



Cambridge University - Nanjing
Centre of Technology and Innovation
剑桥大学南京科技创新中心



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中心成功举办脑科学与类脑研究峰会

The Centre successfully held the Symposium on Brain Science and Brain-Inspired Intelligence Research

中心举行新址启用仪式

The Centre held a grand Opening Ceremony of CUNJC New Site

江北新区党工委专职副书记罗群一行调研中心新址

Qun Luo, Deputy Secretary of the Jiangbei New Area Party Working Committee visited the Centre



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Liang Wang, Deputy Director of Overseas Cooperation Department, Jiangsu Industrial Technology Research Institute, and his team visited the Centre for an exchange session

01 HEADLINES 中心要闻

On 14 and 15 September 2021, the Cambridge Nanjing Forum 2021 – Symposium on Brain Science and Brain-Inspired Intelligence Research, co-sponsored by Cambridge University and the Jiangbei New Area Management Committee and hosted by Cambridge University - Nanjing Centre of Technology and Innovation, was successfully held in Jiangbei New Area, Nanjing. Officials from Jiangbei New Area, and Daping Chu, a tenured professor at Cambridge University and CEO and Academic Director of the Centre, attended the symposium and delivered a speech. Experts from domestic universities such as Peking University, Tsinghua University, Beihang University, Fudan University, Nanjing University and Southeast University were invited to attend the symposium on site. Relevant scholars from Cambridge University joined in it through a live online broadcast.

