ZJU-UIUC INSTITUTE
Zhejiang University-University of Illinois Urbana-Champaign Institute
浙江大学伊利诺伊大学厄巴纳香槟校区联合学院

ZJUI

Newsletter

ZJU-UIUC INSTITUTE | Winter 2022-2023 | Volume 22

Transportation Digitalization, ZJUI Shines at the Zhejiang International Intelligent Transportation Industry Expo

Date:21/12/2022
Article:From the Expo Photo Credits:From the Expo

From December 18 to 20, 2022, the three-day 4th Zhejiang International Intelligent Transportation Industry Expo was successfully concluded at Hangzhou International Expo Center. XU Chengguang, Vice Minister of the Ministry of Transport, GAO Xingfu, Vice Governor of the People's Government of Zhejiang Province, LIANG Qun, Deputy Secretary General of the People's Government of Zhejiang Province, CHEN Lixing, Director of Zhejiang Provincial Department of Transportation, LIN Ming, Academician of the Chinese Academy of Engineering, Chief Engineer of China Communications Construction and other leaders of relevant departments, authoritative transportation experts, and representatives of leading enterprises attended the Expo online and offline. Prof. LEE Der-Horng and Prof. CHEN Xiqun, Dean and Vice Dean of ZJUI, were invited to attend the opening ceremony of the Expo. Prof. LEE Der-Horng gave a keynote speech at the conference entitled "Promoting the Development of Integrated Transportation Industry with Smart Mobility," and Prof. CHEN Xiqun released the innovation highlight "White Paper on Urban Green Mobility Index".

In the keynote speech, Prof. LEE Der-Horng explains the realization of industry-university-research interaction and regional coordinated development. Professor LEE's speech also focused onthe practice of promoting the development of integrated transportation industry with smart mobility. To meet the major needs of the country and Zhejiang Province, the Laboratories for Smart Integrated Multi-Modal Mobility introduce international advanced concepts and practices, carries out systematic and cutting-edge research on fundamental theories, key technologies, and demonstrative applications around the "integrated multi-modal transportation theory and key technologies", and solves the major key problems of China's lack of integrated transportation digital twins technologies and systems by means of integrated, intelligent, and green approaches. It aims to build an international leading comprehensive three-dimensional transportation digital twins key technology and integrated operations demonstration project and construct an international leading integrated transportation and intelligent logistics research team and platform.

Prof. CHEN Xiqun released the White Paper on Urban Green Mobility Index at the Expo, which covers six parts, including the description of transportation carbon emission data, carbon emission calculation framework, carbon reduction calculation of individual mobility carbon inclusion behavior, urban mobility evaluation, case study of Hangzhou transportation carbon emissions calculation, and urban transportation management policy-making support. Focusing on new schemes and technologies of urban low-carbon transportation, Alibaba Cloud, Zhejiang University, Alibaba-Zhejiang University Joint Institute of Frontier Technologies (AZFT), Institute of Intelligent Transportation Systems, Zhejiang University, and Zhejiang Provincial Key Laboratory for Research on Key Technologies of Data Open Integration jointly developed a transportation carbon emission calculation and monitoring platform involving multiple spatial scales and multiple transportation modes. This platform can calculate and present the carbon emissions results of each road section and each urban area in real-time, utilizinga detailed method, to explore and solve the carbon emission problem of urban mobility.

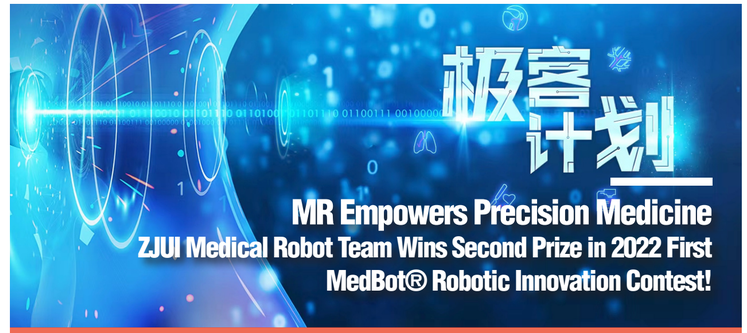
Zhejiang International Intelligent Transportation Industry Expo is co-sponsored by Zhejiang Provincial Department of Transportation, Zhejiang Provincial Development and Reform Commission, Economy and Information Technology Department of Zhejiang, and Xiaoshan District People's Government of Hangzhou Municipality.

Prof. XIAO Yan of ZJUI, Elected Fellow of the International Academy of Wood Science, IAWS

Date:03/01/2023
Article:ZHANG Yi Photo Credits:ZHANG Yi

Recently, the International Academy of Wood Science (IAWS) announced the list of candidates for Fellow in 2022. Prof. XIAO Yan, Qiushi Chair Professor, Program Director for Energy, Environment and Sustainable Systems Sciences of ZJUI, was selected. This is the highest honor for Prof. XIAO Yan in relevant professional fields since he was elected as a fellow of the American Society of Civil Engineers (ASCE) and the American Concrete Institute (ACI). It marks that Prof. XIAO Yan and his team have been highly recognized by international peers for their outstanding achievements in the utilization of bamboo and wood bio-based materials and the research and development of green civil engineering construction. They are also being recognized for their academic contributions in the construction of the theoretical system for the design of bamboo structures and bamboo wood composite structures.

