SCU NEWS LETTER

SPRING

2018 N° 22

SPOTLIGHT

Andrew George, Deputy Vice-Chancellor of Brunel University London, Delivers Rare Documents of Former West China Union University to SCU


Fred Rowntree


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The Newsletter is published by the International Office of Sichuan University. We aim to share the latest news and events on our campus with our faculty members, students, and alumni of the University, as well as friends around the world. We welcome any suggestions or comments from our readers.

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Nepal's Minister of Foreign Affairs, Pradip Kumar Gyawali, Visits SCU and Holds Lecture on China-Nepal Relations

On April 20th, the Nepalese Minister of Foreign Affairs, Pradip Kumar Gyawali, led a visiting delegation to Sichuan University, where he gave a well-received talk on "Nepal-China Relations and Development Prospects in the Trans-Himalayan Region."

SCU's Chairman of the University Council, Wang Jianguo, met with Mr. Gyawali, welcoming the Nepalese delegation to Sichuan University and outlining SCU's successful efforts toward promoting Sino-Nepalese relations through academic and educational cooperation and exchange within the wider framework of China's Belt and Road Initiative. Wang Jianguo pointed out that the two countries, joined by rivers and mountain ranges, have enjoyed a long history of cultural exchanges; the people of China and Nepal are "good neighbors" and "good friends," he added. President Xi has emphasized the priority to be given to economic rejuvenation and development in Nepal as part of the Belt and Road Initiative, which will also improve bilateral relations between China and Nepal. Mr. Gyawali's visit to SCU, Wang said, was an important sign of goodwill and signals the strengthening of cooperative ties between Sichuan University and institutions of higher learning in Nepal.

Gyawali recalled some of the history of Sino-Nepalese relations and his impressions of a 2016 forum hosted by Sichuan University on the topic of Nepal, China, and the Belt and Road Initiative, stressing that both sides relied on each other's friendship. The people of Nepal,

Mr. Gyawali noted, welcome President Xi's Belt and Road Initiative. Gyawali also expressed his admiration for the rapid progress China has made in the past forty years of Reform and Opening-up. He looks forward to increased cooperation with Sichuan University, especially in the areas of people-to-people and educational exchange and is confident that this will contribute to Nepal's rejuvenation and development.

On the same day, the Nepalese Minister of Foreign Affairs was invited to give a special lecture on China-Nepal relations, which was well-received by students and faculty of SCU. President Li Yanrong offered a word of welcome, introducing Mr. Gyawali as an outstanding politician and diplomat and an old friend of Sichuan University. President Li described Gyawali's visit as one that furthered "our important partnership, contributes to our understanding of Nepal's society, economy, and culture, and opens up new opportunities for cultural and educational cooperation and exchange between our countries."

Mr. Gyawali's lecture on "Nepal-China Relations and Development Prospects in the Trans-Himalayan Region" offered an insightful discussion of important concerns in contemporary Sino-Nepalese relations. Quoting SCU's motto in Chinese, the Foreign Minister went on to relate the significant opportunities created by the Belt and Road Initiative in the Pan-Himalayan Region. Sichuan Province, which is located at the heart of the Silk Road Economic Belt, has played a vital role in the history of its development. Gyawali hopes that Sichuan and Nepal will work together more closely in the near future.

The lecture was received with applause and followed by a lively round of Q&A.

Andrew George, Deputy Vice-Chancellor of Brunel University London, Delivers Rare Documents of Former West China Union University to SCU

On March 12th, SCU held a special ceremony for the endowment of documents relating to the former West China Union University (now Huaxi, or West China School of Medicine of Sichuan University) delivered by Andrew George, Deputy Vice-Chancellor of Brunel University London. The documents that the Deputy Vice-Chancellor presented to SCU, and which had been in his family's possession, are rare materials belonging to the cultural heritage of the university from the correspondence of George's great-great-grandfather, Scottish architect Fred Rowntree. Relevant SCU personnel and members of the faculty came to witness the ceremony.

Professor Jing Jing, Vice-Chairwoman of the University Council of SCU, welcomed Professor Andrew George, thanking him for delivering the precious documents. She expressed deep appreciation for the tremendous contributions of Fred Rowntree to the architecture of the former West China Union University and offered a brief introduction to the history, academic concentrations and international partnerships of present-day Sichuan University. Professor Jing hopes that the cooperation between SCU and Brunel University London will continue to flourish and expand.

Professor Andrew George thanked his hosts for the gracious welcome at SCU and also introduced his university, highlighting Brunel's educational and scientific strengths and global outreach. As SCU and Brunel University London have already entered a collaborative partnership in academic exchanges and related areas, George hopes that the cooperation will extend to collaborative projects in the area of medical research, to which he himself would like to contribute.

As one of Scotland's famous architects at the time, Fred Rowntree in 1913 won

the exclusive rights to draw up plans for the construction of buildings on the campus of West China Union University (what is now the campus of West China School of Medicine, Sichuan University). Through the arduous efforts of Rowntree and his team, what today is Huaxi's impressive old campus, with its unique style of traditional and ornate meets modern and functional, was born. Among the documents that Rowntree's grandson brought with him to Sichuan this March to give to the university (upon his mother's request) were blueprints for the Huaxi library, biology building, medical science building, department of dentistry, and President's office. Altogether, 14 original documents were presented and given to the university.

Promoting Cultural Exchange and China's Belt and Road Initiative

Belarusian Ambassador to China Visits SCU

On the afternoon of March 23rd, the Ambassador of Belarus to the People's Republic of China, Rudy Kiryl, paid a visit to Sichuan University. Ambassador Kiryl was received by SCU President Li Yanrong, Vice President Yan Shijing and other university leaders.

Welcoming the Belarusian delegation, President Li offered an introduction to the history of the university, its areas of specialization, international partnerships and present state of affairs, pointing out that Sichuan University was among the first institutions of higher education in China to establish a department of Russian and offer its students a Russian major. SCU attaches a high level of importance to its cooperation with Belarus and Belarusian institutes of higher learning, having established cooperative partnerships with Belarusian State University and Francisk Skorina Gomel State University. President Li expressed his hopes that the Belarusian Ambassador's visit would inspire further cooperation in the areas of scientific research, education and social services, among others, contributing to cultural

exchange between the two countries as China advances its Belt and Road Initiative.

The Ambassador expressed his appreciation for the university's efforts in building and strengthening cultural and educational ties with his country. Aware of SCU's outstanding reputation in China as a leader in comprehensive university education and scientific research, Ambassador Kiryl anticipates the establishment of the 'Belarusian Research Center' at SCU, along with the introduction of Belarusian language and culture courses, marking a sustained commitment to joint education and academic exchanges.

After the meeting, the Belarusian Ambassador visited the Arts Institute for the viewing of a promotional video about Belarusian culture with a group of SCU faculty and students. Ambassador Kiryl then gave a lecture on the topic of the Belt and Road Initiative, during which he also introduced Belarusian culture and recounted the history of the Sino-Belarusian bilateral relationship. The Ambassador outlined the immeasurable value of the Belt and Road Initiative in terms of promoting socio-economic development in Belarus and in the region and solidifying friendly relations between the two countries. He very much hopes that both sides working together in the coming years will deepen mutual understanding and goodwill. To this end, he extended an invitation to SCU students to spend a summer in Belarus as visiting students.

During the Q&A session following the Ambassador's lecture, SCU students showed great interest, asking various questions about Belarusian culture and exchange opportunities in a lively roundtable discussion.

SCU and European Universities

SCU Partners with Higher Education and Research Institutions Across Europe

SCU has established numerous agreements, joint higher education initiatives, summer programs, student and faculty exchange programs and comprehensive partnerships with some of the leading higher education and research institutions in Europe, many of which rank among the top 100 universities worldwide. These include the University of Cambridge, the University of Oxford, Copenhagen Business School, the University of Göttingen, the Technical University of Munich, the Paris Institute of Political Studies, the University of Toulouse, Ghent University, the Catholic University of Leuven, the University of Leiden, the University of Uppsala, the University of Nottingham, as well as a number of universities in the Czech Republic, Finland,

Hungary, Ireland, Italy, Norway, Poland, Portugal, Slovenia and Spain.

Just last year, Sichuan University hosted the launch of a large-scale Sino-Russian university alliance known as the Yangtze-Volga Cooperation. Supported by as many as 65 inaugural participating institutions of higher learning, the project aims to bring together Chinese and Russian universities to promote cultural and educational exchanges between the two countries. In 2015, the China-Russia "Yangtze River and Volga River Drainage Basins" Youth Forum was held at SCU.

Most recently, Sichuan University signed an MoU with the University of Cambridge's Magdalene College for a one-month summer school jointly hosted by the University of Cambridge (Magdalene College) and the University of Oxford

(Oriel College) for students of Sichuan University.

Tenth German-Chinese Professor Forum Held at SCU

On March 30th, Sichuan University and the Society for German Professors of Chinese Origin – *Gesellschaft für Deutsche Professoren Chinesischer Herkunft* (GDPCH) – jointly hosted the Tenth German-Chinese Professor Forum at SCU. This year's participants included: President of Sichuan University and Academician of the Chinese Academy of Engineering, Li Yanrong; Academician Xie Heping of SCU; Deputy Consul General of the German Consulate General in Chengdu, Alexander Malcolm Fowles; Vice President of Research and Technology Transfer of Clausthal University of Technology, Alfons Esderts; Director of the Asia Section of the German Academic Exchange Service, Sigrid Löns-Jören; President of the Society for German Professors of Chinese Origin (GDPCH), Gu Xuewu; and Vice President of the GDPCH, Meng Liqiu, and several other experts and scholars from over ten higher education and research institutions in Germany and China. The opening ceremony of the forum was chaired by SCU Vice President Yan Shijing.






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① Li Yanrong, President of SCU ② Alexander Malcolm Fowles, Deputy Consul General of the German Consulate General in Chengdu
③ Gu Xuewu, President of the Society for German Professors of Chinese Origin ④ Meng Liqiu, Vice President of the GDPCH
⑤ Xie Heping, Academician of SCU ⑥ Li Peigen, Academician of SCU

Welcoming the delegates at the opening ceremony, SCU President Li Yanrong noted that in the course of its twelve-year history, the GDPCH has brought together a group of outstanding (ethnic) Chinese professors, who work at German universities and have played an invaluable role in educational and scientific cooperation between China and Germany. First held in 2009, the German-Chinese Professor Forum has served as an important platform for Sino-German academic exchange and collaborative scientific research. Sichuan University deeply values its international cooperation, as Li emphasized; SCU's comprehensive collaboration with Clausthal University of Technology is one of many successful cases in the university's ongoing promotion of high-end internationalization. This year's forum, he went on, underscored the university's commitment to advancing international collaboration and exchange and accelerating efforts toward building a world-class university.

Addressing the forum, the Deputy Consul General of the German Consulate General in Chengdu, Alexander Malcolm Fowles, pointed out that there is indeed much common ground between the German and Chinese cultures and that the two countries share a number of important concerns. Fowles stated that forums such as these strengthen collaborative scientific research, expand opportunities for educational exchanges and invite both sides to face shared challenges with an attitude of openness and tolerance.

In his speech, the President of the Society for German Professors of Chinese Origin, Gu Xuewu, highlighted the society's ongoing increase in membership, an indication that the influence of Chinese scholars in scientific circles worldwide is continually on the rise. Gu values the annual forum as a platform for international scientific exchange and as a bridge of collaboration between German and Chinese academics.

The Vice President of the GDPCH, Meng Liqiu, introduced the society's first honorary members, Academician Li Peigen and Academician Xie Heping, outlining the substantive contributions of each scholar to Sino-German educational and scientific cooperation and exchange.

Following the introductions, Gu Xuewu presented Li Peigen and Xie Heping with certificates of honorary membership.

Academician Xie then spoke on the significance of the forum as a promoter of scholarly exchange and friendly relations between China and Germany. Xie emphasized the solid basis for partner-

ship that already exists and promises to support further bilateral cooperation in the areas of energy, manufacturing and related fields. To date, SCU has built a number of meaningful partnerships with institutions of higher education in Germany, including Clausthal University of Technology. Confident of the continued advocacy of the GDPCH, Xie Heping foresees more fruitful results and joint research accomplishments in the years to come.

In his keynote speech on "The Question of Innovation," Li Peigen suggested that in order to advance national innovation, enterprises should devote themselves to confronting the great challenges facing humanity by redefining the boundaries of industry and production capabilities and emphasizing "building block-style" innovation along with ecological innovation; government should exert its efforts toward advancing cutting-edge innovation and accelerating the pace of development; universities should implement education reforms and focus on cultivating creativity and critical thinking skills among their students.

During the forum, Alfons Esderts, Sigrid Löns-Jören, Professor Ma Xiaojuan of the FOM Essen, and Professor Zhang Jianwei of the University of Hamburg, along with several other experts and scholars from China and Germany, gave talks on topics ranging from "Challenges and Prospects in Sino-German Higher Education Cooperation" to "Energy and Environment" and AI.

The Society for German Professors of Chinese Origin was established in Berlin in 2006 and received official recognition as a legal body in Bonn in February 2007. From its early beginnings with only 12 members, the society has steadily grown into an influential voice in Sino-German academic exchange, now counting more than 50 members. The society founded the German-Chinese Professor Forum, which is held annually and alternately organized by German and Chinese host institutions.

Famous Sinologist Anatoly Lukyanov of the Russian Academy of Sciences Visits SCU

On March 29th, SCU Vice President Yan Shijing met with the famous Sinologist Anatoly Lukyanov of the Institute of Far Eastern Studies (IFES) at the Russian Academy of Sciences. Leaders and faculty of relevant departments joined their meeting, which Vice President Yan opened with an overview of the university's history,

development and academic concentrations.

During the meeting, Vice President Yan highlighted several notable accomplishments of the Institute for the Study of Sino-Russian Culture, jointly established by the Institute of Far Eastern Studies and Sichuan University, including the groundbreaking publications of ancient classics in Russian translation, such as the Spring and Autumn Annals, the Doctrine of the Mean and the Shijing. These types of projects, Yan noted, substantially contribute to cultural dialogue and exchange within the wider framework of China's Belt and Road Initiative.

