

# Newsletter

ZJU-UIUC INSTITUTE | 2023-2024 Winter | Volume 26



## ZJUI signed a MoU with Department of Engineering, University of Cambridge

Date:02/12/2023 Article&Photo Credit:Simon Hu

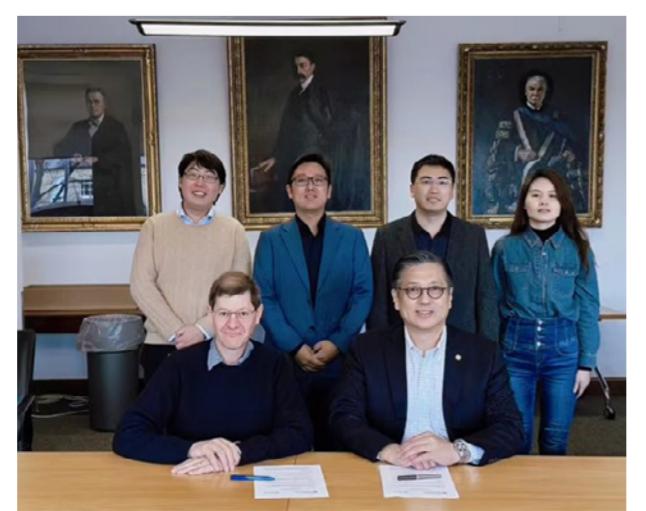
Recently, at the invitation of Cambridge University, Prof. Lee Der-Horng, Dean of ZJUI, led a delegation including Prof. Chen Xiqun, Director of the Institute of Intelligent Transportation Systems at Zhejiang University, and Assist Prof. Simon Hu, Assistant Dean of ZJUI, to attend an international conference on sustainable road freight in the UK, and further expanded exchanges and cooperation with the Department of Engineering at the University of Cambridge.

On December 1, 2023 (local time), ZJUI and the Department of Engineering at the University of Cambridge jointly signed a memorandum of understanding for cooperation. Academician Lee Der-Horng, Dean of ZJUI, Academician of the Academy of Engineering, Singapore, and Fellow David Cebon of the University of Cambridge and of the Royal Academy of Engineering, signed memorandums of understanding on behalf of the two parties.

According to the Memorandum of Understanding, both parties will actively promote and deepen academic cooperation in the next three years, including jointly building a research center for sustainable urban road transportation and logistics, promoting mutual research and further education between faculty members and students, and exchanging high-quality educational resources between the two schools. The signing of this Memorandum of Understanding not only builds a platform for academic cooperation between the two universities, promotes exchanges and cooperation in research and teaching in the direction of Sustainable Smart Liveable Cities, but also lays the foundation for the long-term cooperation mechanism between

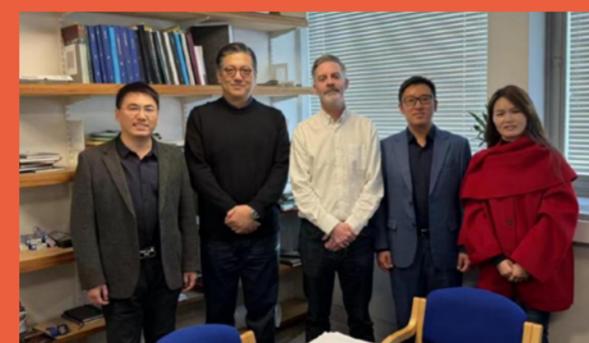
the two universities in related disciplines. In the future, both sides will further integrate the numerous research platforms including ZJUI and the Institute of Intelligent Transportation Systems, jointly coupling and innovating in the field of sustainable urban roads, transportation, and logistics research worldwide, promoting academic exchanges between China and foreign countries, and creating a research atmosphere of interdisciplinary integration and team collaboration and development.