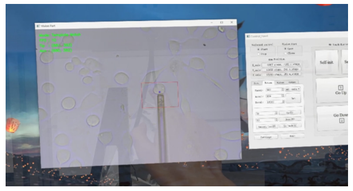
The International Academy of Wood Science (IAWS), founded in Germany in 1966, is the world's top academic organization in the field of wood science and biomass. Fellow of the IAWS is the highest academic honor of the academy. The new fellows are recommended by the fellows and elected by all fellows through written deliberation and secret ballot. A total of 5 well-known experts are elected this year.



Date:09/01/2023 Article:ZHANG Yi Photo Credits:From interviewees

The organizing committee of the 2022 First MedBot® Robotic "Da Mai Cup" Geek Innovation Contest awarded second prize to PU Tanhong, LI Haoyu, master students of Mechanical Engineering of ZJUI, class of 2021, WANG Tiexin, doctoral student of ZJUI, class of 2020, and WU Zheyu, ZJUI undergraduate, class of 2022. With Liangjing YANG, Assistant Professor and researcher at ZJUI, serving as the team leader, the project entitled "MR-based Visual System for Cellular micromanipulation" applied mixed reality technology (MR technology) to real-time cellular operation through system construction. Thisvisualization of the operation processbrings+new insight into cell operation experimentation and enables Precision Medicine.

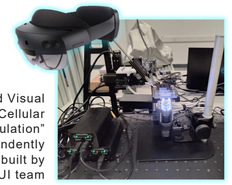
Based on MR technology, the system independently developed and built by ZJUI team allows the visualization of the operation process and can precisely interact with cells in real time. The team's contribution lies in the development of (1) a procedure that automatically finds needles and positions the tip, (2) a self-calibrating/ recalibration method in complex background, (3) intuitive multi-axis control model, and (4) precision operation in complex environments. After review, the project of "MR-based Visual System for Cellular micromanipulation" won the second prize in the competition.



▲ MR operation demonstration: the needle tip will follow the finger click position to move and interact with cells

The competition is hosted by Shanghai MedBot® (Group) Co., Ltd., guided and supported by Medical Robot Branch of China Association for Medical Devices Industry, Technical Committee on Artificial Intelligence of Shanghai Computer Society, Shanghai Engineering Research Center of MedBot®. The contest focuses on the application of medical robot-related technologies (robotics, sensors, AI, medical imaging, and hardware design, etc.) to actual clinical problems and explores in-depth innovative application solutions.

Empowering precision medicine with digital technology, opening the innovative future with the spirit of seeking truth. Give ZJUIer thumbs-up!



► "MR-based Visual System for Cellular micromanipulation" independently developed and built by ZJUI team

Date:28/02/2023 Article:WANG Yaling, CHEN Ying Photo Credits:LEI Chen

From Campus to Career
– An Open Discussion with Professor Philip Krein

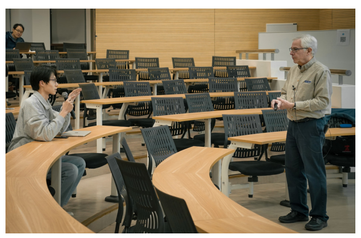
What is the future of the engineering industry? How will the rapid development of AI, especially the application of ChatGPT, impact the engineering industry? What qualities does the ever-changing industry expect from young engineers? What abilities should graduate candidates develop to enhance their competitiveness in the workplace? … While full of hope for the future, engineering students sometimes feel confusion and perplexity.

On February 28, Zhejiang University-University of Illinois Urbana-Champaign Institute (ZJUI) held a special program in the West Lecture Theatre of the International Campus, ZJU. Prof. Philip T. Krein, fellow of the U.S. National Academy of Engineering, presented a lecture entitled "Let's Talk about Industry Careers: An Open Discussion of Industry for Graduate candidates," sharing his academic and industrial experience with the audience.

Prof. Philip T. Krein is a Fellow of IEEE, a world-known expert in the field of power electronics, and a fellow of the U.S. National Academy of Inventors. He not only has prestigious academic status, but also has rich experiences in the industry. He was a founder and director of SolarBridge Technologies, Inc. and is a holder of 42 US patents. As the Founding Executive Dean of ZJUI, Prof. Krein has been instrumental in the development of ZJUI and the education of its students.

Prof. Philip Krein first gave a lecture, introducing the current development of science and technology, new trends in industry careers, and qualities that define a good engineer. Among all the qualities, he particularly emphasized the importance of being a proactive engineer. Engineers should be able to anticipate problems, set priorities and work as positive team members. Prof. Philip Krein also encouraged the students to employ the "The Heilmeier Catechism" to evaluate their research programs. To develop into innovators in engineering and leaders of tomorrow, he said, all graduate candidates of ZJUI should have keen insight and judgment.
After the lecture, students asked questions and had a lively discussion with Prof. Philip Krein. This activity broadens students' understanding of industry, stimulates their thinking on how to hone their skills, and improve their preparedness for future careers.

ZJUI is committed to educating innovators in engineering and leaders of tomorrow. This program is part of ZJUI engineering education, bringing together expert experiences and international insights to help students live up to their full potential.