Pointing out the recent re-instatements of both Xi Jinping and Vladimir Putin as heads of state, Professor Lukyanov suggested that Sino-Russian relations were very favorable at the moment, with Chairman Xi describing the comprehensive strategic partnership between the two countries as one of mutual, collaborative support, one which in turn offers a solid foundation for cooperation in cultural and educational sectors. Lukyanov was highly appreciate of the energetic and inter-disciplinary participation in a special seminar on Sino-Russian studies co-organized by the Sino-Russian Cultural Studies Center within the School of International Studies at SCU; he anticipates further cooperation between Russian and Chinese academics in Russian area studies, Sinology and related fields.

At the close of the meeting, Professor Lukyanov presented Sichuan University with a copy of the Russian translation of the *Spring and Autumn Annals*, jointly edited by Chinese and Russian experts in collaboration with the Institute for the Study of Sino-Russian Culture.

"China and Russia: Dialoguing between Civilizations"

SCU Hosts Bilateral Discussion Forum

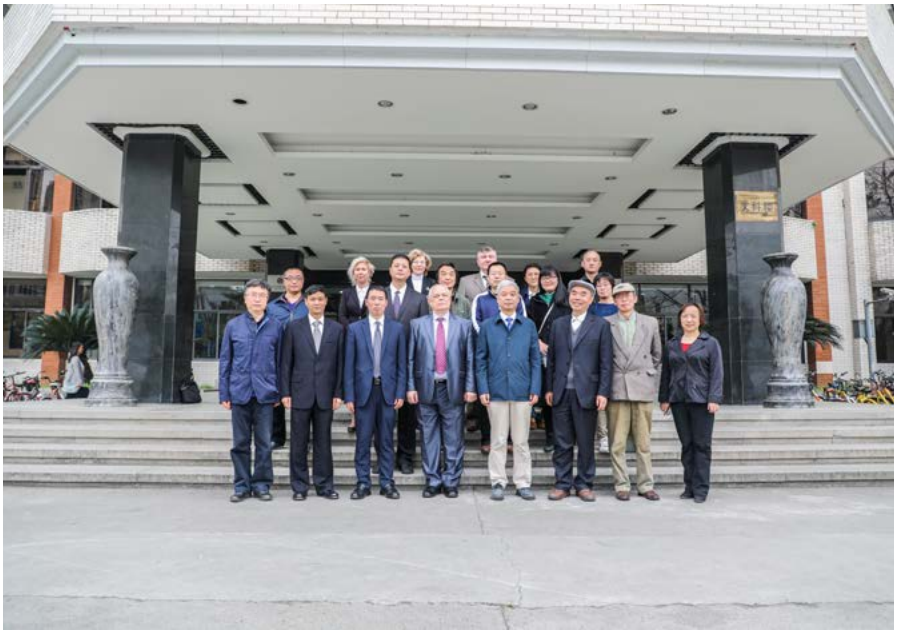
This Spring, the Sino-Russian Cultural Research Center, jointly established by Sichuan University and the Institute of Far Eastern Studies at the Russian Academy of Sciences, hosted its first joint discussion forum, "China and Russia: Dialoguing between Civilizations," organized around the theme

"The Chinese Tao and the Russian Language." The event was supported by the Sino-Russian Cultural Research Center, SCU's Research Institute of Chinese Traditional Cultures and SCU's Contemporary Russian Studies Center.

Participating scholars included Deputy Director of SCU's Social Sciences Department, Fu Qilin; Director of the Far East Comparative Civilizations Research Center of the Institute of Far Eastern Studies at the Russian Academy of Sciences, Professor Anatoly Lukyanov; and Vice Dean of SCU's School of International Studies, Li Zhiqiang. The Director of SCU's Research Institute of Chinese Traditional Cultures welcomed the assembled scholars from China and Russia and offered some introductory remarks.

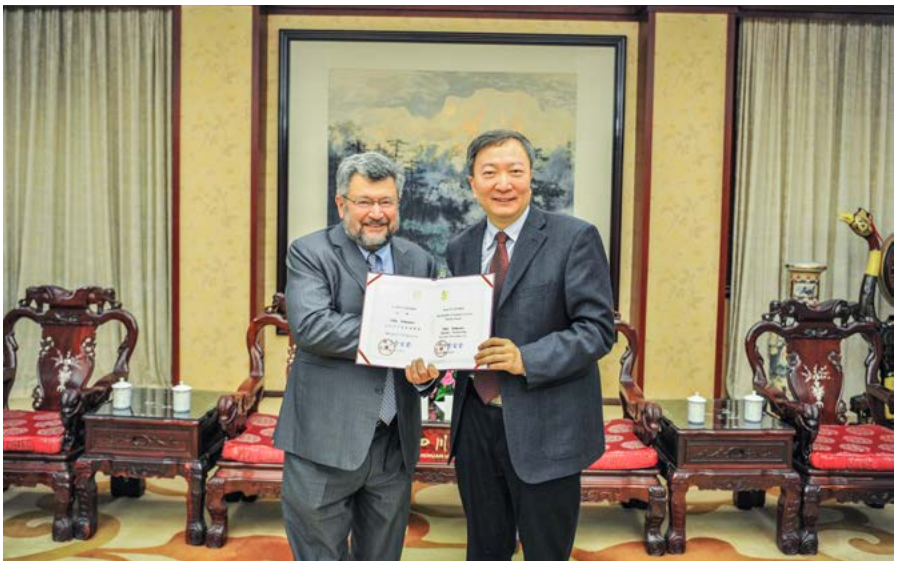
Scholars entered a lively debate around the forum's theme following a series of stimulating talks given by Professor Lukyanov and other Russian experts from the Institute of Far Eastern Studies at the Russian Academy of Sciences, as well as faculty from SCU's Contemporary Russian Studies Center, the College of Foreign Languages and Cultures, the College of Literature and Journalism and related schools and departments of Sichuan University.

Professor Liu Yading of SCU's Contemporary Russian Studies Center summarized the forum's highlights and contributions toward ongoing debates within the different disciplines represented by participants, including Chinese studies, Sinology, Russian studies and Russian literature, as well as contemporary Sino-Russian relations; the discussions also proved of value in promoting the ongoing intellectual dialogue and cooperation between the two sides. Professor Lukyanov described the forum's discussion as one of amicable dialogue, a small-scale example of the wider Sino-Russian cultural exchange between equal dialogue partners. Lukyanov also introduced the latest fruits of the SCU-Institute of Far Eastern Studies joint Sino-Russian Cultural Research Center's collaboration.



Fields Medal Winner Efim Zelmanov Appointed Honorary Professor of SCU

On March 30th, the famous Russian-American mathematician Efim Zelmanov visited Sichuan University, where he was appointed honorary professor. Zelmanov was received by SCU President Li Yanrong, university leaders, and faculty of the College of Mathematics.



President Li gave an all-round introduction to the historical background, development and academic foci of the university, highlighting in particular SCU's comprehensive efforts toward building a world-class university and strengthening its key disciplines. Mathematics, chemistry, physics and biology are among the university's notable disciplines. The discipline of mathematics in particular has been an important focus. President Li is confident that Professor Zelmanov's appointment as honorary professor of Sichuan University will further inspire the development of this branch of learning at SCU.

Efim Zelmanov, professor of the University of California, San Diego, and outstanding professor of the Korea Institute for Advanced Study, is among the world's leading mathematicians. In 1994, Zelmanov was awarded the Fields Medal for his groundbreaking accomplishments in algebra. Professor Zelmanov is a member of the American Academy of Sciences, member of the American Academy of Arts and Sciences, overseas member of the Korean Academy of Science and Engineering and member of the Spanish Royal Academy of Sciences; he is also a fellow of the American Mathematical Society. In recent years, he has been collaborating with several mathematicians of the geometry and algebra teams of SCU's College of Mathematics. During his meeting with President Li, Professor Zelmanov expressed his thanks for the warm welcome at Sichuan University. Noting the remarkable development of mathematics at SCU, a university known across China for its leadership in comprehensive higher education, Zelmanov looks forward to a long and fruitful collaboration with his Chinese colleagues.

At the close of the meeting, President Li Yanrong conferred the honorary title by presenting Professor Zelmanov with a letter of appointment.

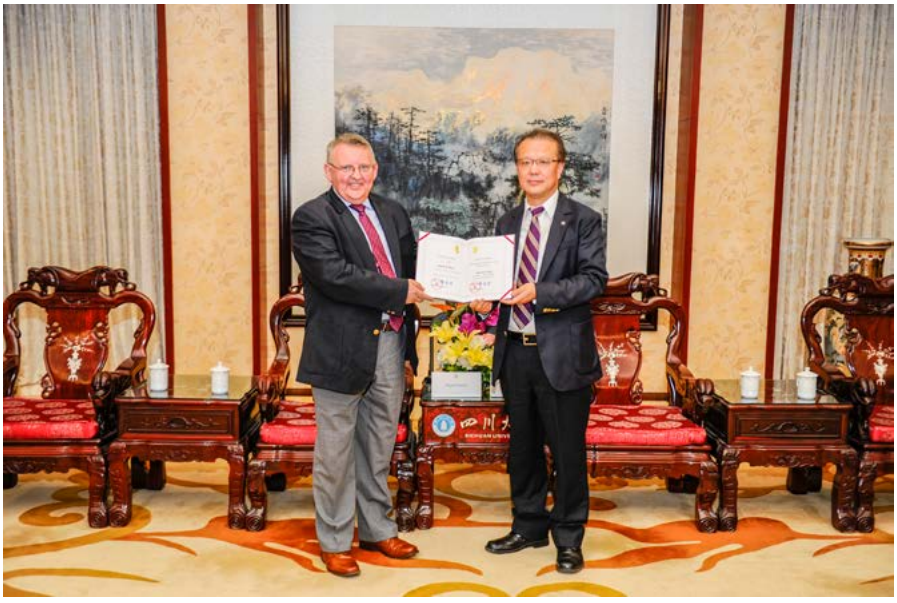
Professor Nigel Slater, Former Pro-Vice-Chancellor of the University of Cambridge, Appointed Honorary Professor of SCU

On April 23rd, Nigel Slater, professor of chemical engineering and former Pro-Vice-Chancellor of the University of Cambridge, was appointed honorary professor of Sichuan University. SCU Vice President of International Affairs, Yan Shijing, hosted the conferral ceremony.

During their meeting, Vice President Yan recalled the fruitful cooperation between SCU and the University of Cambridge in recent years, particularly in the fields of pharmacy, earth science, and engineering. Every year, moreover, outstanding students of SCU are selected to go abroad and participate in a summer school organized by the University of Cambridge. Pointing out Professor Slater's substantial academic achievements in the field of biopharmaceuticals, Yan also noted his long-standing collaboration with SCU's West China School of Pharmacy. Yan is confident that the exchanges and collaboration between Cambridge and SCU, whether in the area of student and faculty exchanges or in scientific research projects in pharmacy studies and related fields, will continue to yield significant results and benefit both sides.

Professor Slater thanked the university for the invitation, gracious welcome and decision to appoint him honorary professor. He went on to explain that SCU and the University of Cambridge share a number of academic strengths and that together the two sides can both capitalize on these strengths in meaningful ways and build a closer working relationship, jointly promoting scientific progress, particularly in the area of biotechnology.

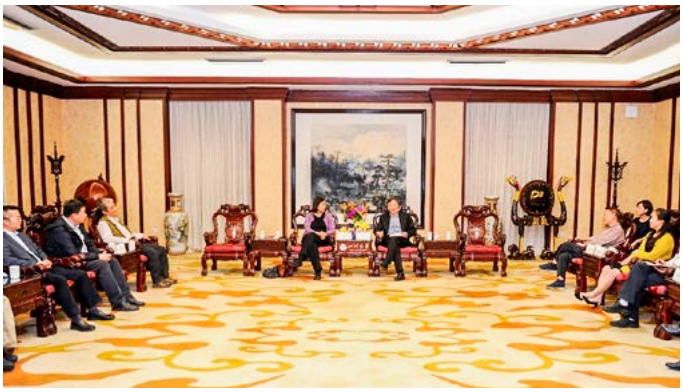
Following their meeting, Vice President Yan presented Professor Slater with a letter appointing him honorary professor of SCU.



Yu Bin, Fellow of the American Academy of Arts and Sciences and Member of the National Academy of Sciences, Appointed Honorary Professor of SCU

On April 27th, SCU President Li Yanrong met with Yu Bin, statistician and Chancellor's Professor in the Departments of Statistics and of Electrical Engineering & Computer Sciences at the University of California, Berkeley. During their meeting, President Li presented Yu with a letter appointing her honorary professor of Sichuan University. Academician Li Anmin and relevant university personnel were also present at the meeting.

President Li formally welcomed Professor Yu, offering a brief introduction to Sichuan University, its academic programs and specializations. He outlined SCU's program for accelerated internationalization and the dual world-class university construction scheme, which Sichuan University has been selected for. As a comprehensive higher education institution, SCU has a strong grounding in the fields of mathematics, chemistry, physics, and life sciences. Li hopes that Professor Yu, as a new member of SCU's faculty, will help promote the development of mathematics and statistics at Sichuan University and contribute to a closer working relationship between the University of California, Berkeley, and SCU.



Yu Bin is a member or fellow of several prestigious associations and institutes, including the Institute of Mathematical Statistics, the Institute of Electrical and Electronics Engineers, the American Statistical Association, the American Association for the Advancement of Science, and the National Academy of Sciences. She is also a recipient of the 2006 Guggenheim Fellowship for Natural Sciences.

Professor Cao Shunqing of SCU's College of Literature and Journalism Elected Academician of the European Academy of Sciences and Arts

On March 3rd, the European Academy of Sciences and Arts convened its 28th annual Festive Plenary Session. The Session also served as an occasion to inaugurate its newest members. Among this year's newly elected academicians was SCU's professor of comparative literature and former dean of the College of Literature and Journalism, Cao Shunqing. Professor Cao has earned distinction in a variety of fields within world literature and comparative literature; he has served as president of various comparative literature associations in China, edited international journals in the field, and made innovative contributions to the study of "world literature and general literature" in over 100 journal articles and more than 20 books.

Cao's 2013 monograph *Variation Theory of Comparative Literature* (published in English by Springer), highlights new approaches in the study of comparative literature meant to address some of the shortcomings of the traditional schools (French and American) that have relied either on influence or analogy in studying world literatures comparatively.

