

# Newsletter

ZJU-UIUC INSTITUTE | Spring 2022 | Volume 19



## The 20th anniversary series celebration of the cooperation between Zhejiang University and the University of Illinois at Urbana-Champaign kicks off in the cloud

Date:17/05/2022  
Article: ZJU News

On the morning of April 19, Zhejiang University and the University of Illinois at Urbana-Champaign (UIUC) held an online meeting, kicking off a series of celebrations for the 20th anniversary of the cooperation between the two universities. President of Zhejiang University WU Zhaohui, Vice President HE Lianzhen, Chancellor of UIUC Robert J. Jones, Vice Chancellor Susan Martinis, Vice Chancellor Sean Garrick and representatives of relevant departments of the two universities gathered in the cloud to recall friendship and seek common development.



Photo Credits: ZJU News

Professor WU Zhaohui pointed out that in the face of increasingly prominent global issues and complex international situations, ZJU adheres to the concept of open cooperation and continuously consolidates and promotes teaching and research cooperation with global partners. ZJUI has developed into a flagship achievement of cooperation between the two universities and a benchmark for Sino-foreign cooperative education. ZJU-UIUC Joint Research Center focuses on human health, energy and environment, and sustainable manufacturing, where the two universities work together to contribute to solving major global challenges. Facing the future, Zhejiang University looks forward to working with UIUC to explore new cooperative growth aspects, deepen cooperation and enhance global influence in pursuit of the United Nations Sustainable Development Goals.

Professor Robert J. Jones, Chancellor of UIUC, said that although the pandemic has affected international mobility, it has not halted the progress of cooperation between the two universities. He recalled that in the past 20 years, the two universities have gradually developed from signing a Memorandum of Understanding to practical cooperation in multiple fields, and have achieved remarkable results in teaching, scientific research, and innovation. The establishment of ZJUI has made the cooperation between the two universities closer, which has now developed into a paradigm for innovative and international cooperation in global higher education. Robert J. Jones expressed full confidence in the prospect of cooperation between the two universities in the next two decades and beyond, and looked forward to further building a close and sustainable cooperative relationship based on openness, mutual trust, and mutual benefit.

Professor Der-Horng Lee, Dean of ZJUI, Professor K.C. Ting, and Professor Xinlei Wang of UIUC Department of Agricultural and Biological Engineering presented the history and highlights of the cooperation between the two universities. Professor HE Lianzhen, Vice President of Zhejiang University, and Professor Susan Martinis, Vice Chancellor of UIUC, outlined the collaboration prospects in the next two decades, and hoped for everlasting friendship between the two universities and joint contributions to building a better world.

Zhejiang University and the University of Illinois at Urbana-Champaign established an inter-University partnership in July 2002. In the past two decades, the two universities have carried out multi-level cooperation in various fields and successively established cooperative institutions such as ZJUI and ZJU-UIUC Joint Research Center, setting a model for Sino-US higher education cooperation.

## Commencement for the ZJUI Class of 2022

Date:29/05/2022 Article: KE Yinegn; Stephanie  
Photo: ZJUI



On May 29, ZJUI held a grand commencement to confer upon the graduating Class of 2022 their UIUC B.S. degrees on the Haining International Campus of Zhejiang University.

Prof. WU Zhaohui, President of Zhejiang University, and Prof. Robert J. Jones, Chancellor of the University of Illinois at Urbana-Champaign, delivered welcome remarks in China and in the U.S. respectively. Also present at the ceremony were Prof. HE Lianzhen, Vice President of Zhejiang University, and Prof. Andreas Cangellaris, Vice Chancellor for Academic Affairs and Provost at the University of Illinois at Urbana-Champaign.

At the ceremony, the Class of 2022 walked across the stage individually to embrace a significant moment in life. Vice President HE Lianzhen and Prof. OUYANG Hongwei, Dean of the Haining International Campus, awarded the degree certificate for each student, and Chancellor Jones conferred the bachelor degree from UIUC online.

## Top-tier recognition for 5 consecutive years! ZJUI students continue to make remarkable accomplishments in the 2022 International Mathematical Contest in Modeling

Date: 16/05/2022 Article:Joyce

Recently, the results of the 2022 International Mathematical Contest in Modeling (MCM/ICM) were announced. Thirteen teams consisted of thirty-nine ZJUI students achieved exhilarating outcomes in the fierce competition against more than 27,000 excellent contenders. According to incomplete statistics, six ZJUI students were designated "Finalist (top 2% teams qualify)", nine students were designated "Meritorious Winners (top 7% teams qualify)", fifteen students received "Honorable Mentions" and other nine students were designated "Successful Participants".



## Guest Speaker Prof. Jin-Guang Teng Participated in the CIRCLE Distinguished Lecture Series

Date: 24/04/2022 Article: LI Xinyang Photo: LI Xinyang

On April 20, Professor Jin-Guang Teng, President of The Hong Kong Polytechnic University (PolyU), a member of the Chinese Academy of Sciences, and alumnus of Zhejiang University, participated in the CIRCLE Distinguished Seminar.

Professor Teng delivered a lecture themed on Structural Engineering Innovations with Emerging Materials for a Carbon-neutral Future. During the lecture, Professor Teng introduced the emerging materials including Fiber-reinforced polymer composites, Fiber-reinforced cementitious composites, fabric-reinforced concrete, seawater sea-sand concrete, ultra-high performance concrete, ultra-high performance steel, and various types of green materials. He then analyzed the potential and advantages of these materials through large amounts of research data, so as to help students better understand the properties of these new materials.

Through this seminar, students learned not only the structural engineering innovations based on new materials under the background of carbon neutral, but also a method of analyzing materials. The seminar encouraged students to apply what they have learned to help develop a sustainable future, and stressed the importance that students deeply understand the significance of energy conservation and emission reduction.



## 1st Asia-Pacific Carbon Neutrality Symposium successfully held

Date: 12/04/2022 Article Credits: Global Communications, Office of Global Engagement, ZJU

It is not only a strategic course of action in response to climate change but also an inevitable option to promote the building of a community with a shared future for mankind that every nation should achieve peak CO2 emissions to carbon neutrality. As part of the Global ZJU for Social Good (Z4G), the 1st Asia-Pacific Carbon Neutrality Symposium was successfully held virtually on April 11-12. The symposium was jointly hosted by Zhejiang University, the University of Sydney (USYD), the National University of Singapore (NUS) and Indian Institute of Technology Madras (IIT Madras). It aimed for robust discussions on Carbon Capture, Utilization and Sequestration, Sustainable Energy, and Sustainable City and Construction, promoting cross-institutional knowledge sharing in the Asia-Pacific region and solutions to major global challenges.