The University of Cambridge, founded in 1209, is one of the world's top universities and the second oldest in the English-speaking world. It operates on an academy system and has over 19000 full-time students. According to the Times Higher Education World University Discipline Rankings, the University of Cambridge ranks in the top 10 globally in fields such as arts and humanities, law, business and economics, social sciences, clinical medicine and health, computer science, engineering and technology, life sciences, and natural sciences. The University of Cambridge is known as the "Golden Triangle" and the "G5 Super Elite University". In 2018, Zhejiang University signed a cooperation agreement with the University of Cambridge, focusing on a multi-institutional, multidisciplinary, and multi-level partnership strategy, focusing on business research and student cultivation in fields such as new finance, new retail, new technology, new industries, and new markets. 



## A delegation from ZJUI visited Imperial College London

Date:02/12/2023 Article&Photo Credit: Simon Hu, Zhang Lin



Recently, Academician Lee Der-Horng, Dean of ZJUI, led a delegation to visit the Imperial College London. They exchanged ideas related to cooperation in various fields in the future. Prof. Chen Xiqun, the Director of the Institute of Intelligent Transportation Systems, ZJU, and Assist Prof. Simon Hu, the Assistant Dean of ZJUI participated in the visit.

The delegation visited Prof. Daniel Graham, Director of the Transport Research Center of Imperial College London, and Fellow Washington Yotto Ochieng, Chief Professor of Imperial College London. Both sides exchanged their ideas towards the research fields and ways of cooperation, and both expressed strong wishes to cooperation.

This visit constructed a platform in which ZJUI and Imperial College London could have academic cooperation together and established a strong basis for the future cooperation. The delegation noted that they will continuously deepen the cooperation relationship between the two sides and promote the progress of global research. 

## Wang Rui

2023 Undergraduate in Mechanical Engineering

won the gold medal in the women's first division 100-meter backstroke at the 2023 National Swimming Championships for College Students with a time of 1 minute 16.29 seconds.



Since kindergarten, Wang Rui has been closely related to swimming. Starting from primary school, she persisted in training for at least two hours a day, which strengthened her physique and honed her willpower. This persistent effort allowed her to become a national first-class athlete in her first year of junior high school. After entering the senior high school, Wang Rui still insisted on setting aside time every day for swimming, but the heavy academic pressure forced her to put aside her swimming career in the second year of high school. Her passion for swimming kept burning brightly. After entering university, Wang Rui naturally joined the Zhejiang University swimming team with outstanding skills. Despite facing various difficulties such as time conflicts and insufficient training time before competitions, Wang Rui's love for swimming pools and waterways never fades. Almost every night after finishing a day of intense study, she immersed herself in the swimming pool and actively trained.

In the 2023 National Swimming Championships for College Students held in mid-December, Wang Rui represented Zhejiang University to participate in the competition. At the beginning of the competition, she saw many athletes with high levels, but she did not make significant breakthroughs in her spare training time. In addition, she participated in a backstroke event that she was not good at, which made her very nervous. During the final,

## Champion of the National Swimming Championships for College Students! See how ZJUI student accumulates to pursue the original intention while maintaining the passion

Date:02/01/2024 Article:Xu Leqi Photo Credit:From the interviewee

Wang Rui felt a bit tired in the later stage. But the indomitable spirit of hard struggle in her heart supported her to persevere in the icy waterway, ultimately winning the championship with a performance one second faster than her best performance in the preliminary round.

Swimming has been Wang Rui's perseverance from childhood to adulthood, and Zhejiang University is also her unchanging pursuit. The seeds of Zhejiang University were planted early in the heart of Wang Rui when she was a little child. The parents of her who are ZJU alumni, the enlightenment coach who had close ties to the Zhejiang University swimming team, and the other ZJU alumni around her constantly showed Wang Rui the charm of Zhejiang University. When she was a child, she and her father often went to the cafeteria at the Huajiaochi Campus, ZJU to have meals after training, and they would also take walks on the campus avenue and play on the lawn together. The most memorable moment for her was when she and her father admired the bronze statue of President Co-ching Chu on the lawn. Her father's narration of university life and his pride in being a ZJU alumnus have made her curious and hopeful about Zhejiang University from a young age. After entering high school, Zhejiang University became a landmark and star on her journey forward.