The European Academy of Sciences and Arts (EASA) is an interdisciplinary academic organization based in Salzburg. 33 of its 1,900 members are Nobel laureates; nine academicians are Chinese or of Chinese origin, including Professor Charles K. Gao, winner of the 2009 Nobel Prize in Physics and former Vice-Chancellor of Hong Kong University.

SCU Professor of Biomaterials Ai Hua Elected Fellow of the American Institute for Medical and Biological Engineering

On April 9th, Ai Hua, Professor of Biomaterials at SCU, was inducted into the American Institute for Medical and Biological Engineering (AIMBE) College of Fellows. The ceremony was held at the National Academy of Sciences Washington, D. C. during the AIMBE Annual Conference. Dr. Ai was nominated and elected for his "outstanding contributions in developing advanced magnetic resonance imaging probes as well as service to the biomaterials community."

AIMBE Fellows are nominated by their peers for significant contributions to biomedical engineering and innovation. The nominated candidates are then reviewed by the AIMBE Specialty Subcommittees. Only qualified candidates can enter subsequent rounds. Eventually, nominees must be voted in by the full College of Fellows.

The American Institute for Medical and Biological Engineering is a non-profit organization headquartered in Washington, D.C. Founded in 1991, it represents the most accomplished individuals among the top 2% of medical and biological engineers. Its current vision is to provide leadership and advocacy in medical and biological engineering for the benefit of society. Currently, two fellows are Nobel laureates, 18 have received the Presidential Medal, and 241 are members of the National Academy of Engineering, Sciences, and Medicine.

Dr. Ai has worked on ultrasensitive MRI probes for more than 15 years. These probes have shown substantially higher contrast enhancement capability compared to the commercial agents under clinical scanners. These imaging probes are indexed by the NIH Molecular Imaging and Contrast Agent Database, and they can be used for vascular imaging, visible gene transfection, and *in vivo* cell tracking.

Dr. Ai is currently full Professor of Biomaterials at Sichuan University, serving on several editorial boards of journals such as *Biomaterials*, *Journal of Biomedical Materials Research – Part A*, *Regenerative Biomaterials*, *Journal of Pharmaceutical Sciences*, and others. As the Secretary General of the Chinese Society for Biomaterials, he is actively promoting academic exchanges between the Chinese Society for Biomaterials and its US counterpart. Ai was recognized as a Fellow of Biomaterials Science and Engineering (FBSE) in 2016 by the International Union of Societies for Biomaterials Science and Engineering.

BRIEF NEWS

April 13th

- Daniel Kammen, UC Berkeley's Distinguished Professor of Energy and Honorary Professor of SCU, Returns to SCU to Discuss Continued Cooperation

March 9th

- US Fashion Institute of Design and Merchandising Meets with College of Light Industry, Textile and Food Engineering to Discuss Terms of SCU Student Enrollment

March 14th

- Professor Nick Bryan-Kinn of Queen Mary University of London Gives Lecture on "Sonic Interaction Design for the Post-Screen World"

March 22nd

- Consul General of Australian Consulate in Chengdu Meets with SCU Vice President of International Affairs, Both Reiterate Commitment to Sino-Australian Educational Cooperation and Exchange

March 22nd

- MIT Professor Zhu Zhengya Visits SCU to Promote Collaboration on Underground Science Research

March 26th

- Lutz Ackermann Gives Special Lecture on "Selectivity Control in C-H Activation" at SCU's College of Chemistry

March 29th

- Delegation from Germany's Clausthal University of Technology Visits SCU

April 4th

- SCU College of Literature and Journalism Undergraduate Han Moyan Dazzles Audience at National Poetry Finals

March 29th

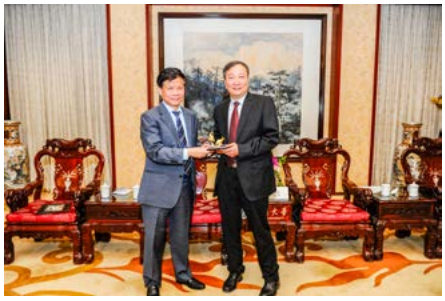
- SCU School of Stomatology Contestants Enter Finals at Beijing 2018 Dental Implant International Forum and Competition

April 10th

- US Consul General in Chengdu, Jim Mullinax, Meets with SCU's Vice President Yan Shijing

April 21st

- Official Launch of Global Alumni Entrepreneur Central Fraternity of Sichuan University



April 23rd

- Vice President of Nanyang Technological University Singapore Visits SCU

April 23rd

- Academician Didier Astruc Invited to Hold Special Lecture at College of Light Industry, Textile and Food Engineering

- SCU Artists Exhibit Their Work at International Poster Exhibition "The Beauty of Asia"

COOPERATION

SCU and Sorbonne University Sign Academic Exchange Agreement

On April 25th, SCU and Sorbonne University signed an academic exchange agreement. Before the signing ceremony, SCU President Li Yanrong met with the President of Sorbonne, Jean Chambaz, and Vice President for International Development, Serge Fdida. SCU Vice President Hou Taiping and other university leaders also joined the meeting.

Welcoming the French delegation, President Li expressed his hopes for the future collaboration between Sorbonne and SCU. Li gave a brief introduction to Sichuan University, stressing that SCU in the past year has accelerated its world-class university construction scheme, within which comprehensive internationalization has played a strategic role. Recent programs launched include SCU's "Global Horizons" International Student Exchange Program, which sends SCU's top students to leading universities and colleges around the world. In France and worldwide, Sorbonne ranks among the top institutions of higher learning; it is especially known for its research achievements in the fields of mathematics, physics and other sciences. The agreement signed between Sorbonne and SCU covers collaborative programs in various areas, including student exchanges, faculty visits, and scientific research collaborations. Both sides look forward to a fruitful working relationship.

Sorbonne University was established in January 2018 from the merger between Paris-Sorbonne University and Pierre and Marie Curie University. President Chambaz offered a brief overview of the university, explaining that as a newly established institution, Sorbonne also attaches a great deal of importance to internationalization. Chambaz has high hopes for the collaboration between Sorbonne and SCU, one of China's leading comprehensive universities.

Following their meeting, the two presidents signed the "Sichuan University-Sorbonne University Academic Exchange Agreement." The agreement stipulates that the two sides will send faculty and research personnel to each other's schools to teach and engage in scientific work, carry out student exchanges, and set up platforms for international collaboration in journal publications, scientific research, and other areas. At the same time, both sides will engage in the promotion of wider cultural and educational cooperation between France and China.

West China School of Public Health and the Harvard T. H. Chan School of Public Health Sign Memorandum of Cooperation

On March 16th, 2018, SCU's West China School of Public Health and the Harvard T.H. Chan School of Public Health held a formal ceremony in Beijing to mark the signing of a Memorandum of Cooperation between the two schools. As a representative of SCU, Li Xiaosong, Dean of West China School of Public Health, signed the memorandum, while Michelle A. Williams, Dean of the Harvard T.H. Chan School of Public Health acted as signatory on behalf of her school.

The memorandum primarily specified plans for the two sides to cooperate in establishing a health data tracking system, carrying out joint research on various challenges related to reforming China's health care system, and promoting student and faculty exchanges between the two schools.

The present cooperative partnership was initiated by Dr. Winnie Yip, Professor of Global Health Policy and Economics in the Department of Global Health and Population at the Harvard T.H. Chan School of Public Health. Yip has established a wide network of contacts with research institutes and schools of public health at major Chinese universities, including the Chinese Academy of Social Sciences and Fudan University so as to make optimal use of shared strengths and resources in promoting the development of China's health care sector.

SCU and ExxonMobil Sign Research Cooperation Agreement

On March 6th, Sichuan University hosted a signing ceremony to mark the official launch of a new research collaboration agreement between Sichuan University and ExxonMobil. Liang Bin, Vice President of Sichuan University, ExxonMobil's Global CEO for Research and Development, Gong Caiguo, and Chip Wittenbrink, ExxonMobil's Global Product Research Manager, attended the ceremony, along with other company personnel and faculty from SCU's Institute for Scientific and Technological Development and College of Polymer Science and Engineering.

Liang Bin welcomed the visiting delegation from ExxonMobil on behalf of Sichuan University, offering congratulations to the two signing parties. After giving a brief introduction to SCU, highlighting the current status of chemistry and polymer science, Professor Liang explained that the university attaches a great deal of importance to its international scientific partnerships and collaborative projects and is currently promoting further exchanges with global industry in different sectors. Entering research agreements with top global companies such as ExxonMobil is also one key component of SCU's world-class university construction scheme. SCU pledges its full support to the cooperative agreement and is hopeful that SCU researchers and ExxonMobil developers working together will promote important developments in the fields of chemical engineering, polymer science, and pharmaceutics, among others, to bring about benefits for both sides.

ExxonMobil is the world's largest oil and gas corporation; a major industry leader, it is also the world's largest integrated refiner. During the signing ceremony, Gong Caiguo offered his congratulations and gave a brief update on the company and its China Research Center for Globalization. He looks forward to witnessing the fruitful collaboration between SCU and ExxonMobil in the near future.

Professor Yang Wei, Vice Dean of SCU's College of Polymer Science and Engineering and organizer of the project, outlined the provisions of the agreement.

Head of SCU's Institute for Scientific and Technological Development, Chu Liangyin, and ExxonMobil's Chip Wittenbrink each represented. his side. The agreement stipulates that the two sides will enter a five-year research collaboration with an estimated budget of 15 million Chinese yuan.

Cooperation between ExxonMobil and Sichuan University dates back to 2014; in 2017, the company identified SCU as one of its strategic partners due to the school's outstanding research capabilities. This most recent agreement marks a new chapter in their important partnership and is certain to lead to further fruitful scientific and technological cooperation.

SCU Launches "Global Horizons" International Student Exchange Program

This spring, Sichuan University has launched a new study abroad program that offers a wealth of opportunities to SCU students who want to complete part of their undergraduate or graduate studies overseas or in Hong Kong, Macao or Taiwan. In the coming year, students supported by SCU's "Global Horizons" International Student Exchange Program will set out for one of over a hundred universities around the world. The goal of the program is to educate students who are globally aware, competent in their interactions with students and professors from different countries, internationally competitive and, while grounded in their own culture, capable of studying global issues from different angles and open to the world at large.

In addition to improving the quality of education at Sichuan University, the program aims to promote SCU's development as a world-class university. In recent years, SCU has engaged in cooperation and exchanges with 268 universities and research institutions in 34 countries and regions in Canada, Europe, Australia, Hong Kong, Macao and the US. Apart from this, SCU has entered comprehensive, multi-level, strategic partnerships to carry out joint education programs at 214 top universities in 33 countries and regions around the globe. SCU's "Global Horizons" program will also offer overseas internship placements helping students to prepare for a career focused on international engagement. Stipends are available to SCU students going abroad to assist students with the costs of relocation and overseas studies.

For more information on "Global Horizons," please visit: http://dcsj.scu.edu.cn.

Open Day at Arizona State's Confucius Institute

By Guan Ping

On April 18th, 2018, the Confucius Institute at Arizona State University held its "CI Open Day," putting on a rich and colorful display of Chinese culture that drew interested faculty and students from across campus for a lively day of cultural exposure through fun and interactive events. Local CI Director Fannie Tam and Chinese Director Guan Ping joined the day's activities.

Director Fannie Tam (far left) and Chinese Director Guan Ping (far right) pose with some of the students

The open day offered visitors a chance to experience the rich sights and flavors of Chinese traditional culture. Displays included Chinese lanterns, traditional decorative knots, face masks, fans and paper cuttings; traditional delicacies had been prepared for refreshments, while several enjoyed a game of Asian shuttlecock for some lively entertainment.

For an authentic experience of traditional Chinese art, Arizona State's Confucius Institute set up a Chinese painting and calligraphy stand at the School of International Letters and Cultures. Diana Ho, a gifted painter and calligrapher, was invited as a special guest and put her talents on live display by delivering an exquisitely executed painting that demonstrated the vivacity and graceful charm of Chinese traditional art. Students were invited to take up the brush and try their hand at painting or calligraphy. From unrolling the scroll and dipping the brush in the ink to setting its tip to the blank sheet and focusing on each brush stroke, students were able to get a feel for the passion and precision that goes into the ancient art, while CI teachers patiently offered guidance, showing them how to hold the brush,

An authentic experience of Chinese calligraphy

fill it with the right amount of ink, and apply just enough pressure.

Outside the teaching building, a Chinese paper cutting stand was set up, inviting students to create their own paper cuts, including cuttings in the shape of the Chinese character meaning "spring."

The delicate art of Chinese decorative knotting using a colorful array of cords as demonstrated by the Hanban teachers drew a crowd of interested visitors, queuing up to have a good look. Everyone was eager to study the skill of Chinese knotting. Several American female students asked the teachers how to say "beautiful" in Chinese, whereupon they pointed to their newly woven colorful bracelets exclaiming "*Tai meile!*" ("How beautiful!"). The male students next to them looked at their own artistic creations with satisfaction: "*Tai kule!*" ("That's really cool!").

And of course the multi-colored *jinzi* – or "shuttlecock" – made for plenty of laughter and entertainment as contestants trying their luck at keeping the *jinzi* above ground (using only their feet) were rewarded with hearty applause.

Once again, the Confucius Institute Open Day at ASU proved successful in that it was not only an opportunity for US students to learn more about Mandarin language study facilities on their campus, but also, by means of offering an array of Chinese cultural exhibits and activities, allowed visitors rare glimpses into Chinese traditional art and culture.

Introducing SCU's College of Polymer Science and Engineering

By Li Yunkun

Dean's Message:

"In working toward the important goals of dual world-class university construction and developing Sichuan University into a globally leading institution of advanced scientific research and higher education 'with Chinese characteristics,' the College of Polymer Sciences and Engineering will not fail to live up to the expectations of Premier Li Keqiang. With its specialization in advanced polymer materials, our college is securing its place as the fourth leading polymer research institution in the world."