Prof. HE Lianzhen, ZJU Vice President, Prof. Katherine Belov, USYD Interim Deputy-Vice-Chancellor (Research), Prof. Reuben Wong, NUS Associate Vice President, and Prof. Ragunathan Rengaswamy, IIT Madras Dean for Global Engagement delivered speeches at the opening session, which was moderated by LI Min, Director of the ZJU Office of Global

Engagement.

The symposium included three sessions: Carbon Capture, Utilization and Sequestration (CCUS), Sustainable Energy, and Sustainable City and Construction. In one of the sessions, ZJUI Assistant Professor Cristoforo Demartino gave a talk, and introduced the research objects, research teams and achievements of the ZJUI Center for Infrastructure Resilience in Cities as Livable Environments. ZJUI PhD candidate SHU Siqi introduced the way to achieve carbon neutrality in urban transportation. By introducing Sustainable Future for Road Freight Transport, Pathway to Achieve Decarbonizing Goals, etc., she shared her research projects, and portrayed a greener, and more sustainable future.

The symposium was concluded by an in-depth discussion on the prospects for cooperation and collaboration in research and education in the domains of sustainable development and carbon neutrality. More than 400 scholars and students from China and abroad registered for the symposium and over 2,300 people participated via live-streaming platforms.

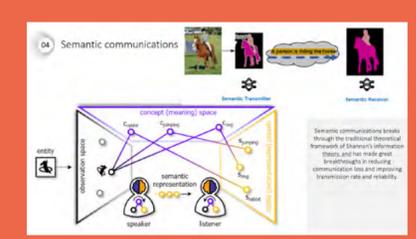
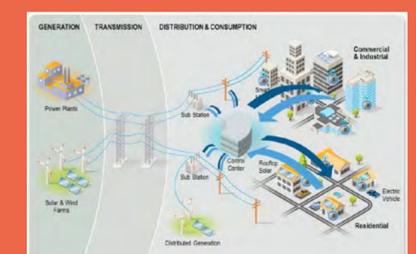
## 48 ZJUI Student Research Training Programs have been Approved in 2022

Date: 25/05/2022  
Article: ZHANG Yi, WANG Ruoqing, YU Mengyue  
Photo: From SRTPT teams

Recently, Zhejiang University's 2022 Undergraduate Student Research Training Program (SRTPT) has been announced, and 48 ZJUI Undergraduate Student Research Training Programs (SRTPT) were approved after strict evaluation by the expert team, including 6 national innovation projects, 6 provincial innovation projects, 19 university-level projects, 15 institute-level projects, and 2 scientific research and practice projects.

The topic selection of this SRTPT reflects the characteristics of cross-disciplinary integration. Many groups focus on the frontier of technology, such as "Neural Network Colliding with Material Model," "Correlated Noise Injection for Differentially Private Federated Learning" etc. There are also groups aiming at social problems, trying to break through traditional solutions by combining engineering methods, such as "Rehabilitation Type Assisted Walking Exoskeleton," and "Wearable Sensors for Waist Posture and Disease Detection," etc.

During the project approval process, students also took the initiative to contact professors from various interdisciplinary international research centers and other campuses of Zhejiang University according to their research interests. Under the guidance of experts in various fields, they set up a special research group to carry out projects such as "Perovskite light-emitting and energy electronic devices," "Combinatorial Optimization Problem Solving Based on Ising Model," and "Intelligent home design and experience platform design based on VR" and other topics.



## The First International Competition on Modern Bamboo Structure Building Design Concluded Successfully: ZJUI freshmen exhibited innovation talent!

Date:23/05/2022 Article:Qi Shengwei  
Translator: XU Jiawen, YU Mengyue  
Photo:From the competition

The First International Competition on Modern Bamboo Structure Building Design concluded successfully on May 13th. The competition was organized by ZJUI, Zhejiang University (Ninghai) Joint Research Center for Bio-Based Materials and Carbon Neutral Development, China Wood Protection Industry Association, the American Society of Civil Engineers (ASCE), and Engineered Bamboo Structures task committee. Under the strategic goals of "carbon peak" and "carbon neutrality", the competition provided creative possibilities for application of bamboo structure on modern building. Prof. CUI Kai, member of Chinese Academy of Engineering, Prof. Liu Jiaping, member of Chinese Academy of Engineering, Prof. B. F. Spencer, foreign member of Chinese Academy of Engineering, and other domestic and foreign experts in the field of architecture were invited to participate in the evaluation through video conference. Finally, the first prize was won by South China Agricultural University and Nanjing Tech University. The second and third prizes were awarded to teams from ten universities at home and abroad, including the Ethiopian College of Architecture, the University of Auckland from New Zealand, and Southeast University from China. The entry 'loft without Autumn' won the innovative design award, which was designed by LI Xinyang, YU Yingying and LE Zhiyuan, ZJUI freshmen in civil engineering, CUI Xiaotong, a ZJUI freshman in electrical engineering, and DONG Siyi from Imperial College London, a ZJUI 2021 civil engineering graduate.

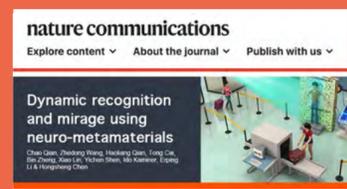
The competition is supported and promoted by Zhejiang University's latest Sustainability Action Plan-A Global ZJU for Social Good (Z4G plan) and the International Association of Universities (IAU), which helped to attract a large number of international university teams to participate and enhanced the competition's global influence. 🏆

## Dr. QIAN Chao published an article in Nature Communication: Dynamic recognition and mirage invisibility of neuro-metamaterials

Date: 24/05/2022 Article: QIAN Chao's group;  
Translator: JIANG Junyue, QIAN Chao, YU Mengyue  
Photo: QIAN Chao's group

Recently, the internationally renowned comprehensive journal Nature Communications has reported the latest research results of the research group of QIAN Chao, a researcher and Assistant Professor at Zhejiang University-the University of Illinois at Urbana-Champaign (ZJUI), and his collaborative teams at home and abroad with the title of "Dynamic recognition and mirage using neuro-metamaterials". The research group proposed the concept of neuro-metamaterials for dynamic object recognition and mirage invisibility.

Link to the paper:  
<https://www.nature.com/articles/s41467-022-30377-6>



## Chinese Arbor Day saw ZJUIers in action!

Date: 15/03/2022 Article: MO Chenyi  
Translator: LI Xinyang Photo: CHEN Chuqiao

On March 9, 2022, at the invitation of Ninghai County Natural Resources and Planning Bureau and Ninghai County Youth League Committee, students and faculty from the research group of Professor XIAO Yan, Director of the Program of Energy, Environment and Sustainable Systems Science, participated in the theme activity on the Chinese Arbor Day.