This seed quietly took root, sprouted, and finally bloomed into a brilliant flower after she stepped into ZJUI.

Entering her desired university is not the end of Wang Rui's striving, but the prelude to her colorful and busy life at ZJUI. Beliefs and goals are not meant to be spoken, sung, or embellished. They are only convincing when seen in action. The girl who is accompanied by swimming will carry forward her firm will and indomitable spirit. Facing the whole English teaching of ZJUI professional courses, language has become her first challenge. In the first few months, from pre-class preparation to actively communicating with faculty members about course assignments and difficult problems, she memorized professional vocabulary every day and gradually grew through accumulation. After breaking through the language bottleneck, she quickly felt the unique charm of interdisciplinary curriculum design. The programming modules in the CS101 Introduction to Computing: Engineering & Science and ECE110 Introduction to Electronics deepened her understanding of the computer field and laid the foundation for her future exploration in the fields of mechanical automation. It also gives her the possibility to combine her interests with the discipline.

Let's give a thumbs-up to ZJUI's excellent freshman Wang Rui! 

## ZJUI Students' Paper Clinches the Sole "Best" Award at the International Conference on Robotics and Automation Engineering (ICRAE)!

Date:12/12/2023 Article&Photo Credit: The Research Group of Assist Prof. Yang Liangjing

Recently, the 8th International Conference on Robotics and Automation Engineering (ICRAE 2023) was held in Singapore. (Zhejiang University - University of Illinois Urbana-Champaign Institute (ZJUI) can notable success as Mr. Mai Haonan, a Master's student in Mechanical Engineering (Class of 2022), Mr. Chen Xianhao, a Master's student in AI and Digital Health (Class of 2022), and Mr. Chang Leixin, a Master's student in Mechanical Engineering (Class of 2023), under the guidance of ZJUI Assist Prof. Yang Liangjing, won the only Best Student Paper Award for their work titled "Dynamic 3D Reconstruction using Moving Depth Camera Mounted on Robotic Arm."

The paper explores the application of 3D perception technology in medical scenarios, aiming to generate virtual fixtures guiding the motion of robotic arms. This innovation promises to enhance the safety of medical surgeries and improve the efficiency of human-machine interaction. The paper analyzes and compares various 3D reconstruction methods based on different data descriptions in the context of medical human-machine interaction, ultimately determining the most suitable data description method. This lays the foundation for further development of 3D reconstruction systems.

ICRAE 2023, co-hosted by the Singapore Systems Society and Tongji University, revolves closely around technical exchanges in robot design, development, and control. The conference serves as a broad and effective academic exchange platform for experts and scholars in the fields of robotics and automation engineering globally. It attracted participation from over a hundred experts and scholars in the field. The papers accepted and presented at the conference have been included in the IEEE Xplore database ICRAE 2023 conference proceedings and submitted for indexing in EI Core and Scopus.

The research group led by Assist Prof. Yang Liangjing has long been engaged in research in the fields of robotics and computer vision, with a focus on applications in the medical domain, such as medical image reconstruction and surgical navigation. Their contributions to the development of surgical robotic systems, minimally invasive surgical navigation technology, and microscope image-based micromanipulation have been internationally recognized by professional communities of the respective fields. 



## ZJUI 2024 Spring Faculty & Staff Meeting was held successfully

Date: 29/02/2024 Article: Yu Mengyue  
Photo Credits: Zhang Yi



"The best is yet to be." On the evening of February 26th, the 2024 Spring Faculty& Staff Meeting of ZJUI was successfully held. Academician Lee Der-Horng, Dean of ZJUI, Prof. Jin Jianming, Executive Dean of ZJUI, Prof. Ma Hao, Vice Dean of ZJUI, and Prof. Wang Hongwei, Vice Dean of ZJUI, attended the meeting. More than 60 faculty members and staff gathered together to clarify the new situation and tasks of high-quality development of the institute, and to firmly establish the goals and plan a layout for the ZJUI's development in 2024. The meeting was presided over by Prof. Wang Hongwei.