Professor Fu Qiang

Yangtze River
Distinguished Professor

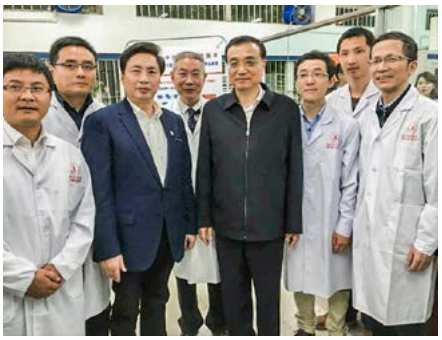
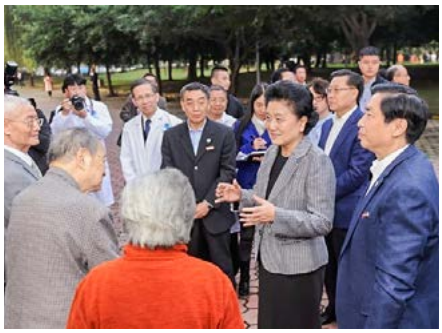
Dean of the College of
Polymer Science and Engineering

SCU's College of Polymer Science and Engineering (CPSE), which falls under the direct supervision of the Chinese Ministry of Education, was the first college at a Chinese university to focus exclusively on polymer science. The discipline of polymer science at Sichuan University was developed on the basis of the primary polymer major established in June 1953, which was renamed "plastics engineering" in 1954. Professor Xi Xu, academician of the Chinese Academy of Sciences, et al. established the discipline at SCU.

The college comprises the State Key Laboratory of Polymer Materials Engineering, the Polymer Research Institute, the Department of Polymer Science, the Department of Polymer Materials, the

Department of Polymer Processing, the Department of Biomedical Polymer Materials and Artificial Organ Engineering, the Chemical Fiber Institution and a Specialized Laboratory. At present, more than 2,000 students are enrolled in the college, including more than 1,250 undergraduates, 600 master students and 150 doctoral candidates. In 2017, almost 57% of graduates went on to study in China or overseas. Our graduates are in high demand and are able to secure top research posts, as well as leading positions in society.

196 faculty and staff members are employed by the college, 139 of whom are full-time teachers, including one member of the Chinese Academy of Engineering, one Prominent Educator, two winners of the National One Million Talents Project, three Yangtze River Distinguished Professors, one Yangtze River Distinguished Lecturer, four national-level Outstanding Early-Career Scholars, four national-level "Thousand Talents Early-Career" scholars, six provincial-level "Thousand Talents Early-Career" scholars, seventeen "New-Century Distinguished Talents" selected by the Ministry of Education, eleven provincial-level Academic and Technology Leaders, 27 winners of the Special Government Allowance scheme (plus 18 applicants to the scheme), 57 doctoral supervisors, 64 professors and 68 vice professors. SCU's material science and engineering discipline with advanced polymer materials already ranks among the top 1% in ESI rankings and is steadily developing further. The Chinese Premier Li Keqiang and Vice Premier Liu Yandong spoke highly of our research work and encouraged us to accelerate our rate of achievement in terms of research breakthroughs and output.



Meanwhile, the discipline of polymer science at SCU is actively exploring means of intensifying its international scientific cooperation. The International Polymer Science Consultative Committee regularly invites global experts in the field to offer advice on the construction and development of the discipline. We maintain long-term cooperative partnerships with 29 overseas universities and research institutions, such as the University of Akron, Loughborough University, Queen Mary University of London and the University of Bradford, while offering a variety of programs for qualified students, including 2+2, 3+1 and 3+2 dual degree programs. We invite overseas professors to give classes to our students every July, which provides mutual learning opportunities to both our students and overseas students. In addition, Professor Philip David Coates, academician of the Royal Academy of Engineering has established the "International Micro-Processing Center for Polymer" and the "Sino-UK Institute of Advanced Materials" in conjunction with CPSE. Eight important international cooperative projects have been jointly carried out with their support. The college has launched a major research project on micro-processing of polymer nanocomposites, which paved the way for important innovations in polymer micro-processing. Our significant progress and innovative achievements have improved the quality of micro-processing and promoted China's influence in the field of polymer science.

2018 Nature Index: SCU Ranks 81st among the World's Top 100 Academic Institutions

The Nature Publishing Group has recently published its 2018 Nature Index based on data recorded between January 1st, 2017, and December 31st, 2017. Owing to its outstanding research output performance, SCU ranked 81st among global academic institutions, as well as 95th among all global research institutions (including academic, government, corporate, healthcare, and NPO/NGO). Compared with its ranking of 126th in the previous year's Nature Index (which covered the time period from January 1st, 2016, to December 31st, 2016), SCU has made remarkable progress, for the first time entering the ranks of the world's leading 100 universities in research output.

In November 2014, the Nature Publishing Group first released its global "Nature Index," which uses a weighted fractional count (WFC) to compare the productive output of research institutions around the world. Nature Index analysis is based on high-quality papers published in 68 top-tier journals, including the *Nature* series, *Science, Cell* and others. It tracks the affiliations of approximately 60,000 high-quality research articles, covering 20,000 universities and research institutes worldwide. The 68 science journals, which are selected by two independent panels consisting of in-service scientists, are divided into four fields, namely chemistry, earth and environment sciences, life sciences and physical sciences. According to the latest index, SCU ranks 39th in chemistry, 246th in physics and 270th in life sciences globally.

"Trojan-Horse-Like Microcapsules"

Research Group at SCU's School of Chemical Engineering Publishes Findings on Multi-compartmental Microcapsules in *Advanced Science*

By Wang Wei

Scientists of the Membrane Science and Functional Materials Group led by Professor Chu Liangyin of Sichuan University have developed a novel type of Trojan-horse-like microcapsule. In March 2018, the findings of their research were published in the interdisciplinary open access journal *Advanced Science* under the title "Trojan-Horse-Like Stimuli-Responsive Microcapsules." They report on the controllable fabrication of Trojan-horse-like microcapsules containing compartment-in-compartment structures, with each compartment protected by a distinct functional shell. The Trojan-horse-like microcapsules allow controllable co-encapsulation of multiple contents in one single microcapsule for versatile programmable sequential release. Dr. Mou Chuanlin is the first author; Professors Chu Liangyin and Wang Wei of SCU's School of Chemical Engineering are the co-corresponding authors.

Responsive functional microcapsules that allow on-demand content release in response to environmental stimuli changes exhibit a great capacity for myriad applications such as drug delivery,

self-healing, and confined microreaction. Multicompartmental microcapsules, with each compartment protected by a distinct stimuli-responsive shell, are highly beneficial for developing new-generation microcarriers. Their multicompartments allow separate co-encapsulation of multiple contents, which is crucial to achieving enhanced performances for biomedical applications such as combination cancer therapy, tissue regeneration, and confined enzymatic reactions. Meanwhile, the distinct functional shells allow flexible manipulation of the release sequence; release profile of different contents can further achieve therapeutic synergy for enhanced chemotherapy and reduced toxicity. Moreover, control of the compartment structure, capsule size and uniformity enables accurate adjustment of the stoichiometric ratio and release kinetics of the contents for optimized efficacy.

However, although many multicompartmental microcapsules have been developed, most can neither achieve precise control of their inner multicompartmental structures, nor can they combine different release styles to achieve flexible programmed sequential release. Focusing on this challenge, Professor Chu's group has fabricated controllable Trojan-horse-like microcapsules, with monodisperse quadruple emulsions generated from microfluidics as templates (Figure 1a). The effects of composition, interfacial property, viscosity and density of each phase in the emulsions have been systematically studied to ensure effective conversion from the emulsion templates to the Trojan-horse-like microcapsules.

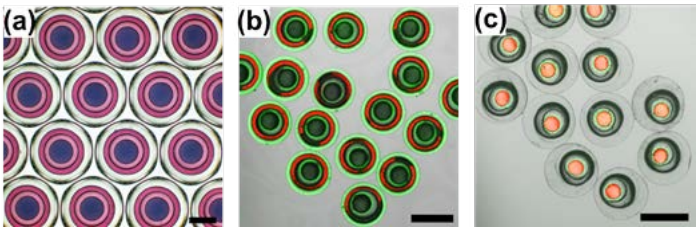


Figure 1

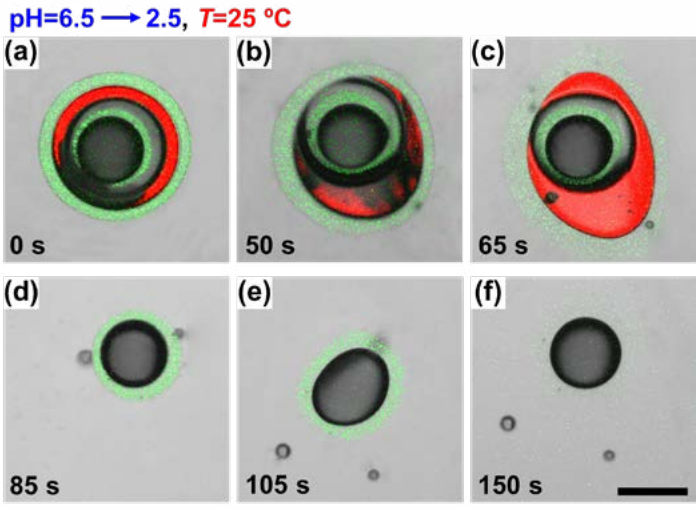


Figure 2

The versatility of such a fabrication strategy is demonstrated by preparing two kinds of Trojan-horse-like microcapsules, one with inner and outer pH-responsive chitosan shells (CS@CS microcapsules) (Figure 1b), and another one with inner pH-responsive chitosan shell and outer thermo-responsive poly(*N*-isopropylacrylamie) (PNIPAM) shell (CS@PNIPAM microcapsules) (Figure 1c). The CS@CS microcapsules can achieve sequential burst release of the contents in outer and inner compartments, via pH-induced sequential decomposition of the chitosan shells (Figure 2). The CS@PNIPAM microcapsules can first release the inner chitosan capsule and the content in outer compartment via thermo-induced shrinking of the PNIPAM shell, and then release the content in the chitosan capsule via pH-induced decomposition of the chitosan shell. The Trojan-horse-like multicompartmental microcapsules that enable the controllable co-encapsulation of multiple contents and flexible integration of different releasing mechanisms in one single microcapsule, provide novel advanced candidates for developing new-generation microcarriers and on-demand microreactions.

This research is supported by funding from the National Natural Science Foundation of China (91434202), the Yangtze River Scholars Program (Innovative University Research Teams) (IRT15R48), and the State Key Laboratory of Polymer Materials Engineering (sklpme2014-1-01).

Link: https://onlinelibrary.wiley.com/doi/abs/10.1002/advs.201700960

Tan Hongru, associate professor at SCU's School of Economics, has published an article entitled "A Price Theory of Multi-Sided Platforms: Comment" in the *American Economic Review* (*AER*). The article was co-written with Professor Julian Wright of the National University of Singapore.

The article deals with applied economics of the two-sided market in the field of industrial organization, pointing out a mistake in the model of a core concept in the secondary literature in this field. The model in question was introduced by Weyl (2010) and also published in the *AER*; it was cited more than 500 times. Correcting the mistake, Tan and Wright explain, significantly alters the implications of the model regarding matters of regulatory and antitrust practices. The conclusions reached by Weyl (2010) were based on the previous literature, including Rochet and Tirole (2003), Armstrong (2006), and Rochet and Tirole (2006). By employing the notion of an "insulated tariff," Weyl avoided the multiple equilibrium solution, and hence obtained some novel results regarding the platform pricing. Among the results, Weyl found a new distortion – the Spence distortion – for the monopoly platform pricing in two-sided markets compared to the pricing in conventional markets. Weyl emphasizes that the Spence distortion is the most important factor when considering antitrust and regulatory issues in two-sided markets.

However, Tan and Wright have found that, apart from the Spence distortion, other distortions are also at play. If these other distortions are considered, the Spence distortion could be fully offset

SCU Associate Professor Tan Hongru Publishes Article in *American Economic Review*

in some cases and could be dominated by other distortions in others. In sum, the Spence distortion is no longer of significant importance in antitrust and regulatory investigations. In a working paper by Tan and Wright (2018), the issue of application has been discussed in detail.

The results of their findings can be applied to many practical issues. For example, in more than 30 countries and regions, Visa and MasterCard have faced or are facing regulatory or antitrust investigations. The results of this paper provide a more accurate and workable framework for these investigations. If we look at China, we see that the online economy is flourishing as companies like Alipay and Taobao are growing rapidly. How should we understand the market behaviors of these new firms or evaluate the appropriateness of their pricing? The government should intervene, but in what ways should it intervene? These questions of practical concern are central to Tan and Wright's research.

Link: https://www.aeaweb.org/articles?id=10.1257/aer.20172018&&from=f

Research Group Led by SCU Professor Sun Xin Publishes Invited Analysis Paper in *British Medical Journal*

This past February, a research team led by Professor Sun Xin at the Chinese Evidence-based Medicine Center of West China Hospital published an invited analysis paper entitled "Real World Evidence: Experience and Lessonse from China" in the prestigious *British Medical Journal* (www.bmj.com/content/360/bmj.j5262). Co-authors

of the paper included experts from the Center for Drug Re-Evaluation at the State Food and Drug Administration, University of Cincinnati, and the Chinese Evidence-based Medicine Center.

This paper represents one of four serialized articles on "Medical Research in China" published by the *BMJ* (www.bmj.com/medical-research-china); it is the first time since the initiation of the *BMJ* that the journal is publishing commissioned academic papers authored by Chinese experts discussing hot topics in current Chinese medical research. The paper offers detailed analysis of the present situation, challenges and future development strategies of real-world studies in China. The publication of this paper demonstrates that the work on real-world studies undertaken by Professor Sun and the Chinese Evidence-based Medicine Center has been recognized by the international medical research community.

To date, Professor Sun and his team have published eleven academic papers in the *BMJ*, of which eight were either first or corresponding authorships. In 2017, Sun and his team received the prestigious BMJ Award for Excellence, the first Chinese group ever to win it.