Contact Us | Email: zju-uiuc@zju.edu.cn, Tel: +86 571 8757 2500 Add:718 East Haizhou Road, Haining, Zhejiang 314400, China

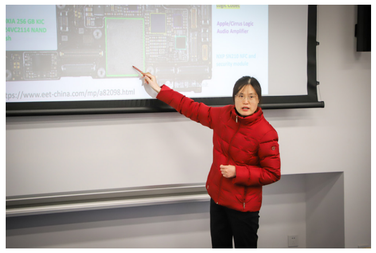
Prof. CHEN Xiqun, Vice Dean of ZJUI, Keynote Speaker, Global Engineering Frontier Press Conference and Engineering Frontier Forum

Date: 19/12/2022 Article: From the host of the conference Photo Credits: From the host of the conference

On the morning of December 15, 2022, under the guidance of the Academic and Publication Committee of the Chinese Academy of Engineering, the 2022 Global Engineering Frontier/Global Top Ten Engineering Achievements Press Conference and Engineering Frontier Forum was held in Beijing. The forum was jointly organized by the Strategic Consulting Center of the Chinese Academy of Engineering, Clarivate Analytics, Higher Education Press and Strategic Study of Chinese Academy of Engineering Magazine. Academician ZHOU Ji, Honorary Chairman of the Governing Board of the Chinese Academy of Engineering and Chief Editor of Engineering, Academician WANG Chen, Vice President of the Chinese Academy of Engineering, Mr. WANG Li, Vice President of Clarivate Analytics, Ms. HAN Yun, Deputy Chief Editor of Higher Education Press, Academicians CHEN Jianfeng, YANG Baofeng, ZHANG Ping, ZHANG Pingxiang, DU Yanliang, and other experts and scholars in related fields attended the conference online. Prof. CHEN Xiqun, Vice Dean of ZJUI, was invited to give the keynote speech.

Prof. CHEN Xiqun of ZJUI and Prof. WU Jianjun of Beijing Jiaotong University jointly interpreted the report “Construction of ‘Mobility as a Service’ Autonomous Transportation Systems”. Prof. CHEN Xiqun focused on the “technical framework” and “future trends” in the keynote speech. Regarding the technical framework, he mainly elaborated on the construction method of the “Mobility as a Service (MaaS)” Autonomous Transportation Systems (ATS), focusing on the collaborative optimization of MaaS multimodal supply resources, personalized and integrated smart mobility services, and multi-resolution simulation of ATS. Professor CHEN reviewed the development route of the MaaS integrated travel service platform and ATS, and proposed the future trends of related technologies, namely multi-mode collaborative optimization, optimization based on reservation and real-time response, intelligent sensing technology of ATS, spatial-temporal mobility data restoration technology, construction of multimodal transportation network simulation environment and multi-functional element integration, which provide ideas for “one-stop” smart mobility services in the future transportation.

The “Global Top Ten Engineering Achievements 2022” include not only major innovations closely related to human welfare, but also promoting human exploration beyond the earth. Experts and scholars continue to pay attention to and actively participate in global engineering research. They continue toto investigate and determine the direction of global engineering, grasp the strategic opportunities of world development, and provide reference for actions to address global challenges for mankind to achieve sustainable development.



▲ Kicking off the spring semester

ZJUI and ZIBS Strategic Cooperation Agreement

Date:17/02/2023
Article:ZHANG Yi; CHEN Qilisha
Photo Credtis: ZHANG Yi

On the afternoon of February 16, 2023, the signing ceremony of strategic cooperation between ZJUI and International Business School, Zhejiang University (ZIBS) was successfully held in the ZIBS VIP Lounge. Prof. BEN Shenglin, Dean of ZIBS, and Prof. LEE Der-Horng, Dean of ZJUI, signed a strategic cooperation agreement on behalf of both parties. Prof. QU Haidong, Vice Dean of ZIBS, Assistant Prof. LEI Li Nan, SHEN Li, Associate Prof. WAN Feng, Associate Prof. WANG Cheng, Assistant Prof. ZHOU Wenyu, Assistant Deans of ZIBS, Prof. MA Hao, Prof. WANG Hongwei, Prof. CHEN Xiqun, Vice Deans of ZJUI, Assistant Prof. Simon HU, Assistant Dean of ZJUI, and faculty representatives attended the ceremony.

In the future, the two sides will, according to the existing cooperation, fully mobilize the core competitiveness in discipline characteristics, faculty expertise, student achievement among other aspects. The goal will be to promote cross-disciplinary integration and enhance the upgrading of both sides’ professional digital intelligence. In terms of discipline, student development, research projects, faculty teamwork among other aspects, a fully cooperative enterprise should develop as ZJUI and ZIBS gather global resources, improve the quality of international education, and jointly build a new science and education ecology of “Engineering+Business” with global influence.

Welcome on board

Hanzhi MA
Assistant Professor

Hanzhi Ma is a tenure-track assistant professor in ZJUI. She received the Ph.D. degree in Electrical Engineering from Zhejiang University in 2022 under the joint ZJU-UIUC Ph.D. program. She is a recipient of the 2020 IEEE EMC Society President’s Memorial Award and 2022 APEMC Best Student Paper Award. She has been serving as the reviewer for journals including IEEE TEMC, IEEE TSPI and IEEE TCPMT, and as the TPC member for international conferences including IEEE MTT-S NEMO, IEEE EDAPS and APEMC.

Research Interests:
Electromagnetic Compatibility, Signal Integrity, Neuromorphic Chips and Electronic Automation Design

ZJUI Undergrads Win the 2nd Annual “Reimagine Our Future” Undergraduate Sustainability Competition!