In 2024, all faculty members and staff will take this meeting as an opportunity to gather consensus, form joint efforts, and work together to strive for a better future and write a new chapter for the institute.

## From NUS to ZJUI, Cadence, ZJUI international exchange student, fell in love with campus life here!

Date: 18/02/2024 Article&Photo Credit: From interviewee



Cadence Sioow Jing Xuan

- Studying bio/mechanical engineering in NUS (Singapore)
- ZJUI's First Non UIUC International Exchange Student
- Loves traveling, cycling, and performing music
- Likes exploring more possibilities for herself in the unknown

Cadence's exchange life has been painted with step-by-step efforts. When she first arrived at ZJUI, Cadence felt a lot of pressure due to her unfamiliarity with the curriculum and teaching models. Slowly, with the care and help of her professors and classmates, she felt the unique charm of ZJUI's international engineering curriculum system.

"I am very grateful for the guidance from my instructors and the help and concern from my classmates! The interdisciplinary courses featuring convergence and integration are very interesting, and small class teaching is also a fresh experience for me. Therefore, I quickly integrated into ZJUI and gained a lot," she told us.

In her spare time, Cadence gathered for dinner, learned Taekwondo, and celebrated her 20th birthday with friends...

During Cadence's time studying at ZJUI, the most valuable gains were the improvement of personal abilities, the enrichment of international learning experience, and the transformation of mindset. She has a lot of nostalgia for the International Campus, and she misses ZJUI very much!

## ZJUI 2023 Year-end Meeting & 2024 Key Work Retreat were Successfully Held

Date: 26/01/2024 Article&Photo Credit: Zhang Yi



From January 23rd to January 24th, the 2023 Year-end Meeting and the 2024 Key Work Retreat of ZJUI were successfully held. Academician Lee Der-Horng, Dean of ZJUI, Prof. Jin Jianming, Executive Dean of ZJUI, Prof. Ma Hao, Vice Dean of ZJUI, and Prof. Wang Hongwei, Vice Dean of ZJUI, attended the meeting. More than 100 faculty members and staff gathered together to review and summarize the past 2023 and look forward to the future. The 2024 Key Work Retreat was chaired by Dean Lee Der-Horng, and the 2023 Year-end Meeting was chaired by Prof. Wang Hongwei.

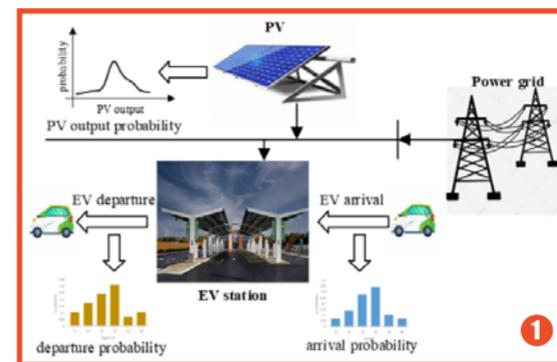
The 2023 Year-end Meeting commended advanced teams and individuals who have received honors at the university, campus, and institute levels. ZJUI leaders awarded the prizes to and take group photos with the commended individuals in order. At the meeting, a welcoming ceremony for newly recruited faculty members and a ceremony for awarding the certificate to them were also held.

At the 2024 Key Work Retreat held on January 24th, in-depth discussions and exchanges were held among ZJUI leaders, directors of research divisions, academic directors of undergraduate programs, and internal office heads on key issues such as faculty development and tenure-track, undergraduate education and teaching evaluation and ABET evaluation, scientific research and technology transformation, and Engineering+ program construction.

