ZJU-UIUC INSTITUTE

ZJUI

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INSIDE THIS ISSUE

Counselor WU Hang Won First Prize in the National College Counselor Quality and Ability Competition

January 3, 2021

Article: XIA Ping, WU Hang

December 31 saw the final of the 8th National College Counselor Quality and Ability Competition, which was held in Zhejiang University. WU Hang, counselor of ZJUI, stood out from contestants selected by universities across the country and won the first prize! This is the first time that a counselor from ZJU won this honor.

Launched in 2018, the biennial competition has been sponsored by the Department of Moral Education of MOE. The two-day competition included three parts: a written test, a case analysis, and a heart-to-heart talk. With a thorough theoretical knowledge, a solid professional capability, and a self-assured performance, WU Hang gained consistent high praise and recognition from the experts, judges, and the audience, and eventually won the first prize in the final.

WU Hang, who is Secretary of the Youth League Committee of the International Campus and Director of the Office of Student Affairs of ZJUI, joined the International Campus in May 2016. He has been involved in the progress of the first batch of undergraduates on Campus from admission to graduation. The rate of students going on to further study has reached 96.4%.

He has participated in the innovation of students' moral education within the high-level Sino-foreign cooperative education model of the International Campus, and has accumulated rich working experience in the development of the students' moral education system with international characteristics, Zhejiang University values, and Red Boat Spirit.

After the competition he said that his work experience on the International Campus has raised his political consciousness, broadened his international vision, and enhanced his comprehensive ability. The supportive educational atmosphere of the Campus has helped him greatly in his work.

ZJU- Angelalign Research & Development Center for Intelligent Healthcare was Established

December 9, 2020

Article: LIU Zuozhu, ZHANG Yi
Translator: WANG Yiyi
Photo: ZHANG Yi, JIN Xiufang, YANG Lichao

On December 9, the launching ceremony of ZJU- Angelalign Research & Development Center for Intelligent Healthcare was held in the International Campus of Zhejiang University. The two sides will carry out industry-university-research cooperation in machine learning, intelligent medical treatment and digital oral medicine technology to integrate resources and jointly promote innovation and progressive development.

Professor LI Erping, Director of the Research & Development Center and Vice Dean of the International Campus, said that the R&D center will be based on Zhejiang University-University of Illinois at Urbana-Champaign Institute (ZJUI), focusing on intelligent medical, enhancing the technical strength of both sides, producing innovative achievements in the dental healthcare and the related fields, creating environments for engineering application and cultivating engineering leaders of tomorrow. He expressed his expectation that the launching of the R&D center will further strengthen the industry-university-research cooperation, break the bottleneck of the development of intelligent dental healthcare treatment, and make positive contributions to impact the digital oral diagnosis and treatment technology all round the world.

Ms.LI Huamin, Founder and CEO of Angelalign Group, remarked that the R&D center will foster new growth drivers under the support of Zhejiang University (ZJU) and become an icon in the field of intelligent dental healthcare at home and even abroad. In addition to making efforts in scientific research together, Angelalign Group will strive to create a first-class research platform and students practice base, while constantly exploring new modes and paths for industry-university-research cooperation.

As the first university-industry joint research center established by ZJUI since its establishment, Professor LI Hanying, Vice Dean of ZJUI, said that the cooperation between the Angelalign Group and ZJUI will jointly create an innovative platform integrating scientific research, technology development and application practice, which will bring a wave of more powerful scientific and technological innovation impetus to the dental healthcare industry. He expects more in-depth exchanges in more dimensions between the two sides to provide a broader platform for scientific research and industrial application for ZJUI students.

After the ceremony, relevant staff members of the R&D Center explored the scientific research environment of the International Campus, ZJU. Guests from the Sci-Tech Academy of ZJU, the International Campus of ZJU, the ZJUI, the College of Information Science & Electronic Engineering of ZJU, Haining Juanhu Lake International Science Park, and the Angelalign Group attended the above activities.

According to the agreement, R&D center will carry out dental healthcare technology development with the latest technology of artificial intelligence and machine learning, in the field of clinical diagnosis and digital manufacturing, to develop a new generation of domestic made oral medical intelligent diagnosis and manufacturing technology and standards, to build a high level digital medical products and services, to promote intelligent healthcare system, make scientific and technological innovations to foster regional industry growth drivers.

