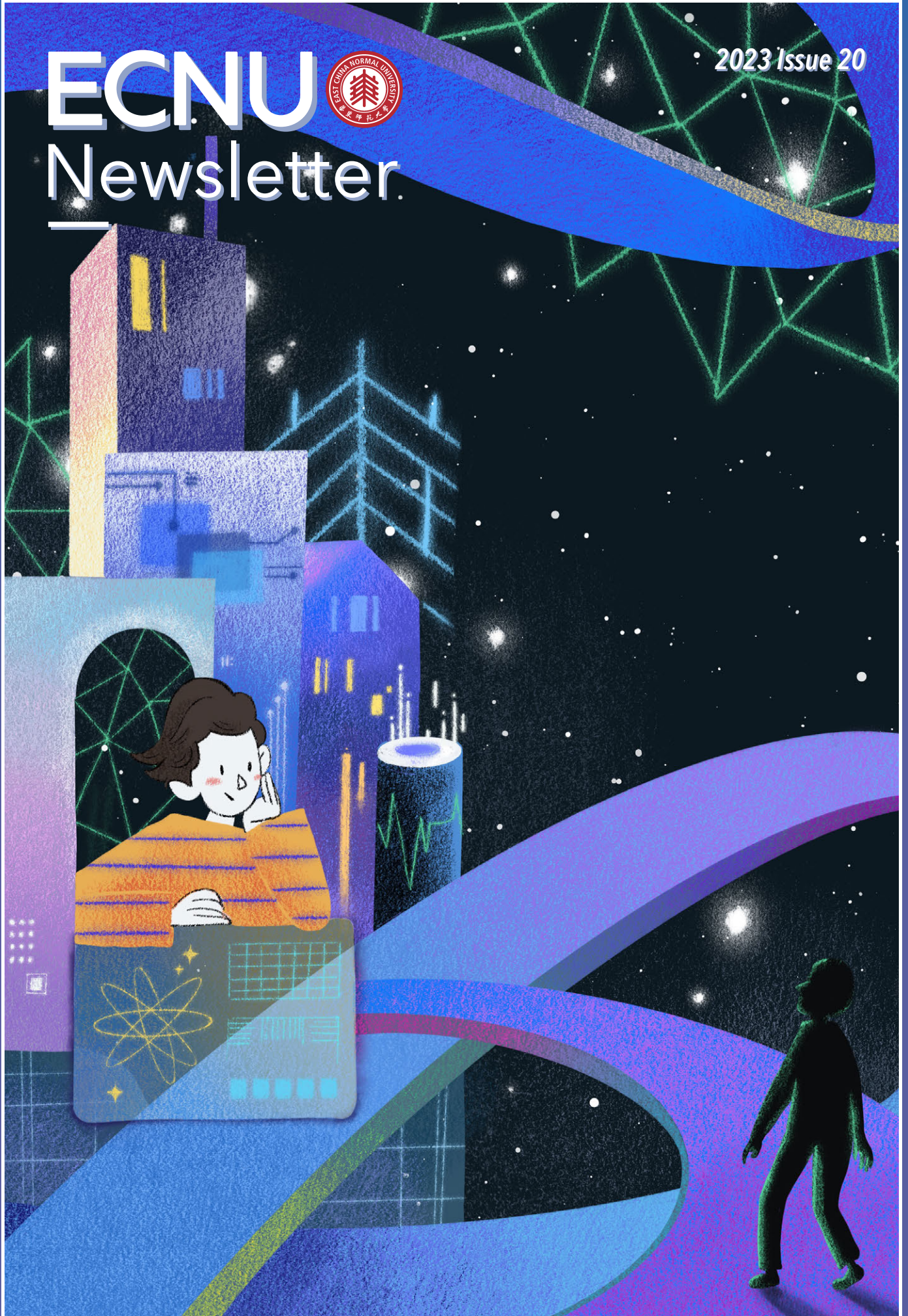


# ECNU Newsletter



2023 Issue 20





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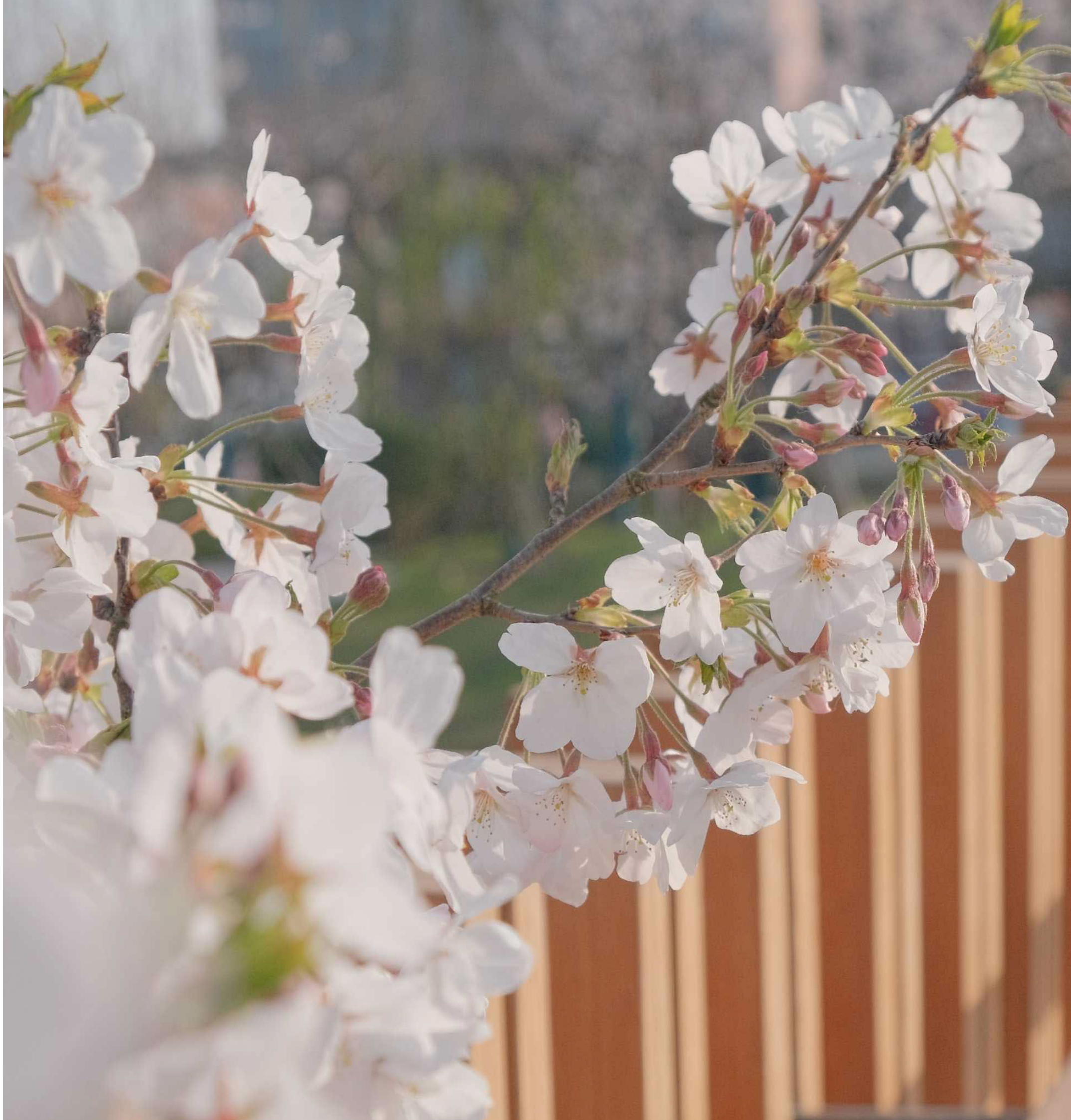
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EAST CHINA NORMAL UNIVERSITY





## ECNU and Jinshan District establish Jinshan Experimental School of No.2 High School of ECNU

On February 11, ECNU and Jinshan District signed an agreement to jointly establish the Jinshan Experimental School of No. 2 High School of ECNU as a nine-year public school. The No. 2 High School of ECNU will supply the management team and the Education Group will jointly provide support for school management, faculty training and course teaching etc.