Date:13/12/2022 Article:ZHANG Yi, YU Mengyue Photo Credits: Interviewees

Recently, FANG Minghao, XU Zihan, ZHANG Yuchen, WANG Zhonghao, CAO Yixin, and YIN Han, the 2022 undergraduate students of ZJUI, won the third prize in the 2nd Annual “Reimagine Our Future” Undergraduate Sustainability Competition with their ingenious views and brilliant presentation.

This 8-week international event hosted by the University of Illinois (UIUC) requires individuals or teams to develop an innovative and feasible plan or solution to promote one or more of the United Nations’ Sustainable Development Goals (SDGs). The competition attracted 180 students from across campus, as well as 25 students from the University of Pretoria (South Africa) and 38 students from Zhejiang University (China). The selected topics of the entries are extensive and cross discipline, covering a wide range of topics, including engineering, chemistry, marine and land ecosystems, health sciences, food sciences, education, economics, earth sciences, and art and design. After strict evaluation by expert judges, the first, second and third prizes and interdisciplinary awards were selected.

Focusing on the SDGs of “Good Health and Well-being,” “Clean Water and Sanitation,” “Industry, Innovation and Infrastructure” and “Affordable and Clean Energy,” the ZJUI award-winning team creatively proposed “A Solution to Water Shortage Issues in Shanghai, China Due to Water Quality.” According to the plan, the Yangtze River Delta area has a population of more than 55 million and a GDP output of more than US $2 trillion. The regional river network is seriously polluted by excessive waste discharge, resulting in eutrophication and cyanobacteria bloom in the watercourses. As the largest water source in Shanghai, Dianshan Lake is deeply affected by cyanobacteria bloom. The resulting shortage of clean water has posed a direct threat to regional economic development and human health. Therefore, the ZJUI team proposed to improve the water quality of Dianshan Lake by taking advantage of the Environment-Enhancing energy (E2-Energy), the green corridor-reed bed, Yangtze-Taihu water diversion, and rubber dam to complete the separation of sewage and high-quality water, to provide sufficient high-quality water for the lives and transportation of Shanghai citizens.

“The process of selecting the topic was very difficult. First, we determined that the SDG we are going to focus on was ‘Clean Water and Sanitation,’ and then we fell into a stagnation period of nearly two weeks. We need to find a specific, practical problem to study. At the beginning, we considered the problems of water pollution in Zimbabwe, sanitation facilities in European refugee camps, etc., but they are infeasible due to the lack of information or the lack of impact. Finally, we suddenly discovered that Shanghai, which is so close to us, was a great choice. There was a large population and typical water resource problems, and it was finally approved by all members.

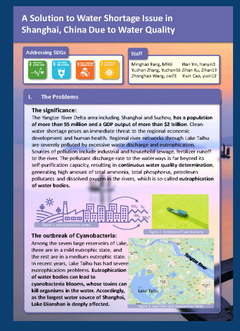
FANG Minghao and Teammates Discuss Topic Selection Process.

After being awarded in an international competition within the first several months in their college experience, FANG Minghao’s team shared the following: “the original intention of taking part in this competition is that we think the content of this competition is very profound, and we can have the opportunity to participate in global issues, expand our international vision, and at the same time improve our personal vision and pattern, team cooperation ability and the global responsibility of ‘taking the world as our own responsibility’.” In addition to being surprised, they are very grateful for the award. They thank all team members for their assiduous exploration day and night, and Prof. ZHANG Yuanhui, the founder professor of UIUC. FANG Minghao’s team said that the award was inseparable from Prof. ZHANG. “Although we were completely unfamiliar before, Prof. ZHANG responded quickly and enthusiastically to our email, especially when he called us ‘young engineers’ in the video chatting, I really understood his ardent expectations for a new generation of responsible Chinese youth. Maybe our topic is highly consistent with his research direction, or maybe we are both descendants of the Chinese people. After the competition, we keep communicating, which is also a great harvest of the competition. Prof. ZHANG asked students to think about and solve engineering problems from the source, rather than watch in silence for the changes; relate the topic to its environment, which can better reflect its representativeness and influence while adjusting measures to local conditions; learn to transfer knowledge and seek experience from different project practices. Looking back, FANG Minghao found that the guidance put forward by Prof. ZHANG not only made the finishing point of the competition, but also enlightened them, the future engineers.”

Prof. ZHANG also gave the team very positive comments. He said, “their team has pulled out an excellent presentation with novel and open ideas. I am so happy to see they are thinking big at young age, like elevating hope for the future.” When asked how ZJUI students can play a greater role in global sustainable development, Prof. ZHANG also raised some expectations, “First, keep working hard and keep thinking big. International collaboration can elevate one’s vision by magnitude, and ZJUI students are on the right track in that direction; second, keep your mind open, and keep your eyes open to the world. The world future lies on the sustainability, and the sustainable world relies on the young generation like you.”

The world responsibility of ZJUI students is not only reflected in their global competence, but also in the concern and action of faculty and students for sustainable development. “Sustainable development is not only a career, but also a concept, or a sense. I think ZJUI students, as the connection point between Zhejiang University and the world, have a broad international perspective and a down-to-earth spirit of seeking truth, which can be said to have unique conditions for contributing to sustainable development. “ FANG Minghao said. “I think ZJUI students should actively participate in world issues and competitions and apply their skills to the wider and more meaningful real world.”

As freshmen, the brilliant results in an international competition cannot be separated from ZJUI’s international presence and unique educational philosophies, along with the students’ efforts and faculty’s careful guidance. For ZJUI faculty and students, the sustainable development competition is not only the improvement of their thinking, vision, knowledge, and skills, but also a solid step towards the goal of cultivating international engineering intellectuals with interdisciplinary innovation.