Add：718 East Haizhou Road, Haining, 314400, Zhejiang Province, China
Tel：+86 571-87572500
Fax：+86 571-87572500
E-mail：zju-uiuc@zju.edu.cn
Web：zjui.zju.edu.cn

Prof. Li Erping was Awarded the Grant From NSFC Major Research Instrument Development Project

January 13, 2021

Article: ZHANG Yi
Translator: LU Xinyue
Photo: ZHANG Yi

In the afternoon of January 13, the kick-off seminar of the National Natural Science Foundation of China's major research instrument development project “Mobile electromagnetic environment effect broadband testing technology and instrumentation research project” and Zhejiang Province's major project "Key technology research on heterogeneous integration of spiking neuromorphic chip and traditional chip" that led by Professor Li Erping, participated by Professor WEI Xingchang, Associate Professor SHAN Hangguan, ZJUI Assistant Professors CHEN Wenchao and TAN Shurun was held in the International Campus, achieving a breakthrough in the field of Information Science and Electronic Engineering of Zhejiang University to undertake major national scientific and technological tasks.

Under the background of 5G communication, high performance computing and AI industry's rapid development, and in response to the demand for advanced special electromagnetic environment effect test instruments for the upcoming industrialization of devices of Internet of Vehicles (IoV), the aim of this project is to break through the technical bottleneck of the assessment and testing of the spatio-temporal scenes of the whole life cycle of the electromagnetic environment of the connected vehicle in motion, and to solve these three key scientific problems: 1) the multi-mode time domain electromagnetic environment test problem of the IoV in the moveable electromagnetic environment, 2) the accurate modeling and construction of the IoV dynamic electromagnetic environment, and 3) the full-life time-space scenario of the Internet of Vehicles and the evaluation of relative dynamic electromagnetic interference. Once these challenges have been met the breakthrough will form a national important test instrument with independent intellectual property rights, to achieve China's international impact on this high-tech field and to enhance the reliability and safety of the IoV.

Professor He Lianzhen, Vice President of Zhejiang University, attended the kick-off and delivered a speech. She first expressed her gratitude to the guests and experts for coming, affirmed the breakthrough achieved in this project application, and also expressed her expectation for the launching of the project. She expressed her hope that ZJUI would take advantage of cross-disciplinary innovation, strengthen the linkage with relevant departments on the main campus and with related disciplines at home and abroad, deepen the integration of resources, forge a model of cross-disciplinary innovation and development, and provide ZJU solutions to address major national needs.

Professor Yang Jianyi, Dean of the College of Information Science and Electronic Engineering, ZJU, pointed out that the project is the first major instrumentation project in the field of Information Science and Electronic Engineering, and he believed that the implementation of the project will boost the industrial development of IoV in China.

The project leader, Prof. Li Erping, reported the project development plan to the guests, and shared the pre-project preparation and detailed project research implementation plan with the guests present.

Professor SU Donglin, Academician of the Chinese Academy of Engineering and Beijing University of Aeronautics and Astronautics, Professor MAO Junfa, Academician of the Chinese Academy of Sciences, IEEE Fellow, Standing Committee Member of the Party Committee and Vice President of Shanghai Jiao Tong University, Professor NIU Zhisheng, Professor of Tsinghua University and IEEE Fellow, and NIAN Fushun, Chief Scientist of the 41st Research Institute of China Electronics Technology Group Corporation were nominated as the members of the Project Steering Committee. SU Donglin, NIU Zhisheng, NIAN Fushun and other experts attended the meeting, and commented and guided the project's launch and development. Professor Su Donglin said that the project would help to enhance China's international impact on the development of EMC test standards. Professor NIU Zhisheng believed that the project will provide automobile manufacturers and Telematics equipment manufacturers with the most advanced Telematics electromagnetic environment testing instruments and technologies to help the development of driverless technology.

Mr. NIAN Fushun made a presentation entitled "Mobile communication active antenna test technology development," reviewed the development history of mobile communication and antenna technology, analyzed the new opportunities brought by China's information infrastructure construction and the important features of 5G mobile communication antenna, predicted the future 6G mobile communication antenna development direction, and gave the future development advice and suggestions.