Pioneering Research on Dynamic Mechanism and Constitutive Model of Jointed Rock Masses by Team of SCU's College of Hydraulic and Hydra-electric Engineering

By Liu Yi

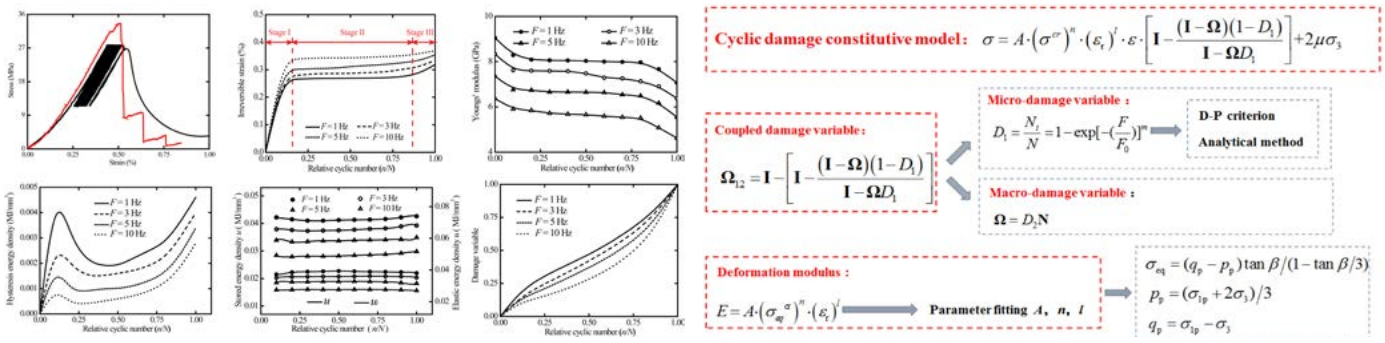
SCU's Professor Dai Feng of the College of Hydraulic and Hydra-electric Engineering has made important advances in the research on dynamic mechanisms and constitutive models of jointed rock masses. Dai, a distinguished young scientist enrolled in the Chinese government's prestigious "1000 Young Talents Plan" recently published his team's findings in the influential *International Journal of Rock Mechanics and Mining Sciences* in an article entitled "A Damage Constitutive Model for Intermittent Jointed Rocks under Cyclic Uniaxial Compression." Before this publication, Professor Dai's research team had published a series of three articles related to the dynamic mechanism of jointed rock masses in another top-ranking journal in the field, *Rock Mechanics and Rock Engineering*.

Examining the complex geological environment and the strong seismic activity in major hydropower rock engineering projects in southwest China, Professor Dai's research team focused on the key scientific problem of "dynamic response and constitutive model of engineering rock masses in a complex seismic geological environment." Relying on major hydropower rock engineering, they thoroughly investigated the deformation failure characteristics and dynamic damage constitutive model of jointed rock masses under cyclic uniaxial compression. Having discovered the influence of the cyclic loading parameter and the joint geometry configuration on the energy damage evolution and dynamic deformation failure of jointed rocks, they propose the cyclic loading and unloading mode corresponding to the characteristics of near field vibration. The team calculated the fatigue progressive failure behavior of jointed rocks under cyclic loading and, for the first time, established the dynamic damage constitutive model of jointed rock masses under cyclic uniaxial compression.

The cyclic dynamic constitutive model of jointed rock masses has posed a major challenge in the research field of rock mechanics and engineering. However, existing studies have mainly focused on the quasi-static constitutive model of jointed rocks or the cyclic constitutive model of intact rocks. In Professor Dai's latest article, a coupled damage tensor for intermittent jointed rocks is derived based on the Lemaitre strain equivalence hypothesis, which combines the Weibull statistical damage model for micro-flaws and the fracture mechanics model for macro-joints; a fatigue constitutive model with an internal variable is then proposed to reproduce the degradation behaviors in fatigue deformation and strength of rocks under cyclic loading. Finally, the damage constitutive model with a definite physical significance is established for the jointed rock masses under cyclic loading. Verified by physical experiments, this new model is able to reproduce the non-linear hysteretic stress-strain curves and the cumulative fatigue plastic deformation of rock materials under cyclic loading.

In recent years, with the financial support of the 1000 Young Talents Plan, the National Natural Science Foundation of China and other funding sources, Professor Dai Feng's research team has achieved a series of innovative research results. According to the technological innovation search report

issued by the Chinese Ministry of Education, Professor Dai, with eleven publications in the *International Journal of Rock Mechanics and Mining Sciences*, places first for his research output in that journal in the past five years, during which Dai also published a total of 22 articles in the top two journals in rock mechanics (*International Journal of Rock Mechanics and Mining Sciences* and *Rock Mechanics and Rock Engineering*), placing third among scientists worldwide who published in these journals in the same time period.



"Turning the Old Adjuvant from Gel to Nanoparticles to Amplify CD8+ T Cell Responses"

Professor Sun Xun of SCU's West China School of Pharmacy and Team Publish Breakthrough Findings on Vaccine Delivery

By Jiang Hao

As one of the most effective weapons against diseases, vaccines have made invaluable contributions to public health. With the rise and success of immunotherapy in recent years, the strategy to suppress and treat malignant diseases such as tumors by activating the immune system has shown its feasibility and tremendous potential. Activating the CD8+ T cell response is the key to removing intra-cellular infections or cancerous cells. Recent studies have shown that targeted delivery of vaccines to lymph nodes has a very positive effect on inducing the CD8+ T cell response. However, delivering vaccines to lymph nodes on its own is insufficient for eliciting strong immune responses, as vaccines may simply pass around the outside of the lymph node via the subcapsular sinus and leave directly via the efferent lymph. The uptake of antigen by antigen-presenting cells (APCs) is the beginning of an immune response. However, the challenge is that vehicle characteristics that promote lymph node drainage often hinder internalization by APCs.

Professor Sun Xun, director of the Pharmaceutics Department at SCU's West China School of Pharmacy, has innovatively modulated aluminum hydroxide into a nanoscale vaccine vehicle that is capable of achieving both efficient lymph node targeting and APC uptake. Alum, the well-known vaccine adjuvant with a long history of clinical use was reconfigured from a "gel" into nanoparticles, hence changing its mechanism of action from a "depot" that resides at the injection site

to nanoparticulates that transport antigen and adjuvant into the lymph node. This lymph node targeting strategy significantly improves the efficacy of vaccination and offers a potential nanovaccine platform for treating cancer and other diseases.

Related research results have been published by *Advanced Science* as the lead article of the current issue. This research is supported by the National Natural Science Foundation of China. The first author of this article is Hao Jiang, a PhD student in the West China School of Pharmacy, while the corresponding author is Professor Sun Xun.

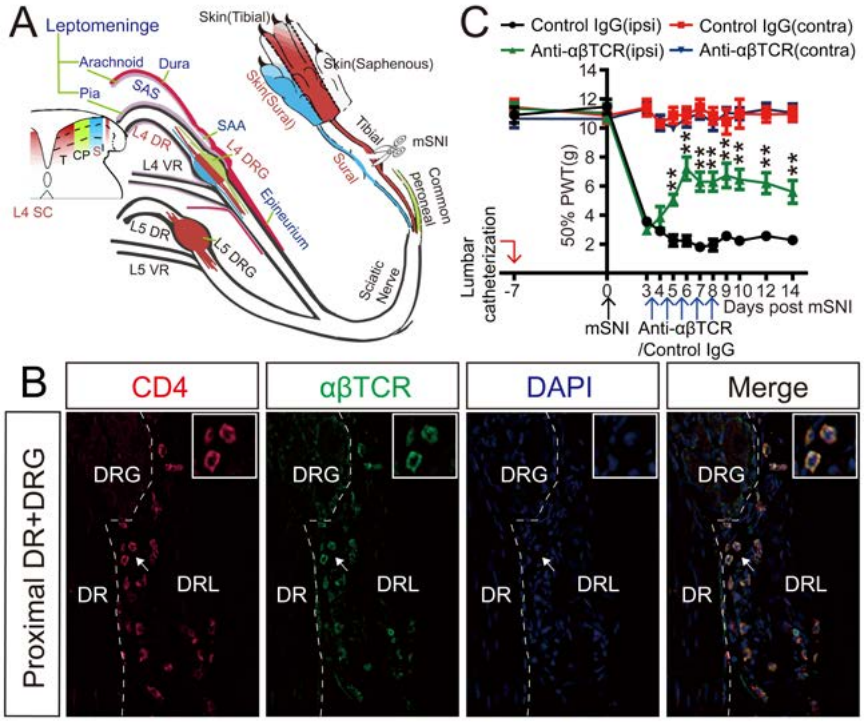
Link: http://onlinelibrary.wiley.com/doi/10.1002/advs.201700426/full

Professor Qi Jianguo's Research Group of West China School of Preclinical & Forensic Medicine Publishes Innovative Study on Pain in *Journal of Neuroinflammation*

Earlier this year, two graduate students from SCU's West China School of Preclinical & Forensic Medicine, Du Bin and Ding Youquan, published a pioneering study on pain in the Journal of Neuroinflammation. Du and Ding were co-first authors; the article was entitled "CD4+ αβ T cell Infiltration into the Leptomeninges of Lumbar Dorsal Roots Contributes to the Transition from Acute to Chronic Mechanical Allodynia after Adult Rat Tibial Nerve Injuries." This innovative study revealed the leptomeninges of the lumbar dorsal roots (DRs) as the tissue target for CD4+ αβ T cells to initiate the transition from acute to chronic mechanical allodynia and provided a definite answer to this important and controversial question in the research field of T cells and the chronification of peripheral neuropathic pain. Professor Qi Jianguo of the same school was one of the corresponding authors.

For susceptible humans, neuropathic pain following peripheral nerve injuries persists long after the initial damage has subsided. This chronic debilitating disease typically manifests as an increased sensitivity to mechanical or thermal stimuli, is resistant to conservative medical management, and significantly decreases the quality of life. It is crucial to understand cellular and molecular mechanisms underlying why and how peripheral neuropathic pain transits from the acute to chronic state. Mechanical allodynia, a painful response to innocuous mechanical stimuli, such as gentle touch, is one of the most problematic symptoms for these patients. Over the past decades, numerous rodent animal studies have established that T cells, especially MHCII-restricted CD4+ αβ T cells, play an important role in the transition from acute to chronic mechanical allodynia after peripheral nerve injuries. However, it is still largely unknown where these T cells infiltrate along the somatosensory pathways transmitting mechanical allodynia to initiate the development of chronic mechanical allodynia after nerve injuries. So far, this important question has not been definitively answered, which prevents deeper insights into cellular and molecular mechanisms for T cells to initiate the transition from acute to chronic mechanical allodynia.

Determined to solve this difficult problem by drawing on the rich experience of histological methods, the research group headed by Professor Qi Jianguo optimized the protocols

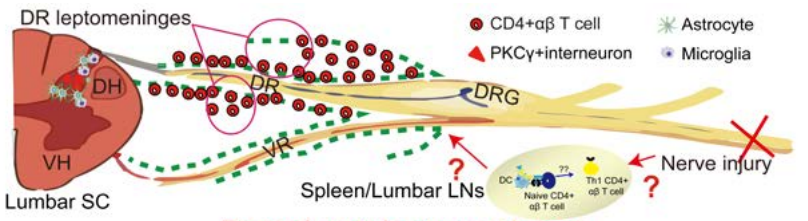


for fluorescent immunohistochemistry and systematically mapped αβ T cells along the somatosensory pathways for the transmission of mechanical allodynia after modified spared nerve injuries (mSNIs), i.e., tibial nerve injuries, in adult male SD rats. Their results indicated that during the subacute phase after mSNIs, αβ T cells selectively infiltrate into the leptomeninges (including pia and arachnoid matters) of the lumbar DRs along the somatosensory pathways responsible for transmitting mechanical allodynia (cf. Figures A, B above), rather than the cell body-rich areas of dorsal root ganglia (DRGs) and the spinal cord dorsal horns (SC-DHs) (cf. Figures A, B above), which has been suggested as susceptible neuroimmune interfaces for T cells to act on the somatosensory pathways responsible for transmitting mechanical allodynia to initiate the development of chronic mechanical allodynia. Further studies using double immunostaining showed that almost all these αβ T cells are CD4 positive.

Next, using surgical removal of various lymph nodes prior to nerve injuries, their results showed that only removal of the lumbar lymph nodes obviously reduces the development of mSNI-induced chronic mechanical allodynia and significantly disrupts the infiltration of CD4+ αβ T cells in the leptomeninges of the lumbar DRs. These results implied that CD4+ αβ T cells infiltrating into the leptomeninges of the lumbar DRs originate specifically from the draining lumbar lymph nodes, which contributes to the transition from acute to chronic mechanical allodynia.

More importantly, in supporting the roles of these T cells infiltrating into the leptomeninges of the lumbar DRs in the development of chronic mechanical allodynia, chronic intrathecal application of the suppressive anti-αβTCR antibodies depletes these T cells and reduces the development of mSNI-induced chronic mechanical allodynia (cf. Figure C above).

This innovative study provides the first evidence for the leptomeninges of the lumbar DRs as the tissue target for CD4+ αβ T cells to initiate the transition from acute to chronic mechanical allodynia and provided a definite answer for this important and controversial question in the research field of T cells and the chronification of peripheral neuropathic pain. This



study provided the anatomical basis for further insights into the roles and mechanisms of CD4+ αβ T cells, even the whole T cell population, in the development of chronic mechanical allodynia and other forms of chronic pain after nerve injuries.

The two anonymous reviewers responsible for the peer review of this article were impressed by the study: "The topic is extremely interesting." "This is a rather important finding." The journal's editor-in-chief decided to publish the study in the form of a short report, reserved "for the rapid presentation of research findings that are highly novel or significant."

After its publication, the article was archived as one of the chosen papers of the week in the *Pain Research Forum* by the *International Association for the Study of Pain* and was favorably reviewed by Professor Gila Moalem-Taylor, an internationally renowned expert in pain research from the University of New South Wales.

The study was also singled out for a special report on *ebiotrade*, a Chinese website for the latest news in life science, medicine and pharmacy.

Research for this study was funded by grants from the National Science Foundation of China (31571240) to Qi Jianguo, and from the Sichuan Province Development and Regeneration Key Laboratory Program (SYS17-007) to Ding Youquan. The study was also supported by Professor Zhou Xinfu, the Sansom Institute, the School of Pharmacy and Medical Sciences, the University of South Australia and Professor Su Bingyin at the Chengdu Medical College.

The *Journal of Neuroinflammation* (with an impact factor of 5.102 in 2017), published by Springer, is one of only two professional international journals in the discipline of neuroimmunology. The other is Brain, Behavior, and Immunity (with an impact factor of 5.964 in 2017), published by Elsevier. The *Journal of Neuroinflammation* focuses on the publication of original researches that involve the neuro-immune interactions in health and diseases and are indispensable to the work of neuroimmunologists.