With the theme of "Leading Low-carbon Lifestyle," the activity aims to promote the ideas of low-carbon lifestyle and call on more youngsters to become practitioners and promoters of the carbon peaking and carbon neutrality goals.

In the morning, more than 50 young representatives from various institutions of Ningbo visited the Zhejiang University (Ninghai) Joint Research Center for Bio-based Materials which is co-established by ZJUI and Ninghai County. They experienced the process of researching and manufacturing low-carbon bio-based materials, and worked to enhance awareness of low carbon construction.

After a seminar on the concept of "carbon neutrality", ZJUI students and faculty went to Zhejiang Forestry Carbon Sink Research Base and Ninghai Chashan Forest Farm to participate in the Chinese Arbor Day activity together with the other participants. Spading a shovelful of earth, planting a tree, everyone enjoyed sowing the seeds of green and hope. 🌱



## A ZJUI freshman was awarded the Winner of UIUC Rhetoric Student Essay Contest

Date: 24/03/2022 Translator: XU Jiawen

Recently, Mr. FANG Junzhou ('26, Computer Engineering), participated in the Fall 2021 UIUC Rhetoric Student Essay Contest with native speakers and was eventually selected as one of the winners of the contest with his fascinating writing style, rigorous logical argumentation and excellent essay organization.

Experts who judge the UIUC Rhetoric Student Essay Contest, based on the general writing course for all students who participated in the Rhetoric Program (RHET), select only 10-20 winners each semester. Essays of the winners may be published in the UIUC textbook I Write: A Writing Guide for the Undergraduate Rhetoric Program at the University of Illinois.

"To be honest, the reason I took part in the contest was when I submitted the essay as an assignment, Professor Mary Hays insisted that I post the essay to the contest in her feedback." FANG Junzhou talked about his experience of taking the competition. According to FANG, his entry was named "Photographs Taken in My Writing Life" and was actually the first writing project after he entered ZJUI. It was applauded by Professor Mary. After polishing his composition, FANG Junzhou submitted it to the contest. In the essay he recalled his writing journey from primary school to university, talked about different characteristics and meanings of these time periods, and ended by his understanding of academic writing at the university level.

"That was why I was quite surprised when UIUC sent me a congratulation email several months later. To me, the contest is a kind of encouragement, making me more confident to express my ideas in English. Meanwhile, I want to express my sincere gratitude to Professor Hays, a kind lady who reads my essays carefully and provides the most detailed feedback." FANG said.

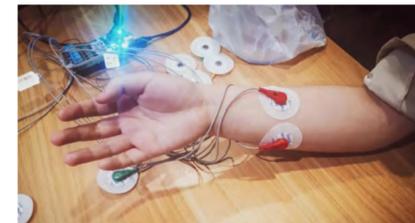
Mary Lucille Hays, ZJUI Adjunct Faculty Professor and UIUC Senior Lecturer, was thrilled but not surprised when she heard her student was declared a winner of the Fall 2021 Rhetoric Essay Contest. She congratulated FANG Junzhou on his excellent work last semester and said she looked forward to his future success. Hays commented that "FANG used a lovely visual metaphor as a framework, which was echoed in his title: 'Photographs Taken in My Writing Life.' He said his journey started 'with creativity, strengthened by templates and rules, and eventually formed a mature thinking pattern.' At the beginning of the essay, he made his readers hunger for more, and then satisfied that hunger with continuous in-depth analysis, more of his apt metaphors, and a description of his growth from a student who 'despised' the structures and templates for writing, to a mature student who could see some benefits from these writing patterns and 'found that there was still some room for creativity.'" One of FANG's most stunning sentences was, "I believed that those writing templates are bones to a person, and my personal ideas are flesh and blood. Bones support the whole body, while blood and flesh make the person vital. A good piece of writing, like a real person, needs both."

When it comes to the course Rhetorical Writing, FANG claimed that although Rhetorical Writing mainly talks about writing skills like citing, summarizing, and analyzing, it actually shows us multiple ideas and logics. "For example, the course emphasized on format of citation, spending much of time talking about work cited page. It was conveying an idea that we should respect other's works and avoid plagiarism." Fang explained and added, "When learning Toulmin Analysis to understand articles, we would gradually apply the method to our own essays to make them more logical." 🏆

## Hospitality Design by ZJUIer

Date:06/03/2022 Credits: mentioned research groups

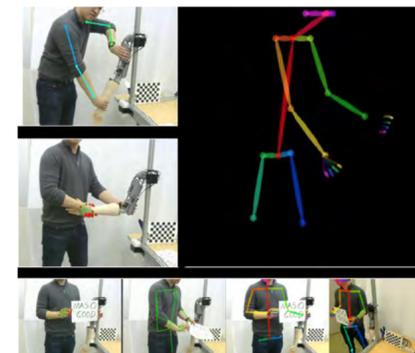
On the evening of March 4, the Beijing Winter Paralympics opened, and athletes from various countries (regions) competed fiercely with the Olympic spirit. There is always a game or a moment that touches your heart. Over the years, ZJUIers have also been paying attention to such groups in need, hoping to bring some convenience to their lives.



## Research on wearable devices based on surface EMG signals

by XIAO Shuhong, YU Yue, ZHENG Xiuwen ('22'); Instructor: WANG Hongwei

The students of this project group have paid attention to the increasing number of stroke hemiplegia patients in China, aiming to design a wearable device based on the potential decoding information of the epidermal motor nerve to make a strengthened response, so as to enable the patients with hand hemiplegia to carry out effective rehabilitation training. According to reaction behavior intention of the cerebral cortex motor neuron specific information and neuromuscular electrical signals, the connection between the hand surface by decoding the hand more specific parts of the surface electromyographic signal to obtain the corresponding action intention, so as to establish a relatively accurate corresponding relation, and borrow from the device to help strengthen and ultimately enable patients to use this device independent relatively difficult finish treatment rehabilitation and normal life in order to achieve purpose.



## Camera-based Sensing and Visual Analysis for Robot-Simulated Neurological Examination Training

by ZHENG Tianxiang, ZHOU Pengyang, SU Haoyu('22'); Instructor: YANG Liangjing

The project includes the development of a camera-based marker-less motion capture system to perform visual analysis. Its purpose is to develop the sensing and analysis capabilities of a robotic simulator for neurological examination training. After recording and analyzing the interaction between the clinician learner and the training simulator, the project team provides assessment for the clinician learner based on a large amount of clinical video data, making the test results more efficient and accurate, and helping to complete the robotic simulated neurological examination training.