The kick-off seminar was also attended by Professor CHEN Hongsheng, Vice Dean of the College of Information Science and Electronic Engineering, ZJU, Ms. WANG Fang, Assistant Dean of International Campus, ZJU, and Director of Haining Juanhu International Science Park, Ms. XU Yadan, Director of Scientific Research and Technology Transfer Department of the International Campus, Xue Jianlong, Deputy Director of Basic Research and Overseas Projects Department of Institute of Science and Technology of ZJU, representatives of faculty of the College of Information Science and Electronic Engineering and ZJUI, and representatives of project members. The seminar was chaired by Prof. Li Hanying, Acting Vice Dean of ZJUI.

Prof. WANG Hongwei Received the Wu Wen Jun AI Science & Technology Award

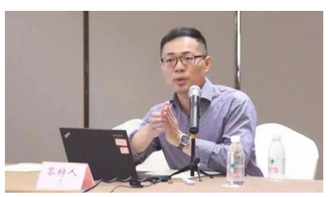
December 5, 2020

Article: LI Yan, Wang Hongwei

On December 1, 2020, the project "Knowledge-Driven Cyber-Physical System Intelligent Modeling and Co-simulation" led by ZJUI Associate Professor WANG Hongwei was shortlisted for the third prize of the 10th Wu Wen Jun AI Science & Technology Award in 2020. Prof. WANG Hongwei is the Acting Director of ZJUI Information System and Data Science Research Program. Since joining ZJUI, he has been focusing on the research area of artificial intelligence technology.

The Award, knowns as the "the Highest Award for China's Intelligent Science and Technology," is named after Prof. Wu Wenjun, a pioneer and leader in China's intelligent science research and the winner of the first National Highest Science and Technology Award. It was established with the approval of the Ministry of Science and Technology, sponsored by the Chinese Society of Artificial Intelligence, and represents a major breakthrough and the highest honor in China's artificial intelligence research. The selection process for the award is extremely strict, and the competition is also extremely fierce. In 2020, only 20 projects across the country emerged from many candidate projects and shortlisted for the Award.

Prof. Hongwei Wang focused on the project for several years, established deep cooperation with universities at home and abroad such as Cambridge University and Tsinghua University, and achieved a wealth of results. Through the intelligent design and co-simulation of the physical information system CPS, the project is based on various big data resources, high-performance computing capabilities and intelligent algorithms, and is deeply integrated with the problems of energy, aerospace and other professional fields. A complete model and method system for simulation and intelligent information fusion were developed. Focusing on the intelligent modeling of complex CPS systems, the basic theories and scientific methods that balance factors such as stability, accuracy and speed in collaborative simulation were innovatively studied, and solutions were proposed based on advanced intelligent algorithms.



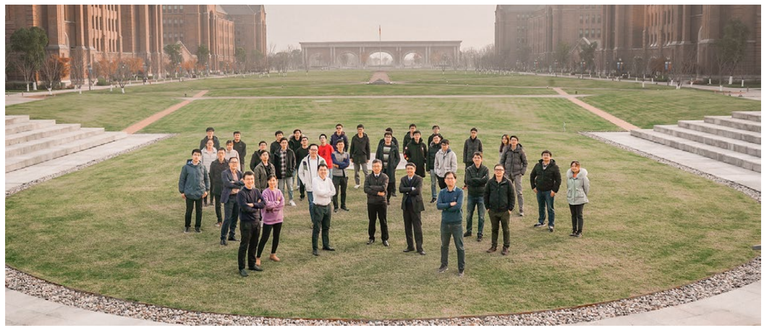
The research work of this project is also an important part of ZJUI information system and data science research program. At present, Prof. Wang Hongwei is responsible for leading the joint research center of Adaptive, Resilient Cyber-Physical Manufacturing Networks. After joining ZJUI, Prof. Wang Hongwei established the ZJUI Knowledge engineering and Complex engineering systems team with more than 10 researchers. They cooperate with China Nuclear Power Corporation, China Aerospace Science and Industry Corporation and other companies to focus on the design, analysis, manufacturing and maintenance of complex engineering systems. His team has successively received findings from the key R&D projects of the Ministry of Science and Technology etc., and they have produced rich scientific research results.