◀ The poster of the awarded plan

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Newsletter

浙江大学伊利诺伊大学厄巴纳香槟校区联合学院 | 2022-2023冬季刊 | 第22期

聚焦交通数字化，ZJUI亮相浙江国际智慧交通产业博览会发布主旨报告和创新成果！

时间：21/12/2022
图文：博览会主办方

12月18日-20日，为期三天的第四届浙江国际智慧交通产业博览会在杭州国际博览中心圆满落幕。交通运输部副部长徐成光，浙江省人民政府副省长高兴夫，浙江省人民政府副秘书长梁群，浙江省交通运输厅厅长陈利幸，中国工程院院士、中国交通建设集团总工程师林鸣等相关部门领导、交通领域权威专家、龙头企业代表线上线下参会。浙江大学伊利诺伊大学厄巴纳香槟校区联合学院（ZJUI）院长李德纹院士、副院长陈喜群教授受邀出席博览会开幕式。李德纹院士作题为“以智慧交通推动综合交通产业发展”大会主旨报告，陈喜群教授发布创新成果《城市绿色出行指数白皮书》。博览会采用线上线下相结合的方式召开，以“交通数字化　数字产业化”为主题，展区建立“链主企业+全产业链”的生态模式，聚焦综合交通产业新形势、新背景，探讨未来发展动向，凝聚各方智慧，为浙江综合交通产业发展“掌舵引航”。

李德纹院士在主旨报告中以其带领的光数实验室为例，讲解了实现产学研互动与区域协同发展的构思及以智慧交通推动综合交通产业发展的做法。光数实验室面向国家与浙江省重大需求，引入国际先进理念和做法，围绕“综合交通一体化协同理论和关键技术”展开基础理论、关键技术和示范应用等系统性、前沿性研究，以一体化、智慧化、绿色化为手段，解决我国缺少综合交通数字孪生技术与系统的重大关键问题，旨在建成国际领先综合立体交通数字孪生关键技术和一体化运行示范工程，打造国际领先的综合交通和智慧物流科研团队和平台。

陈喜群教授在大会现场发布《城市绿色出行指数白皮书》，内容涵盖交通碳排放数据说明、碳排放计算框架、个人出行碳普惠行为碳减量计算、城市出行评价、杭州交通出行碳排放案例计算与城市交通管理政策支持等六大板块。聚焦城市低碳交通的新方案、新技术，阿里云、浙江大学、阿里巴巴-浙江大学前沿技术联合研究中心（AZFT）、浙江大学智能交通研究所、浙江省数据开放融合关键技术研究重点实验室五家单位联合研发了一个涉及多空间尺度、包含多种交通模式的交通出行碳排放计算与监测平台，实时精细化地计算和呈现各个路段、各个城市区域的碳排放计算结果，探寻和解决城市交通出行碳排放问题。

浙江国际智慧交通产业博览会由浙江省交通运输厅、浙江省发展和改革委员会、浙江省经济和信息化厅、杭州市萧山区人民政府共同主办。本届博览会上，省交通运输厅还发布了《浙江省综合交通产业三年行动方案》，并与北京百度智行科技有限公司签署战略合作协议。47个浙江省综合交通产业项目完成签约，总金额达866亿元。六大不同交通技术领域的主题论坛，围绕前沿发展，回应产业关切。博览会作为产业培育的重要载体，其溢出效应持续放大，成为了产业应用互动、合作共赢的主平台，为浙江围绕贯彻交通强国、共同富裕示范区建设等重大部署，全力培育综合交通支柱产业，加快建设高水平交通强省，抢抓未来综合交通产业大发展的重大机遇搭建了重要平台。

喜报！我院肖岩教授入选国际木材科学院Fellow

时间：03/01/2023
文：张旖　图：张旖

近日，国际木材科学院（International Academy of Wood Science，IAWS）公布了2022年Fellow（会士）增选名单，浙江大学求是讲席教授、我院能源、环境与可持续系统科学研究部主任肖岩教授入选。这是肖岩教授继获选为美国土木工程师学会（ASCE）和美国混凝土协会（ACI）会士后，又一次入选相关专业领域最高级别荣誉，标志着肖岩教授及其团队在竹木生物质材料利用和绿色土木工程建筑研发领域的突出成果、竹结构和竹木组合结构设计理论体系构建方面的学术贡献获得国际同行高度认可。

国际木材科学院（International Academy of Wood Science，IAWS）于1966年在德国成立，是世界上木材科学与生物质领域的最高学术组织，旨在推动世界木材科学的发展，促进全球林产品加工技术的科技进步，实现林业可持续发展，造福人类。国际木材科学院会士是该机构最高学术荣誉称号。新会士由会士推荐，由全体会士书面审议和无记名投票选举产生，每年增选一次，本年度共有5名知名专家当选。

肖岩教授是结构工程领域专家，于2018年6月加入ZJUI。他于1982年获天津大学工学学士，并分别于1986、1989年获日本九州大学工学硕士和工学博士学位。他的研究包括工程结构的抗震与抗爆设计、加固；高性能材料及纤维增强塑料(FRP)的结构应用；结构实验方法；新型钢、木、竹组合结构和现代竹结构的开发与应用等。