At the signing ceremony, Mei Bing, Chair of the University Council, said that ECNU would give full play to its advantages in teacher education, educational research and educational services, and strive to help Jinshan District achieve balanced development of quality education.

Liu Jian, Secretary of CPC Jinshan District, said the district would spare no effort to provide supporting and coordinated services to speed up the construction of the project. The district would also take this project signing as a new starting point to explore the in-depth cooperation with ECNU at a deeper level, in a wider field and on a wider scale.

Sun Zhenrong, Deputy Director of Shanghai Municipal Education Commission, stressed that the development of high-quality basic education would best respond to people's aspirations for a better life. He hoped that both parties would coordinate mutually in the overall planning, effectively guarantee and imple-

ment the policies and supporting facilities, and give full play to the advantages of the school's cooperation with the local authority. It is also hoped that all parties would work together to build Jinshan District Experimental School of No. 2 High School of ECNU into a high-quality school with high standards and characteristics, in line with the direction of education modernization and future development.



## Bridging two major disciplines: AI brings significant impact in the field of education!

On May 7, 1979, ECNU established the first formal Computer Science Department in any normal university in China. Now, 44 years later, in order to adapt to the new circumstances characterized by the rapid development of AI, give full play to the comprehensive advantages of computer science and education disciplines, and promote the cultivation of innovative talent adept at interdisciplinary research in the frontier fields of education and AI, ECNU combined Shanghai Institute of Intelligent Education (MOE Philosophy and Social Science Intelligence Education Laboratory) with its School of Computer Science and Technology; thus a new School of Computer Science and Technology came into being.

On May 7, 2023, ECNU held the inaugural meeting of the new School of Computer Science and Technology and a roundtable forum for dialogue between AI and humanities and social sciences. Experts and scholars conducted group discussions on three themes: "AI and education", "AI and philosophy" and "AI and society".

ECNU's determination to establish a new School of Computer Science and Technology is a strategic decision made on the basis of future trends and also represents a significant initiative to promote interdisciplinary scientific research in an organized manner. As introduced by Zhou Aimin, Dean of the School of Computer Science and Technology ECNU, the School

will to continue to make efforts from the following three perspectives: to serve national strategies and implement interdisciplinary integration at the university level; to target cutting-edge academic research and solidify forward-looking foundational studies; and to integrate education, science, industry and intelligence so as to enhance the quality of talent cultivation.



## The first Piaget Research Center in China officially unveiled at ECNU



The ECNU Piaget Research Center was unveiled on April 11th at the same time as the Piaget's Genetic Epistemology Symposium was being held. Well-known psychology experts and scholars from more than 60 universities including Peking University, Beijing Normal University, Renmin University of China, Fudan University, and Sun Yat-sen

University attended the symposium. Meanwhile, the "ECNU Piaget Research Fund" was also established. Afterwards a book donation ceremony to the "Piaget Research Center", the press conference of "Collected Works of Jean Piaget" by Henan University Press, and the launch ceremony of "Piaget and Education" Series by ECNU Press were held in succession.