They completed the calibration and correction of the camera parameters of the binocular camera, and realized the preliminary restoration of three-dimensional information through the binocular camera; and realized the effective identification and tracking of the upper arm of the robotic arm. And it has relatively good robustness in the whole movement process; successfully extracts the human skeleton information of the experimenter from the video image of a single camera through various methods, and also completes the extraction of the researcher's hand movements. 🏆



## Visual Optimization of Ultrasound-Guided Robot-Assisted Procedures Using Variable Impedance Control

by XIAO Songjie (PhD 3rd year) Instructor: YANG Liangjing

Ultrasonography is one of the most common diagnostic and intraoperative imaging modalities in our daily life, due to the advantages of portability, non-invasiveness, low cost and real-time capabilities over other imaging techniques. The quality of ultrasound image depends largely on the experience of the surgeon. However, the excessive workload has been exposing the sonographers to health risks such as regional pain and musculoskeletal disorders, since they have to continuously exert a significant force onto the patient during imaging, in order to obtain a clear image.

To this end, we proposed a robotic control system to optimize visual quality of the ultrasound image using variable impedance control. This human-robot-environment interaction (HREI) system can control the robot in collaboration with the human while maintaining a constant contact force with the environment.

This kind of robotic solution can not only relieve the surgeon from the burden of intensive multi-tasking (like in ultrasound-guided percutaneous interventional procedures), but also improve repeatability in the acquisition state variables, which makes dimensional measurements possible to precisely reproduce at a later date. Additionally, we are working on adding haptic feedback into robotized tele-echography, which will provide the surgeon a more comprehensive perception with both visual and haptic information. And the teleoperation ability allows specialists to remotely examine patients who are not convenient to hospital or located in medically isolated sites. Moreover, it helps reduce the risk of infection for medical staff by avoiding direct patient contact, especially during a pandemic such as COVID-19. 🏆

# Welcome on board

## Lin QIU

Assistant Professor

Dr. Lin QIU received the B.S. and Ph. D. degree in Electrical Engineering from the Department of Electrical Engineering at Tsinghua University in 2011 and 2017 respectively. He is currently an assistant professor with Zhejiang University-University of Illinois at Urbana-Champaign Institute, Zhejiang, China. His current research interests include transportation electrification, grid resilience enhancement, data-driven system control algorithm as well as Bioelectromagnetics.

Research Interests: transportation electrification, grid resilience enhancement, data-driven system control algorithm as well as Bioelectromagnetics

## Assistant Professor Howard Hao YANG was selected as the youngest editor in the Journal IEEE Transactions on Wireless Communications

Date: 21/03/2022 Article: ZHANG Xuekun Photo Credits: Howard Hao YANG

Recently, ZJUI Assistant Professor Howard Hao YANG was selected as the youngest editor at the age of 33 for *IEEE Transactions on Wireless Communications (IEEE TWC)*, which is a TOP journal in the SCI Q1 section. This is in recognition of Assist Prof. YANG's efforts and academic ability. At the same time, it also fully demonstrates ZJUI's scientific research strength in the field of wireless communication. As Assist Prof. YANG said, "More than just a surprise, this is responsibility and motivation."

In the fields of the wireless network analysis, intelligent edge computing, intelligent Internet of things as well as federal study, Assist Prof. YANG put his heart and soul in the related fields of wireless communication networking. He has published more than 40 international journal papers, more than 30 international high level conference papers, and many books chapters. The specific research results are mainly focused on the development of models and algorithms, and the exploration of the Internet of Things and 5G and 6G. The fundamental problems and theories in these areas were explored. 🏆

# Newsletter

浙江大学伊利诺伊大学厄巴纳香槟校区联合学院 | 2022春季刊 | 第19期



## 浙江大学与伊利诺伊大学厄巴纳香槟校区合作20周年系列“云端”庆祝活动启幕

时间:17/05/2022  
记者:浙江大学国际合作与交流处

4月19日上午,浙江大学与伊利诺伊大学厄巴纳香槟校区(UIUC)举办线上视频会面,为两校合作二十周年系列庆祝活动拉开帷幕。浙江大学校长吴朝晖、副校长何莲珍,UIUC校长Robert J. Jones、副校长Susan Martinis、副校长Sean Garrick及两校相关院系代表齐聚云端,回溯友谊,共谋发展。

吴朝晖表示,非常高兴与Robert J. Jones校长及UIUC各位同仁在“云端”相聚,庆祝两校建立校级合作关系二十周年。他指出,面对日益突出的全球性问题和愈发复杂的国际形势,浙江大学秉承开放合作理念,不断巩固和推进与全球伙伴的教学科研合作。浙江大学伊利诺伊大学厄巴纳香槟校区联合学院(ZJUI)已发展成为两校合作的旗舰成果和中外合作办学的标杆,浙江大学-UIUC联合研究中心聚焦人类健康、环

源和环境以及可持续制造等方面,携手为解决全球重大挑战贡献力量。面向未来,浙江大学期待与UIUC围绕联合国可持续发展目标,发掘新的合作增长点,深化合作关系,提升全球影响力。

UIUC校长Robert J. Jones表示,新冠疫情虽然影响了国际流动,但未能停滞两校合作的步伐。他回顾了过往二十年,两校从签署合作备忘录逐渐发展为多领域务实合作,在教学、科研、创新等各方面取得了显著成果。ZJUI的成立让两校合作关系更为紧密,现已发展为全球高等教育领域创新型和国际合作的典范。Robert J. Jones对两校在下一个二十年及更远未来的合作前景充满信心,期待进一步构建开放互信、互惠互利的紧密型、可持续合作关系。

ZJUI院长李德敏、教授K.C.Ting、UIUC农业与生物工程学教授王新雷回顾了两校的合作历史及亮点。浙江大学副校长何莲珍、UIUC副校长Susan Martinis展望了未来二十年两校的合作前景,希望两校关系能够历久弥新,共同为构建更美好的世界贡献力量。

随后,浙江大学生物系统工程与食品科学学院院长刘鹰、环境与资源学院副院长赵和平、UIUC工程学院院长Rashid Bashir也分享了相关领域的合作建议。会议最后,吴朝晖和Robert J. Jones再次表达了对两校合作二十周年的衷心祝贺并期待疫情过后再次相聚。

继此次庆祝活动后,两校将围绕智慧城市、智慧农业、气候变化等主题举办系列学术研讨会,以及学生交流活动,进一步增进了解、深化友谊。

浙江大学与伊利诺伊大学厄巴纳香槟校区于2002年7月建立校级合作伙伴关系。二十年间,两校在诸多领域开展多层次合作并先后成立了浙江大学伊利诺伊大学厄巴纳香槟校区联合学院和浙江大学-UIUC联合研究中心等合作机构,树立了中美高等教育合作的样板。