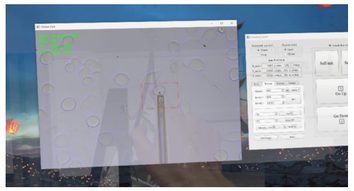
近日，从2022首届微创机器人“大迈杯”极客创新大赛组委会传来喜讯，ZJUI机械工程21级硕士生蒲锬红、李昊昱，20级博士生王铁信，22届本科毕业生吴喆雨以“基于MR的可视化细胞微操作系统”项目获得大赛二等奖，团队指导老师为ZJUI研究员、助理教授Liangjing　Yang（杨量景）。该团队通过构建系统，将混合现实技术（Mixed　Reality，简称MR技术）应用于细胞实时操作场景，实现操作过程全程信息可视化，为细胞操作实验带来全新体验，赋能精准医疗。

基于MR技术，ZJUI团队自主研发构建的系统实现了操作过程全程信息可视化，能实时与细胞进行精准交互。该系统实现了自动找针并定位尖端，实现了复杂背景下的自标定/重标定，实现了直观的多轴控制，实现了复杂环境下的精密操作。经评审，“基于MR的可视化细胞微操作系统”项目获得大赛二等奖。

微创机器人“大迈杯”极客创新大赛在中国医疗器械行业协会医用机器人分会、上海市计算机学会人工智能专委会、上海微创手术机器人工程技术研究中心指导下，由上海微创医疗机器人（集团）股份有限公司主办，围绕机器人技术，传感器，AI，医学影像，硬件设计等医疗机器人相关技术方向，聚焦机器人技术在实际临床问题中的应用，挖掘创新型应用解决方案。

时间：09/01/2023　文：张旖　图：受访者提供

用数字技术赋能精准医疗，秉求是精神开启创新未来，为ZJUIer点赞！



▲ MR操作演示：针尖会跟随手指点击位置移动，与细胞进行交互

► 自主研发构建的“基于MR的可视化细胞微操作系统”

时间：01/03/2023　文：汪雅玲、陈颖　图：雷宸

走出校园，步入业界
——Philip Krein院士与ZJUI研究生畅谈产业与事业

工科行业的发展趋势如何？人工智能的迅速发展，特别是ChatGPT的应用，会给工程产业带来怎样的冲击？随着产业发展、技术迭代，青年工程师应具备什么特质才能在业界立于不败？在学期间研究生应注重培养哪些能力增强自身的职场竞争力？……每个工科学生对未来充满希冀的同时，也不免有着困惑和迷惘。

2月28日，浙江大学伊利诺伊大学厄巴纳香槟校区联合学院（ZJUI）在国际校区西讲堂开展了一场别开生面的的交流会。美国工程院院士Philip T. Krein教授做了题为《走出校园，步入业界》的讲座，并与在座师生分享学术和产业经验。

Philip T. Krein教授是IEEE会士、电力电子领域的知名专家、美国国家发明家科学院院士。他不仅具有卓越的学术地位，同时也有丰富的产业经验，创立过SolarBridge等科技公司，拥有42项美国专利。作为创院执行院长，Krein教授一直关注着学院的发展和学生的培养。

Philip　Krein介绍了当前科技的发展态势、全球范围内工程技术的产业环境、以及工程人才的优秀特质。在工程师的诸多特质中，他特别强调前瞻性。他指出，进入职场后被问题牵着鼻子走的被动应对并非成功的秘诀，相反，一位优秀的工程师应该能够预判问题；后者是基于开放的思维、持续的学习而获得的能力。Philip　Krein还分享了“海尔迈耶问题（The Heilmeier Catechism）”以启发学生对不同决策进行利弊分析，并将之应用到研究项目中。 Philip Krein说，ZJUI的宗旨是“培养工程之俊杰，成就明日之领袖”，他希望ZJUI的研究生们能拥有敏锐的洞察力和判断力。

讲座后，与会学生积极提问，与Philip Krein教授进行了热烈的讨论。本次活动拓宽了学生对工程领域最新技术发展和产业动态的认知，激发对自身能力的思考和对未来发展的定位，体现ZJUI国际化工程人才培养的特色。

Contact Us | Email: zju-uiuc@zju.edu.cn, Tel: +86 571 8757 2500 Add:718 East Haizhou Road, Haining, Zhejiang 314400, China

ZJUI副院长陈喜群教授受邀在全球工程前沿发布会暨Engineering前沿论坛作主题报告

时间：19/12/2022　文：大会主办方　图：大会主办方

12月15日上午，由中国工程院学术与出版委员会指导，中国工程院战略咨询中心、科睿唯安、高等教育出版社、《中国工程科学》杂志社共同承办的2022全球工程前沿/全球十大工程成就发布会暨Engineering前沿论坛在北京召开。中国工程院主席团名誉主席、《Engineering》期刊主编周济院士，中国工程院副院长、王辰院士，科睿唯安副总裁王利，高等教育出版社副总编辑韩筠女士，中国工程院陈建峰院士、杨宝峰院士、张平院士、张平祥院士、杜彦良院士和相关领域的专家学者以线上形式参加会议。ZJUI副院长陈喜群教授受邀在Engineering前沿论坛作主题报告。

“Engineering前沿论坛”作为活动重要组成部分，特邀请工程前沿领域院士、专家围绕“2022全球工程前沿”中的重点前沿进行解读，揭示工程科技价值，服务人类文明进步。各报告在密切跟踪全球工程科技最新发展趋势的同时，紧密结合国家战略需求，致力于解决世界科技重大挑战。