Piaget, born in Switzerland, was one of the famous psychologists of the 20<sup>th</sup> century. His most important contribution to psychology was to turn Freud's random and unsystematic clinical observations into more scientific and systematic ones, which has subsequently empowered the long-term progress in clinical psychology. ECNU's Piaget research is well-known both at home and abroad. Lifelong Professor Li Qiwei is the first domestic Doctor of Psychology who chose Piaget's theory as the topic of his dissertation. He once worked at the Piaget Archives (currently the Piaget Research Center in Geneva), and the ten-volume "Collected Works of Jean Piaget" edited by him in 2020 has exerted significant academic impact in China. At the unveiling ceremony, Prof. Li Qiwei, who is now over 80 years old, gave a keynote speech titled "'Ten Sentences' about Piaget's Genetic Epistemology", further condensing the content of Piaget's Genetic Epistemology into 10 keywords: knowledge, development, action, coordination, reflection, schema, construction, stage, logic and skill.

In the future, the Piaget Research Center will carry out research on a large-scale academic program: Piaget and Education, which is expected to have ten rolls of twenty volumes, about 20 million words; and the "Piaget Research Documentation Center" will be established. At present, the Center already holds more than 2,000 related books and it is estimated that by 2025, the Center will become the data center featuring the most complete materials and books on Piaget research and the most profound data resources in China.



## Dance with Whales: ECNU students win an international award for the printed map project

The printed map work *Dance with Whales* was co-produced by five undergraduate students, including Zhao Boyang, Chen Xiujing, Wang Yue, Zhou Zijun and Zhi Yitong from the School of Geographic Sciences at ECNU. The printed map also has been awarded the 2022 "Arthur Robinson Award for Best Printed Map" Honorable Mention Award for its outstanding design quality.

In 2022, the award issued one Winner and four Honorable Mentions. This is the first time for students from ECNU's School of Geographic Sciences to win the award for this international cartographic competition. The participating team is also the only student team to win the award as a Chinese institution in the past 18 years.

From capturing carbon to boosting ocean productivity, whales function as sentinels for ocean health and climate stability. Along with the human's ocean exploitation and global climate change, these species of whales are confronted with a great threat since one-third of the world's whales are listed as endangered by the International Union for Conservation of Nature (IUCN).

Determining the most important habitat and migration routes of whales, while promoting and displaying effective science popularization models, are important ways to improve the human awareness to protect the blue corridors. Protecting Blue Corridors is a project to safeguard migration routes of whales. Upholding the purpose of marine ecological protection, the team members identified the theme of the work—"Dance with Whales." Faced with a lack of data in the early stages of development, the team members turned to focus on international organizations and reports to conduct their analysis on the research project.

The Protecting Blue Corridors released by World Wildlife Fund (WWF) in 2022 provides abundant information in a timely manner. The report combines satellite-tracking data from more than 50 research teams

which are conducting research on 845 migrating whales around the world, with over 30 years of experience to show the global patterns of the whales' blue corridors.

On the basis of this report, the team applied their geographical expertise to categorize the models, such as reorganizing the whale's five migration routes, adjusting to the whale-watching seasons and the historical statistics related to whaling, and sorting out the ecological value of whales and the main existential threats they face combined with the ecological risk factors.

Faced with the difficulties of integration and effective communication, the multi-dimensional and complex spatio-temporal thematic information obtained from the research project allowed the team to boldly adopt the Spilhaus world ocean projection results. The results from the main framework were based on the GeoInformation pattern, of which the visual conflict was established through a two-color scheme of metaphorical references to "threat" and "protection". The overall narrative of the research project was guided by the visual hierarchy of concentric circles, clearly presenting the ecological map of the earth from the perspective of a new cetacean.

## ECNU's peer-reviewed journal lands high in global ranking

*ECNU Review of Education (ECNU ROE)*, an international, peer-reviewed journal established by the East China Normal University in Shanghai, entered the first quarter on a ranking of global educational academic journals being cited for the first time.

The ranking titled "CiteScore 2022" was released by Scopus, the world's largest literature abstract and citation database, on June 13.