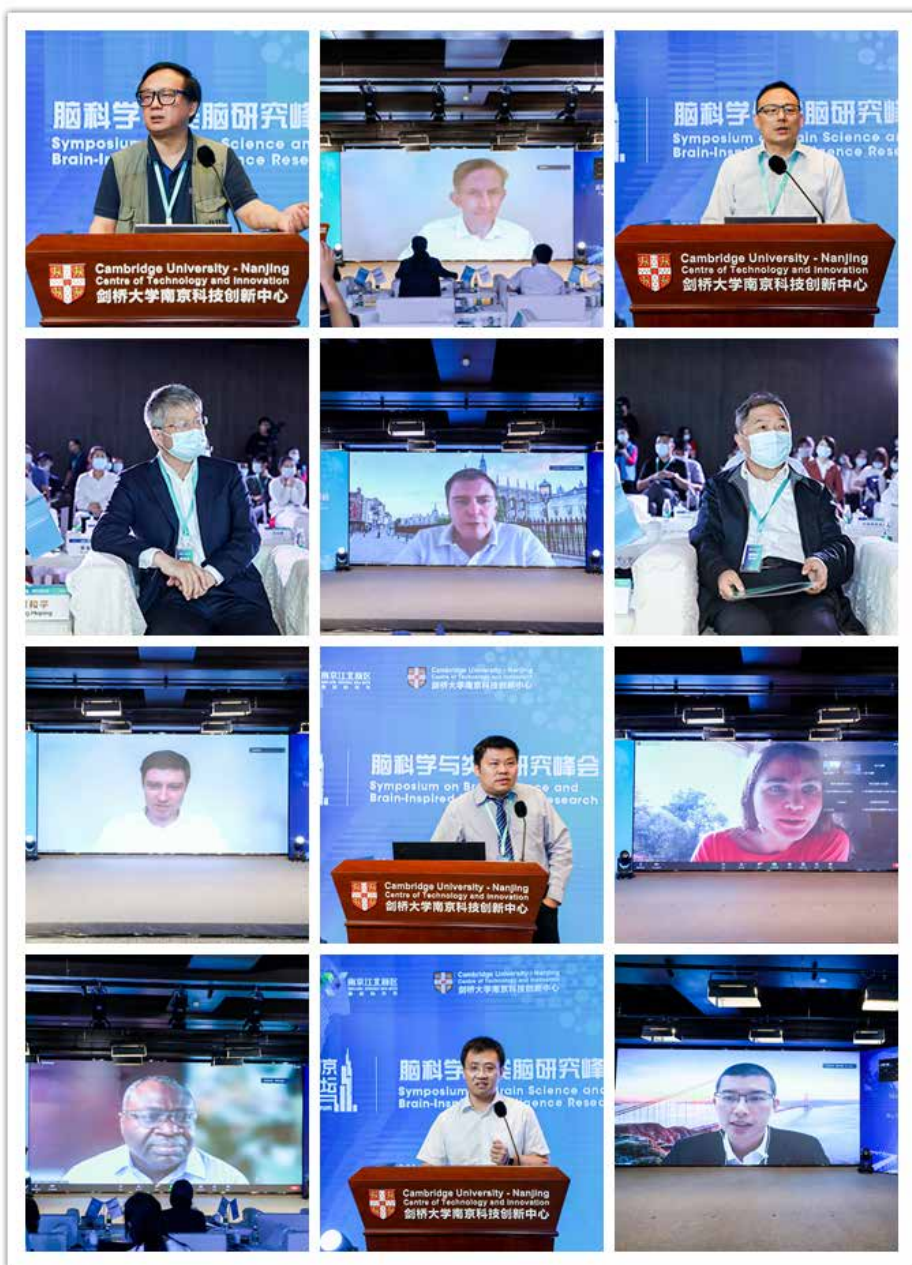


Academicians of Chinese Academy of Sciences and Chinese Academy of Engineering attending the symposium include You Zheng, academician of Chinese Academy of Engineering, former Vice President of Tsinghua University and current President of Huazhong University of Science and Technology; Dai Qionghai, academician of Chinese Academy of Engineering and Dean of School of Information Science and Technology, Tsinghua University; Cheng Heping, academician of Chinese Academy of Sciences and Professor of College of Future Technology, Peking University; Lin Lu, academician of Chinese Academy of Sciences and Director of Peking University Sixth Hospital; Fang Jiancheng, academician of Chinese Academy of Sciences and Executive Vice President of Beihang University; and Jiang Lei, academician of Chinese Academy of Sciences and Dean of School of Chemistry and Environment, Beihang University.



Professor Daping Chu extended his gratitude to all participants. He also mentioned that the recent years have witnessed great progress in human cognition research. In the next five to ten years, there will be fundamental breakthroughs in the basic research on brain science and brain-inspired intelligence. As an interdisciplinary science with broad application prospects, brain science and brain-inspired intelligence research has become an important frontier scientific field in the world, which requires top-class experts both at home and abroad to make concerted efforts and jointly tackle and solve the major challenges and difficult problems in this field. This symposium was “held by the Centre which is positioned as a platform for scientific and technological innovation and represents the strategic expectation of Cambridge University

and Nanjing for the Centre”. He hoped that the Centre would take the symposium as an opportunity to play a pivotal role in the promotion of the cooperation and exchanges between China and Cambridge University in the field of brain science research as well as in the breakthroughs of relevant research issues to push the Centre forward to continuously improve its work in international cooperation, industrial development, original innovation, etc.



Please scan the QR code for more points of views held by the symposium guests.



On the afternoon of 15 September 2021, witnessed by leaders and guests from both sides, a grand Opening Ceremony of CUNJC New Site was successfully held in Jiangbei New Area, Nanjing. The CUNJC New Site came into service, marking a new stage of the Centre's development.

Fang Jiancheng, Academician of Chinese Academy of Sciences and Executive Vice President of Beihang University, Jiang Lei, Academician of Chinese Academy of Sciences and Dean of School of Chemistry and Environment of Beihang University attended the offline event, Liu Qing, Director of the Yangtze River Delta National Technology Innovation Centre and President of Jiangsu Industrial Technology Research Institute, and leaders from Nanjing Government attended the event on site. You Zheng, Academician of Chinese Academy of Engineering, former vice president of Tsinghua University and current president of Huazhong University of Science and Technology, attended the event online.

Chris Wood, British Consul-General in Shanghai, Anne Ferguson-Smith, Pro-Vice-Chancellor for Research at Cambridge University, Richard Prager, Director of the Department of Engineering of Cambridge University, Peter Phillips, Chief Executive Officer of Cambridge University Press & Assessment, Tony Raven, Consultant to CEO of Cambridge Enterprise, Bruce Mortimer, Director of the Alumni Engagement & Events at the University of Cambridge and other British guests were invited to attend this event online. Daping Chu, a tenured professor of Cambridge University and CEO and Academic Director of the Centre, delivered a speech at the ceremony in person.



Professor Chu said that in context of the COVID-19 pandemic, it took just over a year to complete the design and construction of the entire new building, which is inseparable from the full concern and support of the governments of Nanjing and Jiangbei New Area, as well as the great efforts made by the Central Business District of Jiangbei New Area in the construction process. He believed that Jiangbei New Area, and more broadly, the entirety of Nanjing city, are favored places for advocating science and pursuing innovation, and in this new and grand building, the Centre will definitely usher in faster and better development. In terms of future development, he said that the Centre will continue to focus on and seize the high ground in scientific research; the Centre will continue to act as a bridge to promote international exchanges and cooperation in innovative resources, and attract a growing number of high-quality talents, technologies and projects to yield positive results in Nanjing, Jiangsu Province.