摄影:浙江大学国际合作与交流处

## ZJUI2022届本科生UIUC学位授予仪式举行

时间:29/05/2022 记者:柯温能、张漪  
摄影:ZJUI



北京时间5月29日上午,浙江大学伊利诺伊大学厄巴纳香槟校区联合学院(ZJUI)2022届本科生伊利诺伊大学厄巴纳香槟校区(UIUC)学位授予仪式在浙江大学国际联合学院(海宁国际校区)学术大讲堂举行。

浙江大学校长吴朝晖院士、UIUC校长Robert J. Jones在中美两地出席仪式并致辞。浙江大学副校长、国际联合学院院长(海宁国际校区)党委书记何莲珍,UIUC学术副校长兼教务长Andreas Cangellaris出席仪式。

UIUC校友、文远知行CEO兼联合创始人韩旭,两校共同校友代表、之江实验室研究员姜璟,2022届ZJUI毕业生代表陈玻尔,学生家长代表杨春节分别发言。

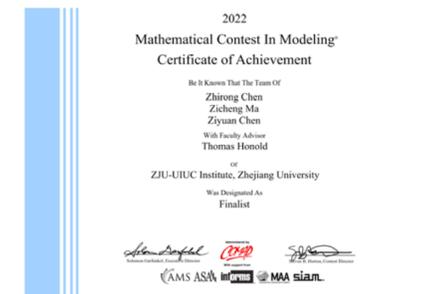
在中美两校嘉宾的见证下,2022届毕业生逐一上台,迎接人生中重要的时刻。何莲珍、浙江大学国际联合学院院长欧阳宏伟代表UIUC为学生授予证书,Robert J. Jones线上宣布授予UIUC学位。

学校相关院系、部门负责人、相关学科联络人,国际校区各单位主要负责人、ZJUI教职工等出席此次活动。仪式由ZJUI院长李德敏主持。

## 连续四年大奖! ZJUI学子勇夺美国大学生数学建模竞赛特等奖提名

时间:16/05/2022 记者:俞梦悦

近日,2021年美国大学生数学建模竞赛(MCM/ICM)赛果揭晓,ZJUI本科生又传佳绩。2019级土木工程专业学生刘礼杰,电子与计算机工程专业学生周瑞深、邱越组成的团队获得了大赛特等奖提名(Finalist, F奖)。2020级电气工程及其自动化专业学生章铂霖、方嘉豪,机械工程专业学生王惜墨团队,2019级电子与计算机工程专业学生魏嘉豪、陈炫宇,2020级电子与计算机工程专业学生池昊哲团队,2019级电气工程及其自动化专业学生董霖杰、许可、胡家润团队,2020级电子与计算机工程专业李子盈、袁悦茗,电气工程及其自动化专业夏琪睿,四个团队均获得了大赛一等奖(Meritorious Winner, M奖)。今年的比赛共有全球10053支队伍参赛,获得F奖的队伍共284支,获得M奖的隊伍共697支。



## 香港理工大学校长、中国科学院院士、浙大校友滕锦光做客ZJUI CIRCLE杰出讲座

时间:24/04/2022 记者/摄影:李欣阳

4月20日,一个春暖花开的日子,ZJUI校园里点点的绿意宣告着春天的生机盎然。就在这美好的一天,香港理工大学校长、中国科学院院士、浙大校友滕锦光教授也与我们“云端”相聚,将他那份盎然的春意带到了我们的身旁。

这一次,CIRCLE杰出讲座迎来了香港理工大学校长、结构工程讲座教授、中国科学院院士、英国爱丁堡皇家学会通讯院士、浙大校友滕锦光教授。这位浙大校长主要从事土木工程复合材料结构和钢结构领域的研究,大量研究成果被我国、美国、欧洲、英国、澳大利亚的相关设计标准或指南所采纳。他曾获国家自然科学奖二等奖、国际土木工程复合材料学会首枚学会奖章等奖励。

滕锦光院士为ZJUI学子带来的是题为《基于新型材料的结构工程创新及其对碳中和发展的贡献》的讲座。讲座中,滕院士介绍了包括纤维增强树脂基复合材料、纤维增强水泥基复合材料、织物增强混凝土、海水海砂混凝土、超高性能混凝土、超高性能钢材、各类绿色材料等新型建筑材料,并且通过大量的研究数据分析了不同材料的潜力和优势,从而帮助同学们更好地理解这几种新型材料的性能。他也列举了不同材料在当下工程应用中遇到的阻碍,揭示了这些材料在工程应用中发展缓慢的原因。为此,滕锦光院士分享了他提出的组合使用新型材料与传统材料的思路,通过将两种及以上的材料在同一结构中组合使用,来探寻一种最优的组合方案。滕院士主要从结构性能、自然资源消耗以及碳排放量三个方面来评估材料组合的可行性,确保了分析的完整性和可信度。



4月11日至12日,作为浙江大学125周年校庆系列活动以及实施《浙江大学可持续发展行动计划》(Z4G)的重要活动之一,首届亚太碳中和研讨会以线上形式成功召开。此次研讨会由浙江大学和悉尼大学牵头,联合新加坡国立大学和印度理工学院马德拉斯分校共同举办,围绕碳捕捉、利用与封存,可持续能源,可持续城市与建造等问题展开深入交流和讨论,促进亚太区域知识共享,共同寻求全球重大挑战的解决方案。

浙江大学副校长何莲珍、悉尼大学副校长Katherine Belov、新加坡国立大学协理副校长Reuben Wong和印度理工学院马德拉斯分校国际处处长Ragunathan Rengaswamy先后在开幕式上致辞。开幕式由浙江大学国际合作与交流处处长李敏主持。何莲珍代表浙江大学向与会嘉宾致以热烈欢迎。她表示大学作为知识枢纽,在应对共同挑战方面拥有独特的优势,应在实现联合国可持续发展目标中发挥重要作用。浙江大学希望通过四边会议机制携手伙伴高校共议碳中和,分享经验、扩大共识、深化合作。

开幕式后,浙江大学能源工程学院院长高翔院士、悉尼大学纳米中心主任Benjamin Eggleton、新加坡国立大学能源中心主任Lee Poh Seng、印度理工学院马德拉斯分校土木工程系主任Ligy Philip分别就四校可持续发展及碳中和领域的整体科