*ECNU ROE*, the open-access journal seeking to facilitate in-depth dialogues among various stakeholders and build a global community of scholars interested in advancing knowledge, generating big ideas, inducing deep changes and exerting real impact in education, was ranked in the 355th place among the total 1,469 journals, up 30 percent year on year.

Launched in 2018, the journal accepts empirical and conceptual papers, integrated research reviews, and scoping reviews, policy reviews, and voices. It is interested in scholarships that theorize educational experiences in non-English speaking contexts and timely reviews of important educational researches, policies and issues. It also welcomes proposals for themed group articles from large-scale research or emerging interests.

The journal is so far the only English language international journal in education research fields supervised by the Ministry of Education and undertaken by the university.

China, the United States, Australia and the United Kingdom are the main countries where the authors submitting their papers and reviews are from, and the downloads and citations have been globally distributed, with the US, Asia and Europe being the main regions, according to the university.

"The journal has become a much needed bridge between scholars in China and across regional and international contexts, cultivating an intellectual community based on the values of multidirectional knowledge exchange and deep cross-cultural dialogue," said Iveta Silova, president elect of the Comparative and International Education Society of US.

According to the CaGIS website, the winning entries will be displayed at selected national and international professional events. They will form part of the permanent collection of the Library of Congress. Digital images of the winning entries will also be available to educators and teachers as examples of good map design to be shared with global students.

Arthur Robinson Static Print Map Award is one of two student awards of the CaGIS (Cartography and Geographic Information Society), named after the pioneer of the international cartography field, Arthur R. Robinson.



## Beyond 450 million years! An ECNU research team reveals the underlying driving force for the stable evolution of T-cell immunity

Along with life's evolution, the immune system has become increasingly sophisticated compared with 450 million years ago, when fish took the lead in deriving an adaptive immune system based on T- and B-cells. This system has been inherited and developed during the long evolutionary process, thus becoming the criterion for the immune defense of quadrupeds. However, evidence from comparative genomics illustrate that the critical T-cells and B-cells of adaptive immunity appear to have undergone distinct evolutionary patterns.

To illustrate further, take a look at how the B-cell immunity has gradually improved with the species evolution, which is not only reflected in the sequential appearance of new immunoglobulins and germinal centers, but also in the successive acquisition of antibody affinity maturation, type switching and other mechanisms.

By contrast, during the evolution from teleosts to tetrapods, the types and core components of T-cells keep the same form. In retrospect of the 450-million-year evolutionary history, the pressure of natural selection has caused five mass extinctions, which caused enormous changes in

immune organs, living environments, and the dietary structure of quadrupeds and fish. In response to these challenges, it is not difficult to understand the evolution of B-cell immunity, while the stable inheritance of T-cell immunity seems more mysterious to researchers.

An ECNU research team led by Prof. Yang Jialong from the School of Life Sciences published a research paper: "Glutamine metabolism underlies the functional similarity of T cells between Nile tilapia and tetrapod". The paper was published in *Advanced Science*, revealing the evolutionary rules of T-cell immunity. The authors take tilapia, *Xenopus laevis*, chicken, mouse and other animals as research objects, trying to answer two scientific questions: (1) Whether the stable evolution hypothesis of T-cells at the comparative genome level is reflected in the immunological process, function and regulation mechanism? (2) What are the underlying driving forces that maintain the stable evolution of T-cell immunity?

The authors first used the lower vertebrate tilapia as a model to describe the profile of early T-cell immunity. Tilapia's T-cells, through dynamic proliferation and apoptosis, have formed a typical primary and memory immune response mechanism, of which the complete activation of the fish T-cells depends on the synergistic effect of the first and second signals, and is co-regulated by  $Ca^{2+}$ -NFAT, MAPK/ERK, The

NF-kB and mTORC1 pathways. Next, the selective depletion model suggests that  $IgM^+$  B cells can present antigens to T-cells, ensuring the activation and proliferation of T-cells. Functionally, the fish T-cells feature the cytotoxic function of specifically killing targeted cells, and can assist with the proliferation and antibody secretion of  $IgM^+$  B-cells. These results suggest that core strategies of T-cell immunity are well established in teleosts.