Add：718 East Haizhou Road, Haining, 314400, Zhejiang Province, China
Tel：+86 571-87572500
Fax：+86 571-87572500
E-mail：zju-uiuc@zju.edu.cn
Web：zjui.zju.edu.cn

The Project Kick-off Conference of Basic Research on Interactive Operation and Resilient Control to Support Power Electronics Based Smart Urban Energy Systems was Successfully Launched

December 14, 2020

Article: ZHANG Shilei, CAO Zhanbo
Translator: WU Di
Photo: GAO Likai



On December 12, the offline project kick-off conference and first communication conference of NSFC-UKRI_EPSRC Key Program—Interactive Operation and Resilient Control to Support Power Electronics Based Smart Urban Energy Systems, which is led by MA Hao, Vice Dean of Zhejiang University-University of Illinois at Urbana-Champaign Institute (ZJUI), and participated by Assistant Professor LI Chushan, was successfully held in the International Campus of Zhejiang University. Forty-three professors and student representatives from Imperial College London, Cardiff University, Tsinghua University, Zhejiang University, and Hefei University of Technology attended the conference. Participants communicated and discussed cutting-edge technologies, preliminary achievements and future research plans.

Focusing on intelligent energy and ubiquitous power internet of thing, the conference held the "Urban Energy Internet 2050" Frontier Technology Forum. Professor Teng Fei from Imperial College London, Associate Professor Zhang Ning from Tsinghua University, Senior Researcher Zhang Xin from Zhejiang University and Associate Professor Li Fei from Hefei University of Technology were invited to deliver keynote speeches. The four guests presented their latest research results from various aspects such as power system optimization dispatching, integrated energy system modeling, distributed power electronic system control and harmonic suppression of new energy generation system.

In order to promote the efficient implementation of the project, the project kick-off conference and first communication conference were held after the frontier technology forum. Professor LI Hanying, Acting Vice Dean of ZJUI, delivered a speech on behalf of the International Campus of Zhejiang University. He introduced the development of ZJUI and its recent preliminary achievements to the participants. Professor LI Hanying pointed out that the project is the first Key Program of international cooperation of NSFC on our campus, which fully embodied the unique internationalization development characteristics of ZJUI and highlighted the advantages of international cooperation of scientific research. He placed high expectations on strengthening academic communication and cooperation among the institutions and has hopes that this project will achieve fruitful research results.

Professor Ma Hao, the project leader and Vice Dean of ZJUI, introduced the research idea and research planning. He was instrumental in forming the international research team and encouraging the support of the project to the participants. He worked on the project from the ground up, including research content, research plan and team building.

Assistant Professor LI Chushan from Zhejiang University, Associate Professor ZHANG Ning and Dr. HOU Xiaochao from Tsinghua University, Professor MA Mingyao from Hefei University of Technology and other representatives participating in the project respectively introduced the layout plan and the first stage work in detail. The warm discussion concerning research planning, cooperation orientation, technical details and key challenges further expanded the research thought of the teams, deepened all parties' understanding of the research work, and put forward a series of potential approaches for breaking-through innovation.

Developing smart urban distribution network is the key to realizing low-carbon and green urban development as well as promoting clean electrified energy supply. The project starts from the power electronic converter topology and control, power electronic multi-energy system planning and scheduling, power electronic system fault diagnosis and fault-tolerant control. These research directions include the complementary advantages of Imperial College London, Cardiff University, Tsinghua University, Zhejiang University and Hefei University of Technology. Each institution has provided solutions and theoretical support for the key common problems in the application of urban distribution networks.

Before the conference, participants also explored the research facilities and campus environment of the International Campus.

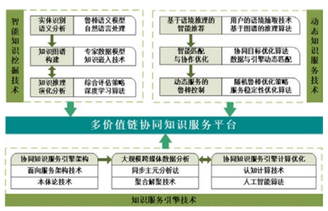
Prof. WANG Hongwei was Funded by the National Key Technology Research and Development Program

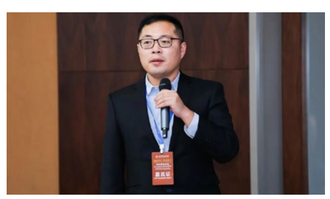
January 22, 2021

Article: WANG Hongwei
Translator: MENG Kexin

In December 2020, the project "Design Theory and Method of Collaborative Data Space for Manufacturing Multi-Value Chain," which was participated by ZJUI Prof. WANG Hongwei, was funded by the National Key Technology Research and Development Program of China of 2020 "Network Collaborative Manufacturing and Smart Factory." The project was one of the frontiers of fundamentals and key technologies programs, and these programs were very difficult to apply for. The project team consisted of North China Electric Power University, Zhejiang University, Tsinghua University, Northeast Electric Power University and Beijing Qingchang Electric Power Technology Co., Ltd. The team of Prof. Wang worked on "Technology and Method of Collaborative Knowledge Service Engine for Multi-Value Chain." The research was based on Knowledge Linkage, Knowledge Graph, Deep Learning, Transfer Learning and Natural Language Processing, etc. The research systematically explored and designed basic theory and core method of knowledge service engine of corroborative data space for multi-value chain, intelligence knowledge mining and dynamic knowledge service, etc. Therefore, the research provided core technical support for the construction of collaborative knowledge service engine for multi-value chain.