## News in Pictures



Date:13/01/2024 2023 Annual Academic Conference-ZJU-UIUC Forum was held grandly at the International Campus, ZJU



Date:09/12/2023 A Unique Eaton Scholarship Award Ceremony inspires ZJUI Students to Explore and Innovate



Date:27/12/2023 ZJUI and Wenzhou Port Group Co., Ltd. have successfully signed an "Industry-University-Research" strategic cooperation agreement and an agreement on establishing a student practice base

## Topping off of the first multi-story tall engineered bamboo building! Milestone research achievements of ZJUI Prof. Y. Xiao's group over the past 20 years

Date:17/01/2024 Article:From Ninghai News  
Photo Credit: Wu Ruijia, Hou Yubing, Guo Weichang

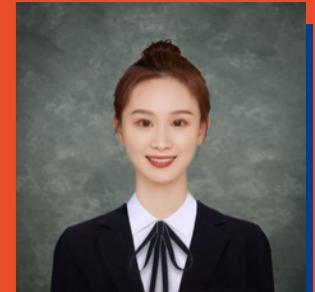


On January 12th, a topping off ceremony was held for the first multi-story modern bamboo building developed and designed by Prof. Xiao's research group of ZJUI at the Zhejiang University (Ninghai) Joint Research Center for Bio-based Materials and Carbon Neutral Development. This building situated at the southern foot of Feifeng Mountain and has been constructed under the support of Ninghai Chengtou Group Co., Ltd. The building embodies the research achievements of the group over the past 20 years under multiple research projects funded by National Natural Science Foundation of China (NSFC), Ministry of Science and Technology (MOST), Zhejiang University Center for Balance Architecture, etc., and reflects the latest bamboo and wood structure technology at home and abroad. It is expected to become a landmark building for studying bamboo structures, providing a platform for interdisciplinary research on biomass materials and bamboo structures, and a showcasing for biomass materials and structural technology.

1. Doctoral Student from Assoc Prof. Diao Ruisheng's Research Group Published a Paper: Optimizing the charging process of electric vehicles through reinforcement learning in response to the power regulation needs of the power grid

2. Doctoral Student from Assist Prof. Kemal Celebi's Research Group Published a Paper in *Microporous and Mesoporous Materials*: a rapid preparation strategy for two-dimensional molecular sieve material from a few days to 15 minutes!

## Welcome on board



Cheng Yushi  
Assistant Professor

Dr. Yushi Cheng joined the ZJU-UIUC Institute as a tenure-track assistant professor from December 2023. Before that, she was a Shuimu postdoctoral researcher in Tsinghua University from September 2021 to November 2023. She obtained her Ph.D. and B.Eng in Control Science and Engineering from Zhejiang University in 2021 and 2016, respectively. Yushi's research interests include IoT security, AI security, and mobile & ubiquitous computing. Recently, she has been particularly interested in the security of deep generative models (e.g., GPTs) as well as intelligent systems such as autonomous vehicles, etc. Her research works have been published in top journals and conferences such as IEEE S&P, ACM CCS, USENIX Security, NDSS, IEEE TDSC, IEEE TMC, etc. She received a WST best paper runnerup award in 2017, and an ASIACCS best paper award in 2018. She has been serving as the reviewer for top journals and conferences, including USENIX Security, IEEE TON, IEEE IOTJ, etc.

Research Interests:  
IoT security, AI security, and mobile & ubiquitous computing



Yu Xinbo  
Assistant Professor

Dr. Bruce X.B. Yu joined ZJU-UIUC Institute as an Assistant Professor in January 2024. Before joining the institute, he served as a Post-doc Fellow with the Department of Computing at the Hong Kong Polytechnic University where he earned his Ph.D. in September 2020. His research expertise spans across big data analytics, artificial intelligence, and image/video processing. His primary research topic is vision-based human behavior understanding, leading to publications on top venues such as TPAMI, Pattern Recognition, ICCV, AAAI, and IJCAI. His research outcomes also get international recognition such as best paper and best presentation awards. He has been actively conducting interdisciplinary research through various application-oriented projects, leading to publications on top venues such as IEEE Transactions on Automation Science and Engineering, and Tourism Management. Besides application-driven research, he also works on fundamental research problems such as 3D human pose reconstruction, multimodal data/sensor fusion, and efficient transfer learning.

Research Interests:  
Big data analytics, artificial intelligence, and image/video processing