To analyze the regulatory mechanism of fish T-cell immunity, the authors conducted transcriptomic analysis. The results show that tilapia uses a transcriptional regulatory network similar to that of mammals to support its T-cell immunity in the evolutionary process. However, when the tilapia is affected by pathogen, the differentially expressed genes of T-cells are mainly concentrated in the metabolic pathways, and large-scale metabolic reorganization occurs.

As the reprogrammed metabolic programs can be directly or indirectly traced to glutamine catabolism, the research further studies the regulation of glutamine metabolism on tilapia T-cell immunity. The activated tilapia T-cells increases the utilization of glutamine; whereas the glutamine deprivation or inhibition of the glutaminase GLS1 results in impairment of T-cell proliferation and effector function. Further studies have confirmed that the mTORC1 and MAPK/ERK pathways have undertaken TCR signaling, regulated glutamine metabolism through c-Myc, and promoted T-cell immunity in tilapia.

Based on the similarities between tilapia and mammals in T-cell metabolism and reprogramming, the authors speculated that the regulation of T-cell immunity by glutamine

metabolism may be a conserved strategy in the evolution of jawed vertebrates. The authors selected vertebrates at different evolutionary stages and analyzed the relationship between glutamine metabolism and T-cell immunity in order to verify this hypothesis.

The results show that tilapia, *Xenopus laevis*, chicken and mouse share a conserved c-Myc-driven glutamine metabolism to regulate T-cell immunity. Furthermore, the knockdown of c-Myc or GLS1 impaired the activation and proliferation of human Jurkat T-cells, whereas the reconstruction of the glutamine metabolic pathway using the corresponding molecules from tilapia can rescue the immunodeficiency of human T-cells. This discovery provides a new perspective for understanding the evolution of T-cell immunity, and also provides a potential way to intervene in human immunodeficiency.

In conclusion, this study has validated the hypothesis of stable evolution of T-cell immunity and proposes that conserved transcriptional regulatory networks and metabolic programs, especially glutamine catabolism, are the molecular basis responsible for the similar functions of T-cells between teleosts and tetrapods. The study was selected as the cover story [JM1] of *Advanced Science*.

## Mega-Delta Programme of the UN Ocean Decade: The first version of Delta Database launched

The State Key Laboratory of Estuarine and Coastal Research, East China Normal University has launched the "Delta Database" as part of the "Mega-Delta Programme" of the United Nations Decade of Ocean Science for Sustainable Development (2021-2030). This marks the first batch of open data under the programme, and users can now access and download data through the Mega-Delta Database website ([www.deltadatabase.tech](http://www.deltadatabase.tech)).

Data related to the Danube, Indus, Ganges and Nile delta regions are currently available in the Mega-Delta Database, covering data sources in various fields such as hydrology and water resources, water and soil environmental quality, land use, and socio-economic data. The database is characterized by multiple data types, long time spans and high data quality, which can reflect the natural and human characteristics of the delta region as well as the historical changes and trends over longer time scales in a comprehensive manner. The database is available for open sharing and subject to rigorous quality control measures, and can be used for further processing and analysis.

The database provides scientific research data crucial for the sustainable development of estuarine and deltaic regions, while also supplying indispensable data support for scientific research and management decisions in many fields such as climate change research, water resources management, ecological restoration and conservation, and land use planning. The database will be continuously updated and expanded aiming to cover major river deltas around the world.

The development of the Mega-Delta Database is supported by many authoritative research institutes all around the world. To protect the legal rights of the data providers, authorized data can only be used for non-profit scientific research and educational activities.