The project focuses on the core and key technologies of the transformation and upgrading of China's intelligent manufacturing industry, promotes the engineering application verification of electronic equipment manufacturing enterprises, and applies them to manufacturing enterprises in other industries. The project also aims to address some of the problems facing the manufacturing industry, such as data redundancy, idle digital resource, poor comprehensive benefits, etc. This project will use advanced theories and methods to support collaborative data for manufacturing multi-value chain, use knowledge to support and improve the level of intelligent management in manufacturing enterprises, competitiveness and benefits. It is hoped to produce significant theoretical and applied achievements, and lead the frontier development. At the same time, the project will implement the green manufacturing theory through the life cycle management of collaborative data for multi-value chain, with dynamic, efficient and accurate data sharing and integration, to shorten the supply chain and reduce carbon emissions, so that the project results can yield significant ecological benefits.





Prof. WANG Hongwei is an Associate Professor and Principal Investigator at ZJUI. His main research interests are in the application of artificial intelligence, information and computing methods to the design, analysis, manufacturing and maintenance of complex engineering systems. His previous and current research has been specifically focused on multi-scale modeling and simulation for large-scale systems, knowledge capture and retrieval for complex products, intelligent maintenance of energy systems, and knowledge graph generation and retrieval for complex decision-making. His research outcomes have helped solve problems in the aerospace, automobile and energy sectors. He has more than 10 high-impact papers published in top journals such as IEEE Trans. on Services Computing, Neurocomputing, and Advanced Engineering Informatics. Since 2020, he has been awarded a number of scientific research grants and awards, such as the Space Key Laboratory Fund, ZJU-UIUC Joint Research Projects, and Wu Wenjun Artificial Intelligence Science and Technology Award. The "knowledge-driven intelligent design, manufacturing, operation and maintenance" team led by Dr. Wang takes Zhejiang University and International Campus Zhejiang University as the platform, establishes deep cooperation with universities at home and abroad such as Cambridge University, UIUC, and Tsinghua University, and strives to build a new generation of artificial intelligence technology driven by "Internet + advanced manufacturing." Prof. Wang has supervised over 30 MSc/PhD students to successful completion, and his students have won the Best Paper Award of the 16th IEEE ICEBE International Conference, the MCM/ICM Contest and other international awards. One of his students Yangkai Du was nominated for the "Qizheng Cup" by Zhejiang University.

Online Workshop "Mobility and Logistics in the Era of the Coronavirus Pandemic" was Successfully Held

December 15, 2020

Article: YE Anke

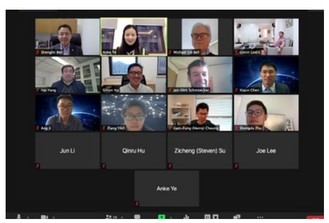
Translator: Hong Zhouzheneyan

Photo: YE Anke

On December 11, 2020, the online workshop themed "Mobility and Logistics in the Era of the Coronavirus Pandemic" was successfully held. The international workshop was jointly organized by Dr. Simon Hu at Zhejiang University-University of Illinois at Urbana-Champaign Institute (ZJUI) and Professor Michael GH Bell at the Institute of Transport and Logistics Studies (ITLS) of the University of Sydney. The workshop with seven themed speeches offered many different approaches, assumptions and research priorities concerning the resilience of existing mobility and logistics systems under the pandemic situation. The purpose of the workshop was to explore the potential of innovative technologies, such as autonomous vehicles, shared mobility services, and intelligent transportation systems, to relieve the urban mobility and logistics problems in the pandemic era. The workshop was strongly supported by Institute of Intelligent Transportation Systems, Zhejiang University (IITS) and International Business School, Zhejiang University (ZIBS).