陈喜群教授联合北京交通大学吴建军教授共同解读了《“出行即服务”自主式交通系统构建》报告。陈喜群重点介绍了专题报告中的“技术体系”及“未来趋势”两部分内容。就技术体系，他主要阐述了“出行即服务”自主式交通系统的构建方式，其问题主要聚焦在MaaS多方式供给资源协同优化、个性化与一体化的智慧出行服务、以及自主式交通系统多分辨率仿真等内容。就发展路线与未来趋势，他回顾与展望了MaaS一体化出行服务平台、ATS自主交通系统的发展路线，并提出了相关技术的未来趋势，即多模式协同优化，基于预约和实时响应的优化，自主交通系统智能感知技术，时空出行数据还原技术以及多模式交通网络仿真环境构建与多功能要素融合，为未来交通“一站式”智慧出行服务提供了思路。

活动中，中国工程院院刊《Engineering》还发布了包括“北斗卫星导航系统”“嫦娥探月工程”“新冠病毒疫苗研发应用”“猎鹰重型可回收火箭”“港珠澳大桥”“超大规模云服务平台”“詹姆斯·韦布空间望远镜”“复兴号标准动车组”“太阳能光伏发电”和“新一代电动汽车”在内的“2022全球十大工程成就”，《全球工程前沿2022》报告也于同日发布。

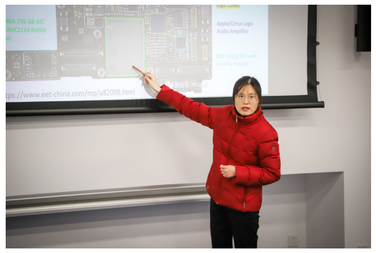
今年评选出的“全球十大工程成就”，既包括与当前人类福祉息息相关的重大创新，也包括推动人类向地球以外探索的巨大努力，这也是此次活动核心要义所在——希望专家学者能持续关注并积极参与全球工程前沿研究，一道研判全球工程前沿方向，把握世界发展战略机遇，为人类应对全球挑战、实现可持续发展提供行动参考。

ZJUI与国际联合商学院（ZIBS）签署战略合作协议

时间：17/02/2023
记者：张旖 陈臧丽莎　摄影：张旖

2023年2月16日下午，ZJUI与国际联合商学院（ZIBS）战略合作签约仪式在ZIBS贵宾厅顺利举行。ZIBS院长贲圣林与ZJUI院长李德纮代表双方签署战略合作协议。ZIBS副院长翟海东，院长助理雷李楠、沈莉、万峰、王琤、周闻宇；ZJUI副院长马皓、王宏伟、陈喜群，院长助理胡隽及两院教师代表出席仪式。

未来，双方将在已有合作基础上，充分调动两院学科特色、师资力量、学生风采等核心竞争力，进一步推进跨学科交叉融合，促进双方专业数智化升级。在学科建设、学生培养、科研项目、师资队伍等方面协同联动，合作共赢，共同为汇聚全球资源、提升国际化教育品质，共建具有全球影响力的“工科+商科”科教新生态而努力。



▲ 春学期上课第一天

求是新力量

马涵之
助理教授

马涵之博士，ZJUI研究员、助理教授。2022年博士毕业于浙江大学，为浙江大学-美国伊利诺伊大学厄巴纳香槟分校（UIUC）联合培养博士。主要研究方向包括电磁兼容与信号完整性建模分析，人工智能算法与芯片设计，电子自动化设计方法等。马涵之博士于2020年获IEEE国际电磁兼容协会主席纪念奖，2022年获亚太电磁兼容国际会议最佳学生论文，入选2020年浙江大学博士研究生学术新星计划。她担任电磁兼容以及电路设计相关领域多个期刊的评审（IEEE TEMC，IEEE TSPI，IEEE TCPMT等），并担任多个国际会议的技术委员会成员（IEEE MTT-S NEMO，IEEE EDAPS，APEMC等）。

研究方向：
电磁兼容与信号完整性，人工智能芯片和电子自动化设计

绿色发展 重塑未来 ZJUI 2022级本科生第二届国际本科生可持续发展竞赛中喜获佳绩！

时间：13/12/2022　文：张旖、俞梦悦　图：受访者提供

近日，浙江大学伊利诺伊大学厄巴纳香槟校区联合学院（ZJUI）2022级本科生房明浩、徐梓涵、张宇宸、王中昊、曹艺馨、印汉凭借匠心独运的观点见解和精彩绝伦的竞赛答辩，在第二届“重塑未来” 国际本科生可持续发展竞赛（2nd Annual “Reimagine Our Future” Undergraduate Sustainability Competition）中获得三等奖。

这项由美国伊利诺伊大学（UIUC）主办的国际性赛事，为期8周，要求以个人或团队形式制定一项创新可行的计划或解决方案，以促进一项或多项联合国可持续发展目标（SDGs）。竞赛吸引了来自UIUC的180名学生，来自南非比勒陀利亚大学的25名学生以及来自中国浙江大学的38名学生。参赛作品选题领域广泛，颇具交叉特色，包括工程、化学、海洋和陆地生态系统、健康科学、食品科学、教育、经济学、地球科学以及艺术和设计。经过专家评委严格评估，最终评选出一、二、三等奖及交叉学科奖。