On June 8, 2021, the Mega-Delta programme was listed as one of the first round of the 65 programmes endorsed under the UN Decade of Ocean Science for Sustainable Development. River deltas are a critical coastal habitat, however, they are facing continuous threats such as increased erosion, flooding risk, and shrinking salt marshes and mangroves. This has become a global problem which requires international cooperation to find solutions. The Mega-Delta Programme will study the present status and threats facing 25 globally representative deltas, create methodologies for new blueprints including critical characteristics and the sustainability of the delta system and its capacity to support regional development for deltas having different physical processes and ecological and economic values. The overall objective of the programme is to support sustainable development in delta regions. So far three international projects affiliated to the Mega-Delta Programme have been endorsed by the UN Ocean decade. We expect more prospective projects to join.



## ECNU alumnus Mitchell Ho inducted into the AIMBE College of Fellows

The American Institute for Medical and Biological Engineering (AIMBE) reported on its website, on March 27, that Dr. He Miao Zhuang (Dr. Mitchell Ho), an ECNU alumnus of the Class of 1985, Department of Biology (currently School of Life Sciences), and a tenured Senior Investigator at the National Cancer Institute of the National Institute of Health, was inducted into the AIMBE College of Fellows.

Dr. Mitchell Ho was inducted into the AIMBE College of Fellows for his outstanding contributions to the development of glypicans as cancer therapeutic targets and antibody engineering methodologies for cancer therapy.



Alumnus Dr. Mitchell Ho is also serving as a tenured Senior Investigator at National Institutes of Health (NIH) and Chief of the Antibody Therapy Section at National Cancer Institute (NCI).

Alumnus Dr. Mitchell Ho has previously returned to ECNU several times to participate in academic activities, giving lectures and having in-depth communications with students. Speaking about ECNU's cultivation he said, "I appreciate ECNU's nurturing. The rigorous and practical spirit of ECNU has benefited me for life. I wish ECNU and the School of Life Sciences more excellence and new success."



AIMBE College of Fellows comprises the top two percent of medical and biological engineers, who are nominated and stringently selected by international peers annually, recommended by existing Fellows, and ultimately inducted by all Fellows through two rounds of screening. It is considered as the highest academic honor in the field of Medical and Biological Engineering in the United States.

Founded in 1991, AIMBE is a leading international non-profit academic organization in the field of Medical and Biological Engineering. AIMBE Fellows are among the most distinguished medical and biological engineers including 3 Nobel Prize laureates, 17 Fellows having received the Presidential Medal of Science and/or Technology and Innovation, and 205 also inducted to the National Academy of Engineering, 105 inducted to the National Academy of Medicine and 43 inducted to the National Academy of Sciences.

## The first Chinese scientist to receive Ruth Patrick Award

On June 5, 2023 in Palma, Spain, Liu Dongyan, a researcher from the State Key Laboratory of Estuarine and Coastal Research, ECNU, was presented the Ruth Patrick Award by the Association for the Sciences of Limnology and Oceanography (ASLO) in recognition of her outstanding scientific contributions to the study of the causes of green tides in the Yellow Sea. Thus Researcher Liu has become the first Chinese scientist who has been presented the Ruth Patrick Award since its establishment. This significant moment was witnessed by experts and scholars from 66 countries and regions worldwide.



In recent years, the green tide algal blooms in the Yellow Sea have had significant impact on marine ecosystem health and coastal economies. It is expected that, under the influence of global climate change, these phenomena will become more frequent, widespread, and persistent.

Researcher Liu Dongyan has long been committed to studying the mechanisms and ecological effects of marine algal community evolution. She and her research team have collaborated extensively with domestic and international researchers. Through the integration of multidisciplinary approaches such as satellite and field observations, genetic, physiological, and isotopic analyses, as well as the application of ecological models, they have systematically investigated the causes, formation, growth, and spread of green tides in the Yellow Sea. Her research has provided significant research methods and academic insights for addressing the global challenge of large-scale floating macroalgal blooms.