Anne Ferguson-Smith, Pro-Vice-Chancellor for Research at Cambridge University, has also paid high attention to the Centre's development. In her opinion, "The partnership between Cambridge University and Nanjing is strong and the foundation for cooperation is solid. The Centre is Cambridge's first large-scale overseas scientific research centre. Such an extensive cooperation is inseparable from the strong support of scientific research and supporting facilities and the governments. It is with the support of Nanjing and Jiangbei New Area that the magnificent new site of the Centre could be built." She said that the purpose of the Centre's projects is not for the benefit of either Cambridge or Nanjing, but to make sure that everything done conforms to and serves the common interests of both sides. She expects that with the highest international levels of cooperation between Nanjing and the university, Cambridge's mission of contributing to society through the pursuit of education, learning and research will be fulfilled, and both sides can jointly address global challenges such as global warming, low-carbon city and health care.





To quote Chris Wood, “The cooperation agreement on the establishment of the Centre was officially signed in 2018. Now based on the continuous cooperation between Cambridge University and Nanjing, the new site is about to come into service.” He also emphasized that the UK and China are natural partners in innovation. In the healthcare field, the UK has four of the world’s top ten universities in clinical and health sciences and two of the world’s top three universities in life sciences. “Only by working together can we develop therapies, drugs and clinical solutions that are safer, higher-quality and more effective to cope with the challenges in global health.”

On 30 August, Qun Luo, Deputy Secretary of the Jiangbei New Area Party Working Committee, and Jianpeng Chen, Secretary of the CPC Working Committee and Director of the Management Office of the Central Business District, led a team to the Centre’s new site for an investigation tour. Mr. Luo showed his concerns about the project staffing situation and the industrialization progress of the Centre. He mentioned that it is necessary to speed up the recruitment of scientific researchers and the achievement transformation. He also pointed out that the Centre should develop in line with the orientations of the New Area, actively collect enterprise needs, and attract enterprises to cooperate with the Centre.

Mr. Luo also visited “ReaVis”, a technology start-up landed in the Centre, founded under the leadership of Dr. Yuanbo Deng, one of the principal cooperating investigators of the Centre.



On 27 August, Chanmei Chen, Deputy Director of Jiangbei New Area Management Committee, and Jianpeng Chen, Secretary of the CPC Working Committee and the Director of Management Office of the Central Business District, led a team to the Centre for an investigation tour and held discussions with Albert Wu, General Research Manager of the Centre, and relevant personnel. Ms. Chanmei Chen carefully listened to the work progress reported by various departments of the Centre and learned about the difficulties and challenges encountered by the Centre in its development process. She encouraged our staffs to make persistent efforts and rely on the top international resources of Cambridge University to contribute more to the scientific and technological innovation cause of Jiangbei New Area.

02 RESEARCH TRENDS

科研动态

In August, a researcher and an intern joined the Centre's research project of "high power density DC converters of 48V power supply systems used for data centres".



Xu Chen, a Jilin University graduate with a doctorate in engineering and a Technical University of Denmark post-doctor, has research interests mainly in the fields of power electronics, wireless charging, photovoltaic inverter, DC / DC converter and proton exchange membrane (PEM) technology for hydrogen production. Currently, he is fully engaged in the research and technology transfer of high power density and high efficiency DC / DC converter in the project of "high power density DC converters of 48V power supply systems used for data centres".

Hui Zhao is graduated from the University of Florida with a doctorate in engineering and has a postdoctoral degree from Cambridge University. His research interests mainly include power electronics and electromagnetic compatibility. He is now an intern in the project of "high power density DC converters of 48V power supply systems used for data centres".



The project of "high power density DC converters of 48V power supply systems used for data centres" is led by Dr. Teng Long, a lecturer of Cambridge University. Relying on Cambridge University - Nanjing Centre of Technology and Innovation, this team proposed a new topological structure for DC-to-DC converter and its derived structure, which is especially suitable for 48V DC power supply system.