Links
https://jneuroinflammation.biomedcentral.com/articles/10.1186/s12974-018-1115-7
https://link.springer.com/article/10.1186/s12974-018-1115-7

Dr. Zhang Hui of SCU's West China Hospital Becomes First Chinese Surgeon Invited to Moderate at the AAOS Meeting

By Ren Yi

Dr. Zhang Hui, professor of West China Hospital of Sichuan University, was invited to attend this year's American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting and chair the Foot & Ankle Panel, during which he also presented a paper. This marked the first occasion on which a Chinese surgeon moderated at the American Orthopaedic Foot & Ankle Society (AOFAS) Specialty Day. Dr. Zhang's s notable contribu-

tions to this year's event serve as an inspiration to orthopaedists across China.

During the third session, Dr. Zhang presented his original research on "Foot & Ankle Pre-Operation Strategic Plan and Assessment," "Total Ankle Replacement," "Ankle Arthrodesis," "Flatfoot deformity," and related topics. In addition, Dr. Zhang discussed his first-hand clinical experiences in these areas.

During the conference, which convened from March 6th – 10th, Dr. Zhang also exchanged ideas with Dr. Thomas H. Lee, the director of AOFAS and Dr. J. Chris Coetzee, professor from the University of Minnesota, on cutting-edge skills in the field of foot and ankle orthopaedics.

As China's top orthpaedic surgeon in the field of foot and ankle surgery, Dr. Zhang Hui obtained his tenure at West China Hospital of Sichuan University. He has also been appointed to the following positions: Academic director of the Sichuan Provincial Health and Family Planning Commission; Deputy director of the Foot & Ankle Group, Youth Committee of the COA; Director of the Foot & Ankle Group, Sichuan Medical Association, Orthopaedic Branch; and Deputy director of the Foot & Ankle Group, CPAM, among other positions of leadership in the Chinese medical community.

In southwestern China, Dr. Zhang and his team were the first to perform total ankle replacement, MTP replacement and similar surgical procedures. They were also the first team in the region to conduct operations on the Hallux Valgus, the clubfoot deformity, the pilon fracture, the Lisfranc injury, and similar conditions.

Founded in 1933, the American Academy of Orthopaedic Surgeons (AAOS) is today's preeminent provider of musculoskeletal education to orthopaedic surgeons. Its continuing medical education activities include the world's most influential orthopaedic meeting (the AAOS Annual Meeting) and multiple CME courses held around the United States. This March, thousands of top orthopaedic surgeons from around the globe gathered in New Orleans, Louisiana, for the 2018 AAOS Annual Meeting.

Lu Guangwen's Research Group Makes Important Progress in Delineating the Mechanism of EPEC and EHEC Pathogenes

On March 22nd, Professor Lu Guangwen's group of SCU's West China Hospital Emergency Department (WCHED), State Key Laboratory of Biotherapy, published a paper entitled "Molecular Basis of Binding between the Global Post-transcriptional Regulator CsrA and the T3SS Chaperone CesT" in the scientific journal *Nature Communications*. The study delineated the molecular mechanism of how enteropathogenic and enterohaemorrhagic E. coli (EPEC and EHEC) utilize the chaperone CesT of type III secretion system (T3SS) to regulate the activity of post-transcription factor CsrA.

Epidemiological studies have shown that there are nearly 1.7 billion diarrhea cases worldwide each year. Diarrhea is the second major cause of death for children under 5 years old, and hundreds of thousands of children die from diarrhea every year. EPEC and EHEC are pathogenic E.coli, which can cause severe diarrhea in humans. They are highly infectious and are easily transmitted via contaminated food and through the fecal-oral route. In addition to diarrhea, the two pathogens can also cause urinary tract infections, and in severe cases lead to renal failure and

Figure. Competition of the CsrA/mRNA binding by CesT

even to death. In pathogenic E.coli, EPEC and EHEC infection can result in a typical histopathologic lesion, also known as attaching and effacing (A/E) lesions. The bacteria mainly adhere to the surface of host intestinal epithelial cells. It can damage tight junctions between epithelial cells, lead to microvilli disappearance, cytoskeleton rearrangement and subsequently the formation of pedal-like structures, and finally cause apoptosis.

The type III secretion system (T3SS) plays an important role in the pathogenic process of bacteria. In EPEC and EHEC, it can secrete as many as 40 effector molecules into host cells, destroying the cytoskeleton of host cells. Recent reports showed that the T3SS chaperone CesT of EPEC and EHEC can interact with post-transcriptional regulator CsrA to remodel post-attachment gene expressions, thereby enabling both bacteria to quickly adapt to life on the epithelium surface. Thus the CesT/CsrA interaction is one of the major pathogenic factors. However, the molecular basis of the binding between CesT and CsrA is not clear.

Lu Guangwen's group utilized the structural biology method of crystallography to learn the atomic binding characteristics between CesT and CsrA. The preliminary results showed that CesT and CsrA both created two ligand binding sites in their homodimers, forming irregular multimeric complexes in solution. The intrinsic heterogeneity of the wild type complex-oligomer makes it very hard to be crystallized. To solve this problem, the researchers constructed a recombinant CsrA-dimer (Re-CsrA) that contains a single but integral CesT binding site though covalently linking a C-helix deleted CsrA with an intact CsrA. Via this strategy, homogeneous protein complex of Re-CsrA bound to CesT was obtained and subsequently crystallized. Structural analyses showed that CesT engages CsrA via its lateral α-helical components and binds to a surface patch that extensively overlaps with the mRNA binding site in CsrA. The binding mode therefore justifies a mechanism of CsrA-modulation by CesT via competitive inhibition of the CsrA/mRNA interactions.

In summary, this study has successfully revealed the structural basis and the molecular mechanism of CsrA modulation by CesT, which will enrich our understanding of the pathogenesis of EPEC and EHEC, paving the way for the rational design of anti-microbial drugs targeting this regulation process.

About

Lu Guangwen is a professor at the State/National Key Laboratory of Biotherapy, Sichuan University. He obtained his Ph.D. degree in 2011 at the Institute of Microbiology, Chinese Academy of Sciences (IMCAS), and continued his research work at IMCAS first as an assistant professor and then as an associate professor. He then joined the State/National Key Laboratory of Biotherapy at Sichuan University in 2015. He has won numerous awards, including the Excellent Young Scholars of the National Natural Science Foundation of China. In 2015, he was elected to the Thousand Talents Program of Sichuan Province, and to the Yangtze River Scholars Program for Young Scholars a year later. He has also served as chief project scientist for the National Key Research and Development Program of China (2016). The main focus of his research work is the interplay between pathogens and hosts. He has thus-far published more than 40 peer-reviewed papers in international journals, including *Nature*, *Nature Structural Molecular Biology*, *PNAS*, *and Nature Communications*, among others.

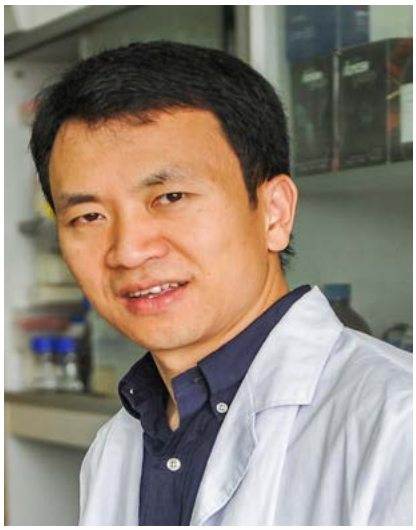
SCU's Song Xu and Team in the College of Life Sciences Publish Findings on Long Noncoding RNA in *Nucleic Acids Research*

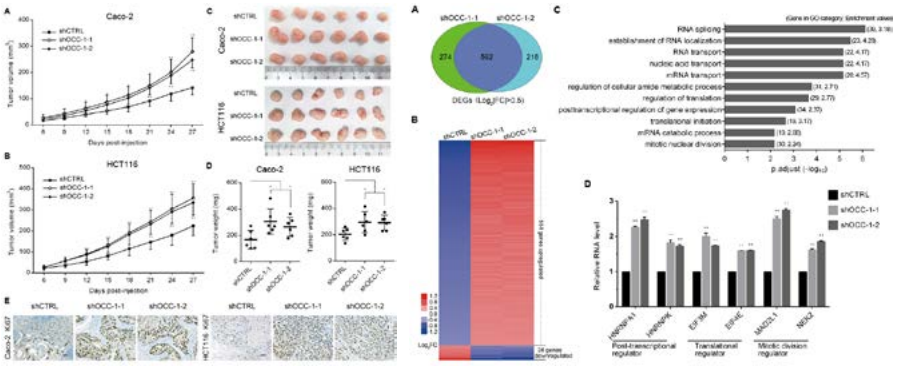
By Wu Chuanfang

Long noncoding RNA (lncRNA) is a class of large transcripts (>200 nucleotides) with limited protein-coding potential. Although lncRNA has been widely acknowledged as a new contributor to human cancer, only a small number of lncRNAs have been functionally characterized in colorectal cancer (CRC), and most of their mechanisms are largely unknown.

On March 21st, Professor Song Xu and his team from SCU's College of Life Sciences published an article entitled "Long noncoding RNA OCC-1 suppresses cell growth through destabilizing HuR protein in colorectal cancer" in the online edition of *Nucleic Acids Research*, a leading scientific journal with an impact factor of 10.162.

The research revealed that OCC-1, one of the earliest annotated CRC-associated lncRNAs, suppresses CRC cell growth through inhibition of G0 to G1 and G0/G1 to S phase cell cycle progression. OCC-1 exerts its function by binding to and destabilizing HuR, a cancer-associated RNA-binding protein (RBP) which can bind to and stabilize thousands of mRNAs. OCC-1 enhances the interaction between HuR and the ubiquitin E3 ligase b-TrCP1, which leads to HuR ubiquitination and degradation. The degradation of HuR caused by OCC-1 further reduces the levels of HuR target mRNAs, including the mRNAs directly associated with cancer cell growth. These findings demonstrate that lncRNA can regulate the levels of a large number of mRNAs at post-transcriptional level through modulating RBP ubiquitination and degradation, and that modulation of protein ubiquitination could be a common mechanism for lncRNA in control of protein level at post-translational level.





The research was supported by the National Key R&D Program of China and the National Natural Science Foundation of China.

Link: https://academic.oup.com/nar/advance-article/doi/10.1093/nar/gky214/4948039

Professor Peng Yong's Group at SCU's State Key Laboratory of Biotherapy Advances Research on Circular RNA

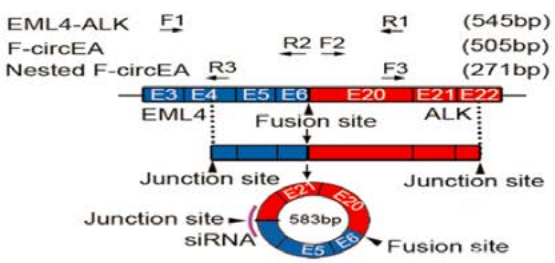
Professor Yong Peng's research group at the State Key Laboratory of Biotherapy, West China Hospital, Sichuan University, has made important advances in the field of circular RNA, revealing a new circular RNA (circRNA) for the liquid biopsy of non-small cell lung cancer. The paper, entitled "Circular RNA F-circEA produced from EML4-ALK fusion gene as biomarker for non-small cell lung cancer" was published online in *Cell Research* (2017 Impact Factor: 15.606). The State Key Laboratory of Biotherapy and the Department of Thoracic Surgery are the leading affiliations. Ms. Tan Shuangyan, Dr. Gou Qiheng and Dr. Pu Wenchen are the co-first authors.

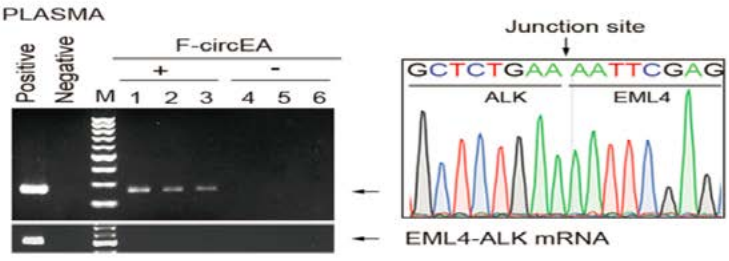
CircRNAs are initially mistaken as products of RNA splicing errors; however, mounting evidence demonstrates that circRNAs have important biological functions in humans. Unlike linear RNAs, circRNAs have a circular covalently-bonded structure, which endows circRNAs with higher tolerance to exonuclease digestion and prolonged lifetime in systemic circulation, suggesting a potential to function as biomarkers for liquid biopsy. Professor Yong Peng's group successfully identified F-circEA as a new circRNA produced from EML4-ALK fusion gene in non-small cell lung cancer. F-circEA could promote cell migration and invasion of lung cancer cells. More importantly, F-circEA was specifically detected in the plasma of almost all EML4-ALK positive lung cancer patients, while F-circEA was non-detectable in the plasma of the patients without such fusion gene. This phenomenon gave strong evidence that the lung cancer patients with F-circEA in the plasma certainly bore EML4-ALK fusion gene, which could be treated by the ALK-targeted drug crizotinib. This study reveals the new mechanism of fusion gene to promote tumor progression and provides a novel biomarker for liquid biopsy to diagnose fusion gene, guiding clinical medicine for lung cancer.

This work was supported by the National Key R&D Program of China and National Natural Science Foundation of China.

Cell Research, managed by Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences and *Nature* Publishing Group, is a top academic journal in the field of life science in China. In 2017, the impact factor of *Cell Research* was 15.606. The published papers represent outstanding scientific research in cell biology and molecular biology worldwide.

Link: https://www.nature.com/articles/s41422-018-0033-7





Joining Hands to Build Dreams at Home and Abroad

2018 SCUPI International Student Forum

By Zhang Xingyun

On April 14th, the "Sichuan University-Pittsburgh Institute (SCUPI) Student International Forum" was successfully held in the auditorium of SCU's Law School. Hosted by SCUPI, thirty-nine students and teachers from the University of Michigan-Shanghai Jiao Tong University Joint Institute (UM-SJTU JI), Queen Mary University of London Engineering School, Northwestern Polytechnic University (NPU), Glasgow College, the University of Electronic Science and Technology of China (UESTC), Southwestern University of Finance and Economics (SWUFE)-Baruch Joint Program, Chongqing University (CQU)-University of Cincinnati Joint Co-op Institute, and

Southwest Jiaotong University (SWJTU)-Leeds Joint School participated in in-depth discussions around the theme, "Reflections on Student Development in Chinese-Foreign Collaborative Institutions."