ZJUI获奖队伍聚焦“良好健康与福祉”“清洁饮水和卫生设施”“产业、创新和基础设施”“经济适用的清洁能源”四大可持续发展目标，创造性提出了A Solution to Water Shortage Issues in Shanghai, China Due to Water Quality（中国上海水质引发的水资源短缺问题解决方案）。方案中指出，长江三角洲地区人口超过5500万，GDP产出超过2万亿美元。地区河网被过度的废物排放严重污染，导致水道出现富营养化和蓝藻水华。作为上海最大的水源地，淀山湖就深受蓝藻水华的影响，由此带来的清洁水短缺问题对地区经济发展和人类健康已经构成了直接威胁。因此，ZJUI团队提出通过环境增值能源(E2-Energy)，绿色走廊-芦苇地，以及长江-太湖引水、通过橡胶坝来完成污水和优质水的分离等工程措施来提高上海淀山湖的水质，为上海市民的生活和交通输送充足的高质量水源。

“选题的过程很艰难，我们先是确定了中心SDG为‘清洁饮水和卫生设施’，然后就陷入了近两周的停滞期，我们需要找到一个具体的，实际存在的问题来进行研究。一开始我们考虑过津巴布韦水污染，欧洲难民营卫生设施等问题，但要么就是资料匮乏，要么就是影响度不够。最终在世界范围内‘逛了一圈’之后才猛然发现，原来近在咫尺的上海就是一个绝佳选题，那里人口众多，水资源问题典型，最终全票通过。”房明浩团队同学娓娓道来他们的选题过程。

才进校几个月就一举夺得国际性学科竞赛的奖项，房明浩同学分享道，“参加这个比赛的初衷是认为这个比赛的内容很有深度，可以有机会参与全球议题，拓展国际视野，同时提升个人眼界格局、团队协作能力和‘以天下为己任’的全球责任担当。”对于获奖，除了惊喜，他们更多的是感谢，感谢所有团队成员夜以继日的探索努力，感谢指导老师UIUC创始讲席教授 Yuanhui Zhang（张源辉）老师的悉心指导。房明浩团队表示，此次获奖与张教授分不开，“尽管此前完全陌生，但张教授收到我们邮件后快速响应并热情的为我们指点迷津，尤其当他在视频中称呼我们为‘年轻的工程师’时，我真真切切从他的瞳孔中读懂了他对新一代具有责任担当的中国青年人的殷殷期盼。或许我们的主题和他的研究方向高度吻合，又或许同为炎黄子孙，在任务结束后我们也依然保持着通信，这也是比赛的一大收获。” 张教授要求同学们从工程问题的源头上思考解决问题，而不是坐观其变；将课题同其所在环境紧密联系，因地制宜的同时更能体现其代表性和影响力；学会知识迁移，从不同项目实践中汲取经验。回头审视，房明浩发现张教授提出的这些指导意见，不仅对他们此次比赛起到了画龙点睛的作用，更令他们这群刚入工程大门的未来工程师醍醐灌顶、豁然开朗。

张教授也给予了该团队非常积极的评价。他说，“他们的项目非常出色，想法也新奇而开阔。我非常高兴看到他们几个小小年纪就有了远大的抱负。”问及ZJUI学子如何在全球可持续发展中发挥更大作用，张教授也提出了一些期许，“第一，保持思索、进步和远大的目光。国际合作可以大大开阔同学们的视野，而ZJUI的同学们也正朝着这个正确的方向前进着；第二，保持思维的开阔和对世界的开放态度。可持续发展的光明未来，有赖于像他们一样的年轻一代。”

ZJUI学子的世界担当除了体现在对全球胜任力的培养上，也体现在师生对可持续发展的关注和作为上。“可持续发展是一项事业，但更是一种理念，或者说意识。我觉得ZJUI的学生作为浙大和世界的接轨点，既拥有广阔的国际视野，又秉承踏实的求是精神，可谓是拥有得天独厚的条件。”房明浩如是说，“我认为ZJUI学生应该积极参与世界议题、竞赛，将一身本领用到更广阔、更有意义的现实世界。”

参赛收获分享

在人类社会面临资源枯竭的如今，可持续发展必然是21世纪的中心议题，我也因此一直对于此领域保持较高的期待和探索欲望。就我所知很多组织都在面向青年大学生征集方案计划，希望更多志同道合的同学们一起加入，共同应对挑战，希望ZJUI学子大可不必妄自菲薄，有一份光，便发一份热。

收获最大的是两点：一是团队合作、团队协助的重要性；二是跨学科思维在工程应用中的重要性。

通过比赛，我在对资料查找分析中，拓宽了视野，增强思辨能力。

整合资源，改进方法，寻找最优解来解决问题，是我此次比赛最大地感触。当我们的所学不再只被应用到题目和考试，而是能帮助世界另一端需要帮助的人，当我们的所闻不再只是一个个数据，而是真正触动心扉的感同身受，为人类的福祉而动脑筋想办法——工程师，或许本来就该“长这样”。

比赛让我对具体情况具体分析，针对性地解决问题有了全新地、更深地认识。

参赛至今经历过困难与挫折，甚至想过将一个方案推倒重来，但最后还是坚持了下来。现在想来，觉得当初所有的努力都是值得的。很感激团队里所有组员的互相帮助与坚持，正是凭借着团队合作才有了我们今日的成功。从中我也深刻认识到，真正的知识从不仅局限于纸上，而是付诸于实践中，这不正是我们作为未来工程师所应做到的吗？