研情况做主旨报告。随后,四校相关领域的教授、博士生代表就当下碳中和热门话题交流最新研究成果。

其中的可持续城市和建造分论坛由浙江大学伊利诺伊大学厄巴纳香槟校区联合学院求是讲席教授肖岩主持,从城市基础设施韧性、可持续城市设计、降低混凝土的二氧化碳排放和生物质建材的研发和利用、绿色城市货运交通等方面探讨如何打造未来可持续宜居环境。ZJUI研究员、助理教授Cristoforo Demartino作报告发言,他向与会嘉宾介绍了ZJU-UIUC联合研究中心下设的宜居城市基础设施韧性中心的研究对象、研究团队、研究成果,并提出从定性分析、新材料、网络系统等三大方面进一步探索四校间的深化合作。ZJUI博士生舒思奇介绍了碳中和目标在交通运输中的实现方式,通过介绍绿色城市货运交通、碳减排目标的实现途径等内容,分享自己在相关领域的研究成果,擘画了更加绿色、可持续发展的城市货运交通未来。

最后,本次研讨会的四校学术负责人就可持续发展、碳中和领域的科研合作、人才联合培养、合作举办论坛等展开热烈讨论,并对未来合作前景表示期待。该环节由悉尼大学医学健康学院教授Kathryn Reishauge主持。来自全球400余名学者学生注册参会,超2300人通过直播观看。

## 48个ZJUI 2022年大学生科研训练项目(SRTP)完成立项

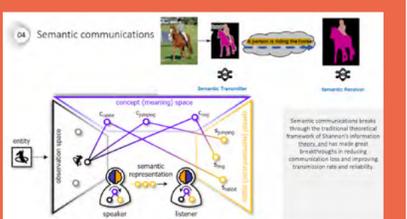
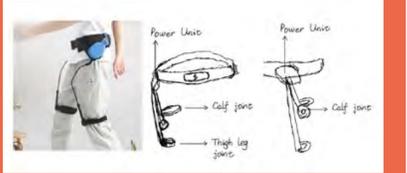
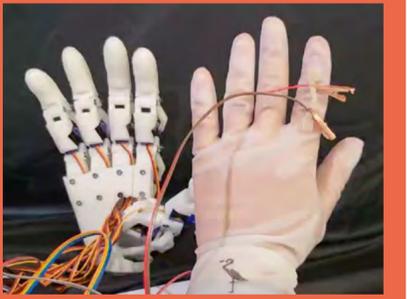
时间:24/05/2022  
记者:张漪、王若沁、俞梦悦摄影:各SRTP立项小组

近日,浙江大学2022年大学生科研训练计划项目(SRTP)公示完成,48个ZJUI大学生科研训练项目(SRTP)完成立项工作,其中包括国创6项、省创6项、校级19项、院级15项、科研实践2项。

此次SRTP的选题体现跨学科交叉融合特点,不少小组的选题聚焦技术前沿,如“基于神经网络算法,预测材料性质以及解决物理模型微分方程”,“关于联邦学习与差分隐私的交叉研究”等。也有小组针对社会现实问题,试图结合工程学手段突破传统解决方案,比如“新式外骨骼的研发”,“用于腰腿姿态和疾病检测的可穿戴传感器研究”等。

立项过程中,同学们也根据自己感兴趣的研究方向,主动联络各跨学科国际研究中心以及浙江大学其他校区教授。在各领域专家的指导下,组建专项研究小组,展开“人工智能模型安全测试平台”“基于NIRS的脑氧饱和度监测技术研究”和“钙钛矿发光与能源电子器件”“基于伊辛模型的组合优化问题求解”和“基于VR的智能家居方案设计与体验平台”等课题研究。

大学生科研训练旨在激发学生探索精神、开拓学生工程视野,锻炼学生发现问题、激发思维、分析问题、解决问题的能力,特别是培养学生以问题为导向的自主学习的能力。SRTP为学有余力的大学生提供直接参与科学研究的机会,引导大学生探索科学前沿,体验全新的研究性学习乐趣,与此同时了解社会科技发展动态。



## 首届国际大学生现代竹结构设计竞赛圆满落幕：ZJU大一学生崭露头角！

时间: 17/05/2022 记者: 祁圣伟 摄影: 大赛提供

5月13日,由浙江大學伊利諾伊大學厄巴納香檳校區聯合學院(ZJU)、浙江大學(寧海)生物質材料與碳中和建設聯合研究中心、中國木材保護工業協會、美國土木工程師學會ASCE工程竹結構專委會聯合組織的首屆國際大學生現代竹結構建築設計競賽圓滿落幕。本次大賽在“雙碳”目標背景下,為探索竹結構的現代建築應用提供了創新方案。大賽邀請了中國工程院院院士崔嵬、劉加平,中國工程院外籍院士蘇磐石和其他國內外建築界專家通過視頻會議遠程參與評審。最終,一等獎由華南農業大學、南京工業大學摘得,二等獎、三等獎分別由埃塞俄比亞建築學院、新西蘭奧克蘭大學、東南大學等國內外十所高校的學生團隊獲得。值得一提的是,由ZJU大一土木工程專業本科生李欣陽、俞盈盈、樂致遠,電子與計算機工程專業崔曉彤與英國帝國理工學院(ZJU2021屆土木工程專業畢業生)董思儀共同創作的參賽作品《不秋閣》獲得本屆大賽的創新設計獎。

才進校幾個月就一舉奪得國際大賽的創新設計獎,李欣陽團隊的同學們分享道,“雖然我們是大一的學生,在專業知識積累和專業技能掌握上,還有許多不足,但我們希望通過孜孜不倦的學習和細針密繡的通盤規劃考慮,採取長補短,開拓知識疆域,也希望能積極為祖國‘雙碳’事業作貢獻。”正如他們所說,他們的项目因地制宜考慮了建築環境與背景,深入分析了居住人口結構和生活需求,並從安全性角度全面分析了房屋結構受力、撓度、抗地震、抗風能力、荷載。為了引導居住者更好地貫徹節能環保的理念,他們甚至還為居住者提供了一些綠色生活的建議,從而真正達到長遠的、可持續的環保目標。

据悉,部分获奖作品将被应用到宁海村庄改造项目中,由浙江大學(寧海)生物質材料與碳中和建設聯合研究中心協同寧海縣城投集團及相關企業共同實施。

本屆大賽得到了浙江大學可持續發展行動計劃(英文名稱:A Global ZJU for Social Good,簡稱Z4G計劃)和國際大學協會(英文名稱International Association of Universities,簡稱IAU)的支持與宣傳,也因此吸引了眾多國際高校隊伍參與報名,獲得了廣泛的全球化影響力。 📌

## 我院钱超研究员《Nature Communications》发文：类脑超材料的动态识别和幻觉隐身

时间: 18/05/2022 记者: 钱超课题组

近期,國際知名綜合期刊《Nature Communications》以“Dynamic recognition and mirage using neuro-metamaterials”為題在線報道了ZJU錢超研究員及其國內外合作團隊的一項最新研究成果。課題組提出了類腦超材料概念,用於動態目標識別和幻觉隐身。

