working in big cities. He said the program "provides students with unique perspectives to understand China, as well as many internship opportunities and professional channels."

Park Jim-Bum, from South Korea, graduated from the program in 2010 at the age of 41. "The global program attracted me most for its combination of theory learning and practice, which is suited perfectly to professional journalists like myself," he said. After graduation, he co-directed a seven-part documentary for Korean television entitled "Super China," which received widespread media

attention in both countries.

Not only are the students of GBJ from diverse backgrounds and nationalities, the professors and lecturers are also internationally acclaimed scholars and accomplished journalists with extensive global experience. Professor Shi Anbin, Associate Dean of International Development at the School of Journalism and Communication, refers to the program as "the United Nations of Media" and says GBJ "has successfully incorporated the various learning techniques of China and around the world."

"Eight years ago, the Global Business Journalism

Master's Degree Program was just a dream, an idea conceived by some exceptionally creative individuals at Tsinghua University in Beijing and at the International Center for Journalists in Washington," says GBJ Co-Director Rick Dunham, former president of the National Press Club in Washington. "In just a few years, it has gained tremendous respect throughout China and around the world, attracting renowned international scholars and Pulitzer Prize-winning journalists to work with our students and share their wisdom and skills."



Tsinghua-MIT Global MBA Program

The Tsinghua-MIT Global MBA Program is a full-time program launched jointly by Tsinghua School of Economics and Management and MIT Sloan. The program is tailored specifically for future leaders who aspire to propel their careers onto the global stage, while maintaining a focus on China.

Dual-degree programs with MIT Sloan, HEC Paris and Columbia University, over 100 semester exchange places, short-term exchange programs and overseas study trips offer students opportunities for new experiences around the world. The strategic partnership with MIT Sloan offers diversified academic resources including courses and lectures given



Commencement Ceremony

by MIT Sloan professors. The China Lab Program brings together Tsinghua and MIT students for Chinese consulting projects.

China-focused action learning projects, China rooted seminars, field trips and internships

equip students with local managerial knowhow relevant to business in China.

Russ Neu, enrolled in the program in 2012, organized the first Charity Lunar Run to raise public awareness on the lives of blind orphans in Beijing. He said “As a

school of business elites, we weave in ethical and moral considerations in our business and are not just motivated by profits alone.”

The program provides access to the vast resources of Tsinghua University, including interdisciplinary courses to broaden the business horizons of participants, and research centers to assist students in their business ventures. Students can find support for their own entrepreneurial endeavors in Tsinghua’s X-lab and through the Tsinghua entrepreneurship ecosystem.

With an active alumni network of 11,000 Tsinghua MBA graduates, the Program opens the door to a lifetime of exciting opportunities.



Group photo on campus

“God of the Soil” designed by Yang Liu from
the Academy of Arts and Design, Tsinghua
University