The workshop invited seven distinguished scholars at home and abroad to share their latest research, including Professor Yang Hai from Hong Kong University of Science and Technology, Professor Ouyang Yanfeng from the University of Illinois at Urbana-Champaign, Professor Nikolas Geroliminis from the Swiss Federal Institute of Technology, and Professor Jan-Dirk Schmoecker from Kyoto University. More than 140 experts and audience at 70 universities/institutes (Cambridge University, Imperial College London, University of Sydney, University of Illinois Urbana-Champaign Campus, University of Hong Kong, Hong Kong Polytechnic University, Tsinghua University, Tongji University, Sun Yat-Sen University, etc.) in over 20 countries and regions (China, Australia, the United States, Japan, Switzerland, etc.) attended the workshop. Participants gathered online to discuss and share.

Professor Ben Shenglin, Dean of ZIBS, delivered opening remarks to express his consistent support for the innovative development of the interdisciplinary study of transportation and socio-economic. He raised ardent hopes for the future development of intelligent transportation.



Professor Michael GH Bell from the University of Sydney shared his thoughts on the future research direction of transportation in the era of COVID-19, and expressed his optimistic insights for society development in the post-pandemic era.

In order to encourage young scholars to deliver presentations with their innovative ideas and rigorous exploration, a student presentation session was created. Eight outstanding doctoral students from China and overseas were invited to share their latest research. Zicheng (Steven) Su from City University of Hong Kong, Li Junyi from Zhejiang University and Hamidreza Ensafian from the University of Sydney won the best student presentation award at the workshop.

As an essential part of the "International Partnership Collaboration Awards (PCA)," China-Australia Cooperation Project, the workshop deepened the cooperation between Zhejiang University and the University of Sydney, consolidated the partnership between the two universities, and promoted transportation research and the development of international interdisciplinary cooperation in the field.

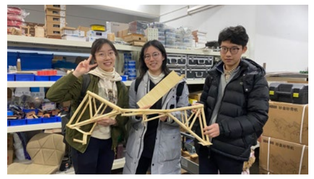
Add：718 East Haizhou Road, Haining, 314400, Zhejiang Province, China
E-mail：zju-uiuc@zju.edu.cn
Tel：+86 571-87572500
Fax：+86 571-87572500
Web：zjui.zju.edu.cn

ZJUI Students Swept the Top Three of Bridge Structure Design in the Zhejiang University Undergraduate Comprehensive Ability Training of Engineering Competition

January 21, 2021

Article | WANG Yiyi

Photo | Provided by WANG Yi



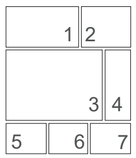
On January 15th, in the 7th Zhejiang College Students Comprehensive Ability Training of Engineering held in Zijingang Campus of Zhejiang University, 9 civil sophomores coming from 3 teams from ZJUI, won the first, second and third place, respectively, in the bridge structure design project of "Smart +" track intelligent logistics transportation competition. The group of Wang Yiyi, Li Zitong and Ruan Wenhao won the first place in the competition with the maximum load ratio of 799g bridge bearing 139.5kg. The team of Tang Zheyi, Xu Qin, Wang Haowei won the second place; and the team of Shen Yang, Cheng Haojia and Yan Xiaoyu won the third place. Cristoforo Demartino, assistant professor and researcher of ZJUI, served as the instructor of the three teams. It is reported that the team that won the first prize will represent Zhejiang University to participate in the Zhejiang Provincial Competition in April this year.

This bridge structure design competition held by Zhejiang University required only the use of double layer bamboo skin as model material, and 502 glue for pasting. The bridge structure design competition consisted of theoretical scheme design, structure model assembly, and loading experiment.

The Zhejiang University Undergraduate Comprehensive Ability Training of Engineering Competition aims to "keep moral and exceed in engineering innovation, serve the society with creativity and undertake social responsibility," focusing on meeting the needs of global sustainable development-oriented engineer training, adhere to basic knowledge and innovation, theory and practice, cross-discipline, and comprehensive engineering quality.

ZJUI always pays attention to cross-innovation training and provides students with rich opportunities for scientific research and practice. This time, students swept the top three bridge structure designs in the Competition, which fully demonstrated the students' solid theoretical foundation and excellent practical ability.

News in Picture



1. New Year Reception
Jan 28,2021

2. The Online Presentation of the Global Classroom of ENG100
Dec 7, 2020

3.4. ME 370 Walker Contest & ME 371 Transmission Contest
Dec 21,2020

5.6.7. ZJUI Host the "Engineering +" Sub Forum of the Annual Academic Convention of the International Campus
Dec 26, 2020