隨着大數據和物聯網的快速發展,目標識別對快速信息收集、并行數據處理和低能耗計算的需求越來越高。針對這一挑戰,錢超及其合作團隊提出了利用無源類腦超材料直接實現動態三維物體的識別。借助深度學習和拓撲優化算法,類腦超材料能夠將用戶需求轉換為超材料的空間結構,從而能夠自動分析或處理散射電磁波(散射神經網絡)。類腦超材料具有被動(內生智能)和主動(外部驅動智能)兩種形式。實驗中,兩只兔子在類腦超材料前自由玩耍,超材料對兔子周圍的散射場進行處理分析,直接對行走、站立和蹲坐等姿勢進行識別。

錢超研究員為論文第一作者,他與李尔平、陳紅胜教授為論文共同通訊作者。該項研究是與王浙棟博士等國內外專家合作完成。該工作獲國家自然科學基金委等項目支持。

論文鏈接: <https://www.nature.com/articles/s41467-022-30377-6>



## 植树节，ZJU师生身体力行助低碳！

时间: 12/03/2022 记者: 莫陈怡 摄影: 陈楚翘

2022年3月9日,ZJU求是講席教授,能源、環境與可持續系統科學研究部主任肖岩課題組10余位師生受寧海縣自然資源和規劃局及寧海縣團委的邀請,參加了“青春助推轉型升級先鋒行——走進浙江省林業碳匯先行創建基地”的植樹節特別活動,此次活動以“凝聚青年共識,引領低碳時尚”為主題,旨在推廣綠色低碳理念,使更多青年人成為“雙碳”戰略的踐行者與推動者。

上午,50多位來自寧波全市區各機關青年代表參觀了我院與寧海縣共建的校地合作科研机构“浙江大學(寧海)生物質材料和碳中和建設聯合研究中心”和“寧波中加低碳新技術研究院”。青年代表們察力低碳的生物質材料研發、加工製造現場,真切感受到了生物質材料對環境的友好性。

為了讓大家能更加深入地瞭解“碳中和”理念,ZJU碩士研究生孔佑博宏為全體與會者帶來了一場“碳中和”主題的科普講座,深入淺出地講解了“碳中和”、“碳达峰”、“碳匯”等概念。

肖岩教授作為“浙江大學(寧海)生物質材料和碳中和建設聯合研究中心”主任,介紹了中心的成立背景和主要研究進展,闡釋了在建築業實施減碳措施的必要性以及生物質材料的優越性。作為國際上最早系統開展現代竹結構研發的專家,肖岩教授近十多年來一直致力於生物質材料的基础及应用科学研究,助力碳中和目标实现。國際木材領域知名專家,我院研究生校外導師,中加低碳研究院院長王建和博士也介紹了正交胶合木等新型木结构材料。 📌



## 与师同行！33岁成为IEEE TWC最年轻编委，他像树一样生长在ZJU

时间: 11/03/2022 记者: 文1 张学坤 采访1 项杨依晓 谢雨欣

他先后于中国香港、新加坡、美国求学,学成后回国加入ZJU。他说,首先自己是个中国人,然后才是个科研人员。今年33岁的他,成为了IEEE Transactions on Wireless Communications 目前最年轻的编委。

33岁被遴选为SCI一区Top期刊IEEE Transactions on Wireless Communications 编委,这是对杨浩多年努力和学术能力的认可。同时,也充分彰显了ZJU在无线通信领域的科研实力。杨浩表示,这不仅是一种惊喜,更是一种责任和激励。

在无线网络分析、边缘智能计算、智能物联网以及联邦学习等研究领域,杨浩一心一意搞研究,冥思苦想,脚踏实地,已累计发表40多篇国际期刊论文,30余篇国际高水平会议论文,一部学术专著以及多篇书籍章节。其研究主要聚焦模型和算法的开发,物联网和5G、6G的探索等,尝试在这些领域的根本问题和理论方面潜心挖掘,寻找突破。他坦言,“Research rewards depth.”所有科研成果都是需要积累的。前期发表论文就像是训练,为后期的更多成果和论文积攒经验。科研的过程就像是树木的生长,从树苗到长成大树生出更多分叉,与科研积累过程无异。在研究中,自己专注于主干的生长,让树木慢慢长得更加茁壮被人看见,从而引得有相同兴趣的研究者主动来合作,就是自己的提升效率的办法。 📌



## ZJU大一学生再夺UIUC英文写作比赛大奖

A ZJU freshman was awarded the Winner of UIUC Rhetoric Student Essay Contest

## 喜报！ZJU大一学生再夺UIUC英文写作比赛大奖

时间: 24/03/2022 记者: 整理自受访者供稿

近日,從美國伊利諾伊大學厄巴納香檳校區(UIUC)傳來喜報,ZJU2021級電子與計算機工程專業本科生方駿洲憑借引人入勝的文風,嚴密的邏輯論證和出色的文章組織,躋身UIUC英文寫作比賽舞臺,與英語母語使用者一起,入選為比賽獲勝者(Winner)。

UIUC英文寫作比賽(Rhetoric Student Essay Contest)是基於寫作通識課開展的針對全校學生的比賽,每學期由專家評選出10-20名獲勝者。獲獎的文章或被選入教材,成為范文供未來學生學習。

“說實話,我之所以參加這個比賽,得益於Mary老師的鼓勵”,方駿洲向我們娓娓道來他的參賽經歷。據悉,這篇得獎的文章實際上是他進入ZJU後,英語寫作課的第一次大作業。該次作業得到了Mary老師的強烈肯定與推薦。於是,抱著試一試的心態,他稍加修改後便投稿參賽了。此次參賽的文章名為《我寫作經歷中的剪影(Photographs Taken in My Writing Life)》,他在文章中回憶了自小學到大學的寫作經歷,並討論了在不同時間段寫作的不同特點與意義,也提出了對大學寫作的理解。

“幾個月後,當UIUC發來入選郵件時,我覺得既驚訝又幸運。對我而言,這次比賽是一種鼓勵,讓我對用寫作技巧表達出我的思想更有信心。同時,我也必須感謝我的老師Mary Hays。她是一個很可愛的老師,她一字一句認真地審閱我們的文章並提出非常細緻的修改建議。她敬業的精神也鼓舞我們精益求精。”方駿洲說道。



▲ Mary老师的Rhetoric课堂

其指導老師ZJU兼聘教師、UIUC資深教師Mary Lucille Hays得知方駿洲獲獎時,表示很激動,但並不驚訝,她向方駿洲上學期的成績表達祝賀之餘,也期許他收獲更好的未來。“在文章中,方駿洲使用了鮮活的視覺隱喻作為框架,也在其文章題目中首尾相應,以照片剪影的隱喻切入來描寫自己的寫作經歷。他說自己的寫作旅程‘以創意開始,以模板和規則強化,最終形成成熟的思維模式’。”Mary評價方駿洲的文章時說,“引人入勝的開頭,不斷深入的分析和貼切的比喻,嚴密的邏輯都使他的文章筆酣墨飽。他還提出了一個精彩的類比——以寫作模板類比人的骨骼,以作者的創意想法類比血肉,骨骼支撐整個身體,而血肉使人生機勃勃。一篇好的文章,就像一個真實的人一樣,需要兩者。”