This structure improves the power density by at least 50% compared to the current switched capacitor structure, especially in the application scenarios of high voltage conversion ratio. The increased power density can greatly reduce the size of the converter and the distance between the converter and the processor (CPU or GPU) in the layout position. It also effectively reduces the transmission power loss. An efficient 48V DC-DC converter is the core technology of the 48V DC power supply. In the future, the power supply system of the data centre using 48V DC power supply will reduce energy consumption by more than 7% compared with traditional data centres.

03 ALUMNI ACTIVITIES

校友活动 ▶▶

On 15 September, the Centre held the first alumni salon, which was presided over by Albert Wu, General Research Manager of the Centre. Zhenbai Shang, Deputy Director of Jiangbei New Area Science and Technology Innovation Bureau. The 26 participants include Oxford-Cambridge alumni from Beijing Oxford-Cambridge Alumni Association, Jiangsu and Zhejiang Oxford-Cambridge Alumni Association, Shanghai Cambridge University Alumni Association, etc., as well as enterprise guests.



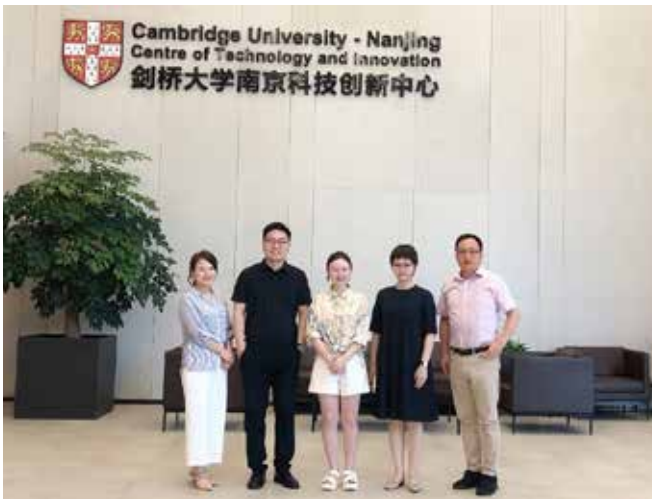
04 COOPERATION AND EXCHANGE

合作交流 ▶▶

On 8 September, at the invitation of the Johns Hopkins University - Nanjing University Center for Chinese and American Studies, Professor Daping Chu, Academic Director and CEO of the Centre, led a team to visit and held a discussion meeting with Cong Cong, Chinese Co-Director of Johns Hopkins University - Nanjing University Center for Chinese and American Studies, John Urban, Deputy American Co-Director.



At the meeting, the two sides introduced the original intention and vision of their centres respectively as well as the organizational structures and project progress. They also discussed the different potential cooperations in the future. Director Daping Chu and his team also investigated the infrastructure and hardware construction of the Center for Chinese and American Studies and learned about its experience in carrying out international exchange projects and online learning programs.



On 7 July, Wenyi Yang, an officer of Nanjing Western Returned Scholars Association, and its Secretary-General Junhai Yan, visited the Centre for an investigation tour, accompanied by Yun Li, first-level investigator of Jiangbei New Area Management Committee, Hongqing Teng, Deputy Secretary of Party Working Committee and Secretary of the Disciplinary Working Committee of Central Business District. Albert Wu, General Research Manager of the Centre, greeted and held discussions with them. Ms. Wenyi Yang was presented with the details of the establishment background and development of the Centre. She also expressed her vision for further cooperation between the Western Returned Scholars Association and CUNJC in the future. Albet Wu said that, as a supporting platform of Cambridge University in China, the Centre will cooperate with all parties in science and technology development and talent aggregation to make due contributions to the local scientific and technological innovation development.

On 10 September, Qianlei Yao, Deputy Director of Department of International Cooperation, Yangtze Delta Region Institute of Tsinghua University, Zhejiang, and Yufei Wu, Director Assistant, visited the Centre. Albert Wu, General Research Manager of the Centre, Dr. Yuanbo Deng, Project Cooperation PI, held talks with them. Ms. Qianlei Yao introduced the structure and strategic development vision of Yangtze Delta Region Institute of Tsinghua University, Zhejiang, as well as the main businesses of the Department of International Cooperation, and discussed the possible cooperation between the two sides.



On 23 September, Liang Wang, Deputy Director of Overseas Cooperation Department of Jiangsu Industrial Technology Research Institute, and Yun Wang, Director Assistant, visited the Centre for an exchange session. Albert Wu, General Research Manager of the Centre, greeted and held talks with them. The two sides exchanged views on the ways and objectives of long-term cooperation and further discussed strategic cooperation two sides.



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