Professor Minking Chyu, Dean of SCUPI, delivered a speech at the opening ceremony. He extended a warm welcome to all the teachers and students and outlined the achievements of the Institute since its establishment.

Professor Paul Woolridge from New York University Shanghai gave a keynote speech about the changes and development of language from an international perspective.

In the afternoon, all the delegations participated in debates and in-depth discussions on the theme of the conference.

From Top Medical Student to Rising Academic Star

Introducing Huaxi's Youngest Principal Investigator

By Wu Yuchuan

Thirteen years ago, a young senior-high student was accepted to an eight-year bachelor, master and PhD joint medical degree program at Sichuan University. At the time, the now 31-year-old would never have imagined that he would go on to become the youngest group leader and principal investigator at West China Second University Hospital in Chengdu. Last year, Zhou won the "Sichuan University Tang Lixin Outstanding Scholar Award" for his remarkable academic achievements and exemplary character. His supervisors, colleagues and students describe him as diligent, studious, energetic, and forward-looking. He believes that hard work and perseverance are the keys to success.

Journey of a Top Medical Student

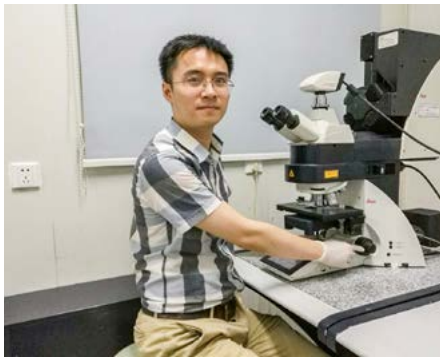
Before meeting Zhou Shengtao for the first time, I envisioned someone "bookish" in appearance who would look much older than he was. Little did I expect to find a peer who looked much like any other classmate of mine and, in addition, was outgoing, good-humored, and friendly. When Zhou chose the clinical medicine program at SCU for a college career in 2005, he was not yet 18. I asked him what had drawn him to the study of medicine at a fairly young age: "I thought it would be great to get a bachelor's, a master's, and then a doctorate degree all within eight years; I wanted to give it a try and challenge myself with something that was new to me," he replied.

Zhou had always held the medical profession in high esteem. However, while choosing this path was the easy part, "only going through the process would teach me all its trials," he said. From a young age, Zhou had excelled in his studies, and he continued to do well at university. By 2012, before completing his degree, he already had nine articles in SCI journals to his name as first author, as well as co-authorships of eight further articles and three monographs. He won several scholarships, both at the national and school level, along with prizes at two nationwide college English proficiency competitions.

His colleagues and classmates note that he is meticulous in his work, as well as patient and kind-hearted, showing genuine care and concern for others. Another characteristic that stands out is Zhou's pursuit of excellence in everything he does. Although dedicated to scientific research and boasting a high IQ, he doesn't lack in emotional intelligence either.

According to his supervisor, Professor Zhao Xia, Zhou is a highly motivated, active, industrious, and open-minded person. "As a third-year university student, he went and found the supervisor he wanted, not waiting to be assigned one, and began discussing research problems two years before most other students in the program ever contacted a supervisor. During his studies, Zhou

spent a lot of his free time at the lab engaging in research projects that he was interested in. He has invested so much hard work and is reaping the benefits: of all my students, Zhou Shengtao was the most outstanding; he also published the most papers."



A Rising Academic Star

In 2013, Zhou Shengtao won the eighth China Youth Science and Technology Innovation Award at the age of only 26. Zhou says he felt extremely fortunate joining the other winners on stage to receive the award. When asked how he felt at the time, he replied: "I was encouraged to devote myself more wholly to scientific research and innovation."

Zhou Shengtao has become a dedicated researcher. In the past ten years, he's published 20 SCI journal articles as first or co-author. A member of his research team says of the young doctor: "In the past half year that I've been here, I've come to know Dr. Zhou as being a conscientious and very sociable person. He always comes to check on us in his spare time, to make sure everyone on the team is doing alright and to get an update on the experiments. If things come to a standstill, he'll jump in to help out and see to it that everything gets back on track. I've never once seen him angry. He's nice to his students, and he is also extremely competent at what he does. He's well-versed in many areas and methods, so if he's working on a project and runs into a dead end, he can usually think of another approach that will help him figure out a way forward." Zhou knows how to take initiative and does a good job of leading the team.

When Zhou's research team – the "Zhou Lab" – officially formed at the end of 2017, Sichuan University and the hospital gave their full support. The team, made up of master and PhD students from Hong Kong and cities around Mainland China, all appreciate Dr. Zhou's outgoing personality and the fact that he often treats them to lunch: rarely is there a festival day on which team members don't share a meal with each other. "As a team, we work together to achieve results. It's not just a one-man show: the department, the hospital staff – everyone pitches in," says Zhou.

At the moment, Zhou Shengtao serves as committee member of the Human Proteome Organization (HUPO), which fosters technologies and research in proteomics, the study of proteins. He is also a member of the American Society for Biochemistry and Molecular Biology and the American Association for Cancer Research, among others.

This March Zhou's team published an article in *Genome Biology* entitled "RNA binding protein SORBS2 suppresses metastatic colonization of ovarian cancer by stabilizing tumor-suppressive immunomodulatory transcripts." The research presented in this article provides a new theoretical basis for developing diagnoses and treatment options for ovarian cancer patients.

Interest is the Best Teacher

For Zhou, whether as a medical student or now as a physician and scientific researcher, interest has proven the best teacher. As a scientist who enjoys working in the lab and making new discoveries, Zhou hopes to make a significant contribution to current research on gynecologic cancers and in this way contribute to the improvement of women's mental and physical health. "In the end, the goal is always to help the patient: that's the reason for our experimenting and the meaning of our scientific achievements," says Zhou.

Zhou's interests are wide-ranging, from music to sports to language studies. He has no difficulty presenting his research to international audiences in fluent and precise English. I asked Zhou what has kept him going on his sometimes arduous road to success. "Interest and passion," came his immediate reply.

Finding Cures for Rare Diseases and the Dream of Becoming a Doctor

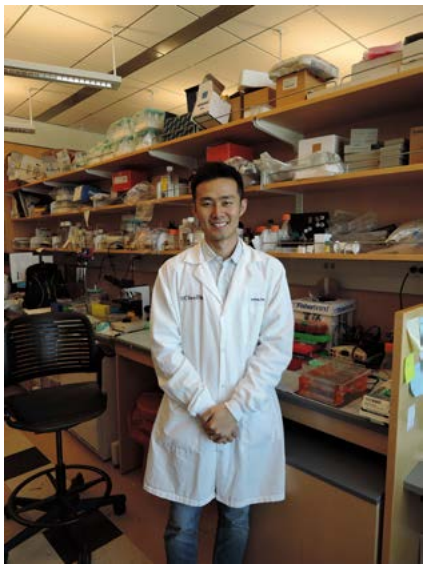
An Interview with PhD Candidate Zhao Xuefeng

By Zhang Hongteng, Cheng Bo, Cao Dan

Zhao Xuefeng is a joint PhD candidate in the Orthodontics Department of SCU's West China School of Stomatology and at the University of California, San Diego.

When Zhao Xuefeng met with us this past March, he had just come back from interviewing for the 68th Lindau Nobel Laureate Meeting with Nobel laureates in the field of physiology/medicine, convening this June in Lindau, Germany. We met with Zhao in the Orthodontics Department of SCU's West China School of Stomatology, where he told us about his fascinating work at the intersection of different fields. Zhao's recent study, for example, explores new treatment options for fibrous dysplasia, a rare bone disorder causing pain and bone deformity and weakening, for which no effective cure has yet been found.

Zhao Xuefeng has researched the use of GNAS targeted therapy to cure defective bone fiber structures, which opens up brand new possibilities for curing fibrous dysplasia, a condition that has long confounded the medical profession. "Fibrous dysplasia of the bone" is triggered by gene mutation. It is a rare disease, but when it occurs, it is more common in teenagers than other age groups and most often occurs in maxillofacial or limb bones. Bone tissue multiplies abnormally, resulting in chronic pain and bone fracture. To date, although the symptoms, as well as causes and effects of fibrous dysplasia have been relatively well researched, the cure has posed a long-standing problem for the international medical commu-

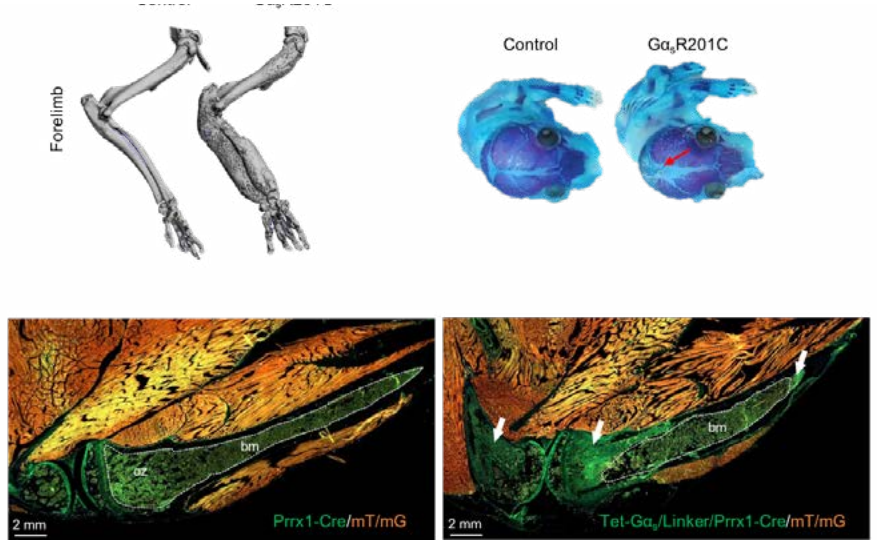


nity. No drug can effectively cure bone fiber dysplasia; osteoporosis drugs can only alleviate bone resorption and pain symptoms. The disease leads to repeated fractures, causing great suffering to those afflicted.

After some research into fibrous dysplasia, Zhao decided to turn his attention to the cause of the disease, the GNAS gene. Through experiments with mice, he discovered that once the expression of the GNAS gene is completely blocked in the animal model, the lesions gradually subside. The results of Zhao's experiments support the case for the clinical use of GNAS targeted therapy to eventually cure fibrous dysplasia in humans.

So what is a PhD candidate researching bone disease doing in the field of stomatology? Zhao explained that when studying orthodontics as a postgraduate, he was actually concentrating on the alveolar bone, the ridge of bone that contains the tooth sockets. This is how he became interested in bone reconstruction and began to combine the fields of orthodontics and orthopedics in his research. The interdisciplinary approach is central to finding solutions in the work Zhao specializes in. His search for cures of fibrous dysplasia has focused specifically on the disease as it occurs in the maxillofacial region.

Zhao Xuefeng's US supervisor, J. Silvio Gutkind of the University of California San Diego, works on developing new therapies for cancer treatment and prevention. Like Zhao, he is interested in dysregulated signaling circuitries and individual genomic and molecular alterations that play a role in fibrous dysplasia, but can also cause tumors. In his own work, Zhao was particularly inspired by Gutkind's study of the signaling pathway and dysregulated signaling networks in cancer. Zhao makes use of techniques gleaned from different fields of study. The Gutkind lab was able to provide him with state-of-the-art facilities, tools, and materials, which substantially contributed to the success of his experiments. He also benefitted from extended consultations and ideas exchanges with Dr. Gutkind and other members of the team. In future studies, Zhao plans to delve deeper into the molecular mechanisms associated with the disease and explore appropriate treatment options: "If the disease can be successfully cured in mice," Zhao believes, "we are on our way to treating it effectively in humans, too."



Zhao Xuefeng will graduate this summer, after 10 years of medical study dedicated to preparing a fruitful career in disease research. For Zhao, researching a rare disease using interdisciplinary approaches is about much more than just graduating and passing a doctoral defense; Zhao is hopeful that his work will eventually lead to clinical application and real-life cures for patients afflicted by the disease.

Becoming a doctor was a childhood dream: "I've always admired doctors," Zhao told us. What he didn't expect, of course, was the high-stress environment of medical training, which he counterbalances with an active lifestyle of regular exercise – including basketball, rock climbing, and hiking – and traveling for fun. He went to California for the purpose of extending his knowledge in the field and gaining access to top medical research facilities; but he's also traveled extensively across the United States, enjoying the wildlife of its vast national parks, the Grand Canyon, and driving from coast to coast.

Not long after interviewing the ambitious PhD candidate, we learned that Zhao had passed his interview to present a poster at the Lindau Nobel Laureate Meeting this June and will represent his country with about 30 other Chinese medical experts.

Feature Interview

The International Language of Science

Four Oxford PhD Students of Physical Chemistry Visit SCU

By Naomi Thurston

CHENGDU. Following the invitation of SCU's Zhang Sijie, professor of physics and director of the International Office, four research students of physical chemistry from the University of Oxford came to Sichuan University for a week-long visit this January. They gave talks on their research, toured facilities at Huaxi, Jiang'an, and Wangjiang, and got to see Sichuan's famous giant pandas up close. Apart from enjoying the brilliant sights and tastes of Chengdu and catching a small glimpse of the daily life of student researchers at a Chinese university, Katherine Buckton, Victoire Dejean, Luo Jiate, and Thomas Player also had the opportunity to discuss their area of research in physical chemistry with Chinese faculty and students at SCU. Their talks were well-received and met with thoughtful feedback; all four students came away with positive impressions of their visit.

Currently working under the supervision of Professor P. J. Hore, director of the research group on Magnetic Field Effects on Chemical Reactions; Christiane Timmel, director of the research group on Spin Chemistry, Magnetic Field Effects, and Electron Spin Resonance; and Stuart Mackenzie, head of the Physical and Theoretical Chemistry Laboratory and director of the Cluster Dynamics and Laser Spectroscopy group, Buckton (DPhil 2015-), Dejean (DPhil 2016-), Luo (DPhil 2017-), and Player (DPhil 2017-) are passionate about the work they do---located at the intersection of chemistry, physics and biology---and agree that scientific achievement may rely no less on international collaboration than they do on individual perseverance or smaller-scale team work and competition.