談起Rhetorical Writing這門課,方駿洲認為雖然課程主要在討論引用、總結和各種邏輯分析法等寫作技巧,但實際上它更本質的意義在於為學生提供了更為廣闊的思想與思路。“舉個例子,課程對引用的格式問題非常重視,花了几節課的時間來講解引用頁(work cited page)格式。於此我們不僅僅掌握了格式問題,更重要的是,它強化了我們的學術規範意識,教我們學會尊重其他人的成果,深刻認識抄襲的嚴重性。”方駿洲說,“同樣的,在學習如何用圖爾敏分析法看懂別人的文章時,我們也會在自己寫文章時習慣性地用這種方法思考,以使自己的行文邏輯更嚴密。” 📌

## 这些年ZJUer做过的“关怀设计”

时间: 05/03/2022 记者: 受访者供稿

3月4日晚,北京冬殘奧會開幕,各國(地區)的運動員們帶着奧林匹克精神展開激烈角逐。總有一場比賽或一個瞬間,會觸動了你的心靈。這些年,ZJUer也一直關注着這樣一些有需要的群體,希望為他們的生活中帶來一些便利……

一起看看這些年ZJUer,做過哪些“關懷設計”吧~



### 基于肌电信号的智能可穿戴设备研究

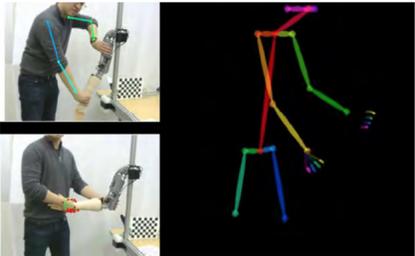
项目组: 肖树鸿、虞越、郑秀文 (18级); 指导老师: 王宏伟

該項目組的同學們關注到了日趨增長的中國腦中風偏癱患者,旨在設計出一種基於手部表皮運動神經的電位解碼信息而做出強化反應的可穿戴設備,來使手部偏癱患者進行有效的康復訓練。根據反應特定行為意圖的大腦皮層運動神經元信息與手部表面神經肌電信號之間的關聯性,通過解碼手部表面多個特定部位的肌電信號獲得相應的動作意圖,從而建立相對精確的對應關係,并借由該設備來輔助強化,最終使患者能夠借助此設備自主完成相對困難的動作以達到治療康復和正常生活目的。

### 用于机器人模拟运动神经疾病诊断能力训练的视觉传感

项目组: 郑天周、周凡尧、苏好予 (18级); 指导老师: 杨量景

該項目包括基於攝像機的無標記運動捕捉系統的開發,以執行視覺分析。其目的是開發用於神經系統檢查訓練的機器人模擬器的傳感和分析能力。在記錄和分析臨床醫師學習者與培訓模擬器的互動後,項目組基於大量的臨床視頻數據,為臨床醫師



學習者提供評估,使測試結果更加高效和準確,幫助完成機器人模擬神經檢查訓練。

他們完成了對雙眼相機的相機參數標定和矯正,實現了通過雙眼相機初步恢復三維信息;實現了對機械臂上臂部分的有效識別和追蹤。並且在整個運動過程中有着相對良好的魯棒性;成功從單個相機的視頻圖像中通過多種方法提取實驗者的人體骨架信息,也完成了對研究員手部動作的提取。



### 机器人模拟诊断训练器

机械设计: 韩天屹 (17级); 指导老师: 杨量景, Elizabeth T. Hsiao-Wecksler

在該項目中,韓天屹承擔了模擬臨床診斷訓練的機械腿設計製作工作,該模擬器在台式測試和臨床醫生評估中均得到有效驗證,能為醫學生提供重複訓練的機會,有效助力蹣跚學步診斷技巧提升。同時,依托此項目,他以第二作者身份在機器人領域頂級國際會議IEEE ICRA上發表了論文,論文也同時被IEEE RA-L期刊收錄。超聲機器人



### 超声机器人

项目组: 肖松杰 (博士3年级); 指导老师: 杨量景

超聲掃描術已成為了日常生活中最常見的一種診斷和术中成像的手段,而超聲圖像的質量很大程度上依賴於醫生的經驗技巧。高強度的工作量使得超聲醫師面臨着一些疾病的風險,例如局部的疼痛,肌骨失常等。這是因為他們在診斷過程中需要長時間在病人體表施加顯著的力來獲得一個清晰的圖像。

為此我們提出了一個利用可變阻抗控制的機器人控制系統來優化超聲圖像的成像質量。這個人類-機器人-環境三者交互的系統能夠在與人合作交互的同時,控制機器人与環境保持一個恒定的接觸力。超聲的機器人解決方案不但能夠緩解外科醫生高強度的多任務需求的壓力,(例如在超聲引導皮介介入治療中),而且能夠提高超聲采集程序的可重復性,使得尺寸測量可以在以後精確地重現。

另外我們也正致力於將觸覺反饋加入到機器人輔助遠程超聲掃描術中,這將會為醫生提供一個同時包含視覺和觸覺的更全面的感知能力。而且機器人的遙操作能力允許專家遠程為病人做檢查,對於不方便來醫院或者醫療資源落后地區的病人來說是一個福音。這也減少了與病人的直接接觸,能夠有效減少醫護人員被感染的風險,尤其在如今新冠病毒盛行的時期顯得尤為重要。

以工程改變未來 以真心溫暖世界  
今後,我們也將繼續秉持人文关怀  
為創建更好的、更和諧的人類命運共同體  
書寫ZJU的  
淺淺一筆 📌

## 求是新力量

### 邱麟

助理教授 / 研究员



邱麟博士分別於2011、2017年畢業於清華大學,獲工學學士與工學博士學位,2022年加入浙江大學國際校區ZJU學院,主要研究方向包括電氣化交通、電力電子化電網與生物電磁學。主持科研項目8項(含國家基金青年項目1項、國防基礎加強子課題3項、省自然基金項目1項);發表SCI論文30余篇;作為第一發明人授權發明專利3項;獲中國機械工業科學技術獎特等獎1項、中國電工協會科技進步一等獎1項,日內瓦國際發明金獎1項、銀獎2項;參與制定行業標準3項。

研究方向:  
電氣化交通、電力電子化電網與生物電磁學