Luo Jiate, who is an SCU alumni, was able to supply the others with first-hand knowledge of the ins and outs of university life in China.

From left to right: Luo, Buckton, Dejean, Player at Sichuan University

SCU's International Office met with the four young researchers for a brief chat about their work and first impressions of China, Chengdu and Sichuan University.

For three of you, this is your first visit to China – is it what you'd expected?

Katie: I thought it would be very busy and very big, although the university campus itself is even bigger than I'd expected. I didn't think it would be a campus university –it's a very nice one. It doesn't feel like you're in the middle of a city of 14 million.

Victoire: I didn't know what to expect, but I was very surprised by the clash of traditional and very modern aspects. When we went to the city center yesterday, we thought, wow, this is no different from what we know. It was quite fun.

I expected the campus to be smaller than at Oxford, where pretty much the whole city is the campus, and larger than where I studied in Paris, which was tiny. The campus here is actually quite big, and it has everything you might need. It's also very well situated.

Can you tell me about your project?

Jiate: We are all reading for a DPhil in physical chemistry. Katie and Victoire are working on experiments while Thomas and I do the calculations, the theoretical side of the research.

Thomas: We work on an area called magnetoreception, which looks at how birds and other animals use the Earth's magnetic field to navigate, the chemistry behind how this compass works in these animals' brains.

Victoire: It's an entirely interdisciplinary field.

Katie: It's on the interface of chemistry, physics, and biology. I gave a talk on our research at Huaxi yesterday. It was lovely, and it was nice meeting everyone. I found it very helpful to talk about our work to a group of people who might have knowledge in the general area but not necessarily in the specifics of what we do, which newly combines two areas of research that haven't been combined in this way before.

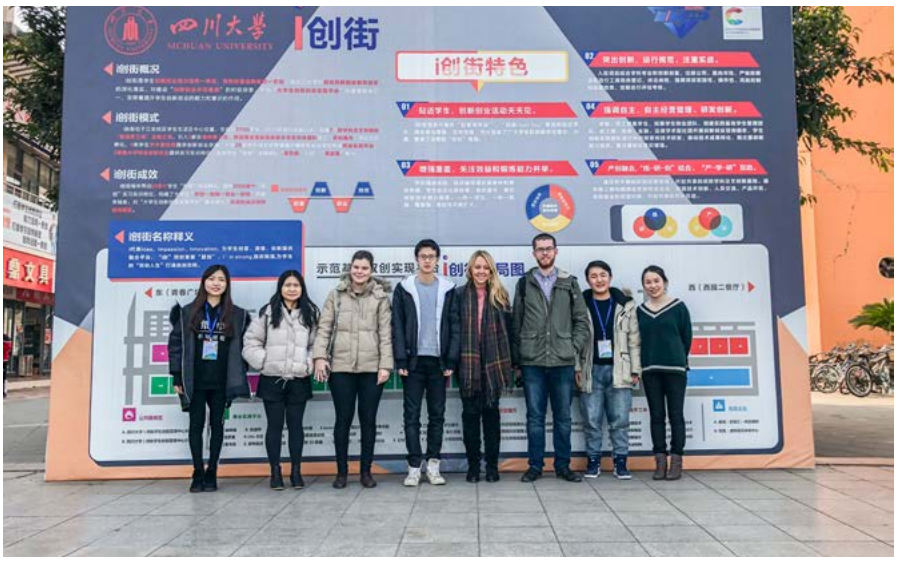
Victoire: Thomas and I gave a talk at the College of Physical Science and Technology. For me, it was the first time ever to give a research talk to a group of people from an entirely different field. I'm a chemist, so my background is very different. We had to explain things we don't normally explain, and this helped us to see our research in a new light. The audience asked very interesting questions that were more about the general mechanisms of our experiments. They asked me about aerobars and how we measure our signals and other things that we usually just skim over: but here I had to explain it in more detail, which made me think about things that I would perhaps like to change or improve about my experiments. That was quite nice.

So how did your connection with SCU come about?

Katie: Professor Zhang Sijie, "CJ," came to Oxford for a year to work with our lab over there, so we have a link to this university. A couple of years ago, a couple of our colleagues from Oxford came to SCU to see the university, and then we've had other researchers from CJ's lab here come to Oxford as well. There's been a nice exchange going on back and forth.

Victoire: Jiate is actually the perfect example of someone who came to Oxford from SCU.

Jiate: And in fact, my coming here has another purpose, which is to interest science students at SCU in doing their further studies at Oxford, in our field of magnetoreception. I was similarly recruited to Oxford myself after attending an academic lecture here last year by Peter Hore, who is now our supervisor. I went to talk to him, and he was impressed by my knowledge of quantum mechanics and statistical mechanics. After that I applied for the PhD program at Oxford, was accepted, and joined Peter's research group.



I often feel homesick in Oxford, so I am very happy to come back on this occasion and see my old classmates and teachers.

What do you miss most?

Jiate: Everything: the food, of course, my family, and also the climate.

Thomas, Victoire and Katie, what are your impressions of Sichuan University?

Thomas: I was curious to know what life here would be like for a typical student, particularly an undergraduate student. The accommodations seem to be in high-rise buildings, which is very different from Oxford. Another difference here, as Jiate was saying, is that students take exams in the evenings, which would never be tolerated in Britain. Our talk at SCU was also scheduled for the evening and was surprisingly well-attended. I couldn't believe it – at home you'd have to bribe students with beer to get them to attend an evening lecture.

Katie: So there's a really good work ethic here among Chinese students – which is nice.

Jiate: In Britain, undergraduate students have six months of vacation…

Katie: Technically, students are supposed to do self-study during the semester breaks, but the breaks do tend to be very long. At Oxford, there are three 8-week sessions, while most universities in Britain have two twelve-week academic semesters.

So there's a strong work and study ethic you've encountered here… Victoire, you said that people who attended your talk were very interested in the experiments you're running.

Victoire: Yes… one of the main questions that we are trying to answer at the moment is how the birds can use the direction of the magnetic field to navigate. So far we've only been able to show that the cryptochromes are sensitive to the intensity of the magnetic field, but

that is not enough to have a compass. So what we want to show is that they are also sensitive to the direction of the field. The problem when we worked in solution was that the molecules were always moving and rotating. So we couldn't successfully conduct the experiment in solution. We had to immobilize those proteins in a solid matrix. I spent a lot of time trying to find an appropriate matrix and designing the experiment that would allow us to look at the impact of the direction of the field because none of the previous experiments had been built for that. I'm actually ready to start measuring that now after a year of preparing the experiment… Experimenting is a process of lots of trying-and-not-succeeding, which hopefully leads to results in the end.

Thomas: Sometimes you might spend six months working on something really hard, and it doesn't work for a long time. But then if it does work in the end, you might be able to use that for a year and get lots of really good results, and you might discover something new and exciting – but you have to go through that error and trial before knowing if you'll get there in the end. What Jiate and I do is the theory. We do computational studies looking more at the physical side of it than at the chemistry or biology. It's a lot of quantum mechanics, a lot of theoretical physics. We work with code. Just as with the experiments, there's also lots of trial and error.

All of you are quite passionate about the field you're working in.

Thomas: You'd have to be.

Jiate: I went to Oxford last year and stayed there from March to June to do my final-year project. I found that I was really interested in this field, which is why I went on to join the same research group as a PhD student.

And what do you think about the importance of international cooperation in your field?

Victoire: In the last two weeks, all the papers I've read were written by Chinese scientists, a group based in China, because they were the only research group talking about this particular topic. I personally think it is important that China is able to produce good papers; however, the main question in collaboration in the sciences is, 'Are they producing good science?' And if they are, we just collaborate. If there is a group working on a particular topic that is relevant to your science, of course you need to collaborate.

Katie: Science is quite universal, which is nice – it's a universal language. There are far fewer language barriers than in the arts, for example.

Thomas: It's nice that science doesn't have the language barrier you might have in other fields – it's very international. The main thing is the quality of the science. Collaboration between any two groups is a good thing and will happen as long as one thinks that the other is doing science that they respect. There are currently groups in China that are working on the same field that we are doing research on at Oxford. It's always good to see different perspectives, and you get a healthy debate going.

With 15 top-ranking disciplines – including chemistry, biology and biochemistry, and physics – Sichuan University is increasingly generating cutting-edge research relevant across a wide spectrum of scientific fields. In fostering its collaborative partnerships and academic exchanges with the world's leading research institutions, such as Oxford University, SCU contributes to the critical global exchanges of knowledge and new perspectives fueling contemporary scientific discovery.

Young Leaders Program /////

2018 Chinese Bridge Spring Camp at SCU

Victorian Young Leaders to China Program

By Zou Zhengxing

On March 18th, 37 secondary school students and teachers from four different secondary schools in Australia's southeastern state of Victoria came to Sichuan University for a two-week intensive overseas study and leadership development program. During this time, the students were not only exposed to Mandarin language classes, lectures on Chinese history and culture, and a range of traditional Chinese cultural experiences, but also got to visit the giant panda research base, Jinli Street – Chengdu's ancient pedestrian shopping area – Leshan's Giant Buddha, Mount Emei, the Sanxingdui Museum and other sites of historical interest, taking in the region's natural beauty and rich history while also catching an inside glimpse of Sichuanese culture today.

Most of the Australian secondary school students came to China with no Chinese language basis and thus began their Mandarin study at SCU from the very basics. This made for an interesting challenge, but both students and teachers rose to the occasion. The students

showed an aptitude for picking up the shapes, sounds and meanings of Chinese characters quickly, while teachers employed a mixture of traditional and modern teaching methods in the classroom. By the end of the course, students were able to give short talks and use some simple every-day phrases in Chinese.

SCU also arranged for the secondary school students to be given special lectures on Chinese culture, geography and philosophy so as to deepen their knowledge of local customs and hone their intercultural skills. In addition, Tai Chi, Chinese calligraphy and Chinese painting classes instilled an authentic sense of Chinese traditional culture in the students. Throughout the program, participants were invited to examine the differences between Chinese and Australian culture to challenge their critical thinking and foster a more tolerant mindset. The Tai Chi class, in particular, proved an invaluable lesson in cross-cultural appreciation, as the instructor not only introduced the students to the ancient martial art of controlled attack and defense, but also outlined the principles and philosophy underlying the discipline.

On March 22nd, the group visited Chengdu's well-known secondary school, Chengdu No. 7 High School, where they had the chance to listen in on some classes in session. The differences in teaching styles left an impression on the Australian visitors, who also had the chance to practice their Chinese writing using traditional-style ink and writing brushes. The highlight of the day was interacting and enjoying some friendly competition with Chinese stu-

dents of their own age. Chengdu No. 7 High School, one of the country's most prestigious, was visited by then First Lady of the United States in 2014, when Mrs. Obama also took Tai Chi lessons with a class of Chinese students.

Experiencing some of the great wonders of Chinese traditional culture and architecture, as well as the breathtaking beauty of several of Sichuan's scenic highlights was certainly an eye-opening experience for students participating in this year's Chinese Bridge Spring Camp. After waiting in line for two hours, the group caught a glimpse of the Giant Buddha in Leshan, which stands no less than 71 meters tall. Facing Mount Emei, the statue was carved out of a cliff face over a thousand years ago during the Tang Dynasty and stands as one of the great monuments to ancient religious architecture.

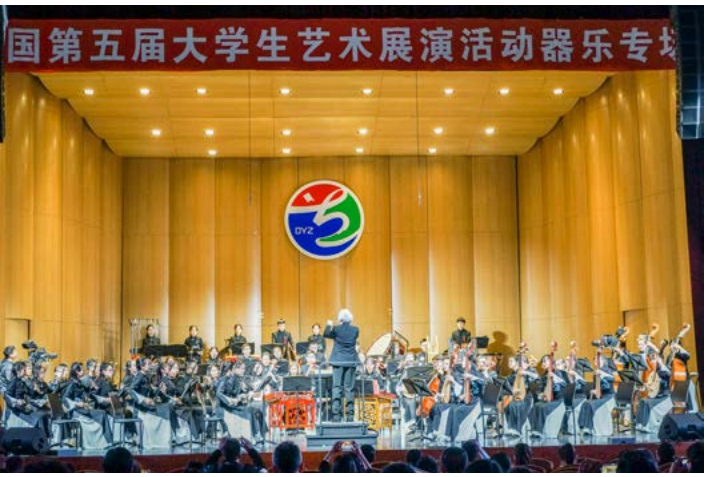
Reaching the "golden summit" of Mount Emei, a well-known Buddhist pilgrimage site, was made more difficult by the snow and heavy fog towards the end of the climb, but was well rewarded with spectacular views and a spirited snowball fight once the group arrived at the massive statue of Samantabhadra at the top. One of the students had never touched snow before.

The Sichuanese cuisine was a special treat for this year's group. Many students experienced a shock to their taste buds, sampling the rich and spicy flavors of hotpot and other Sichuanese dishes for the first time. Figuring out the use of chopsticks in record time, they sampled a variety of specialties that, tasty as they were, bore no resemblance to their favorite foods from home. In culinary terms, Chengdu proved itself singularly adventurous.

After two weeks of intensive language study, cultural exploration, and forging new friendships, the Victorian Young Leaders to China Program ended its tour of Chengdu with a closing ceremony, during which students gave speeches using their newly acquired Chinese and also impressed their teachers by singing a Chinese farewell ballad. Each program participant received a certificate of successful completion.

This year's Chinese Bridge Spring Camp offered its young participants a fantastic experience of foreign travel and learning about another culture; much more than that, however, it is hoped that the experiences afforded to students on this trip will encourage a long-term engagement with China and thus a new generation of young leaders in Sino-Australian cultural relations. The Chinese Bridge Spring and Summer Camps are sponsored by the Confucius Institute Headquarters (Hanban) and co-hosted by various educational institutions across China.

The Fifth National University Art Exhibition and Performance Event



ECHO

Science is a universal language.

Katherine Buckton

PhD Candidate in Physical Chemistry, University of Oxford

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