“ Researcher Liu Dongyan has made an outstanding contribution in identifying the causes of significant environmental issues. Her research on green tide phenomena has drawn global attention and her research achievements have played a crucial scientific role in facilitating government authorities to develop measures for disaster reduction. ASLO feels very honored to present the 2023 Ruth Patrick Award to Researcher Liu Dongyan in recognition of her remarkable achievements and tenacious scientific spirit in the field of marine science. ”

### Ruth Patrick Award is presented annually to one scientist

The Ruth Patrick Award, established in 1998, is one of the highest academic honors bestowed by ASLO. Each year, it is globally nominated and awarded to exceptional scientists who have applied the foundational theories of oceanography and limnology to analyze and address critical environmental issues. Previous recipients of the award include several members of the United States National Academy of Sciences. Researcher Liu Dongyan, as the first Chinese scientist to receive this prestigious recognition, not only receives acknowledgment for her personal academic achievements but also represents a significant commendation of the level of scientific research in China.

Dr. Patricia Glibert, President of ASLO, stated.



## Xu Xueren: persistence and passion make a voice actor



How many roles can one play at one time? For Xu Xueren, a student majoring in Art of Broadcasting and Hosting of the Class 2023, ECNU, his answer is: infinite. Rather than going by his formal name, he is better known by his online name “胖雪人Ozu”.

In his videos, he is able to dub five roles in *SpongeBob SquarePants* on his own. Meanwhile, he has done all the dubbing work and sound effects for films like *Yip Man* and *Drunken Master*, and games like *Angry Birds* and *Plants vs. Zombies*. His fans praise him by comparing his versatile voice to a dubbing studio.

Since 2018, he has accumulated more than 1.2 million followers on Bilibili, a leading Chinese video streaming platform popular among young people. He has also participated in many voice shows and has already made a name for himself as an online celebrity.

At present, on his upcoming graduation, he prefers to be a freelancer. Xu explained, “Even if many people are trying to persuade me to choose a more stable job, I would like to give it a try since I am still young”.

### Xu's bond with voice

“I found my passion in voice when I was thirteen”, Xu said. He recalls that he was strongly attracted by *Ultraman* dubbed by Shanghai Film Translation Factory.

After being admitted to the major of Art of Broadcasting and Hosting at ECNU through the arts college admission exam, he had the idea of becoming a voice actor. He has been obsessed with hiding behind characters and using his voice to play different roles and enrich their characters.

However, he had no reference to embark on the professional road. Therefore, he decided to depend on himself. At first, as a newcomer to the industry, when he was looking for a part-time dubbing job online, he could only get some narrator work.

After a year, he finally got a real voice acting job. From then on, Xu has achieved financial independence and had the bold idea of opening his own recording studio.

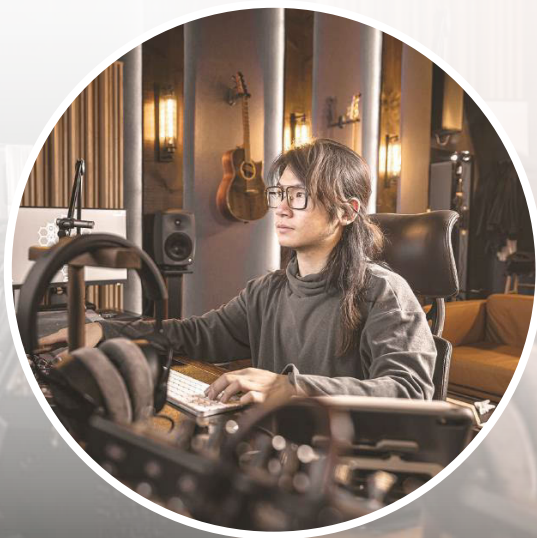
A five square meters dormitory at ECNU and a set of equipment form the prototype of Xu's studio. He named the studio “Pangxueren Simulation Studio”.

His carefully produced programs have entertained netizens a lot, among which “Individual Dubbing” program has attracted numerous fans. For this, he has received a constant stream of offers.

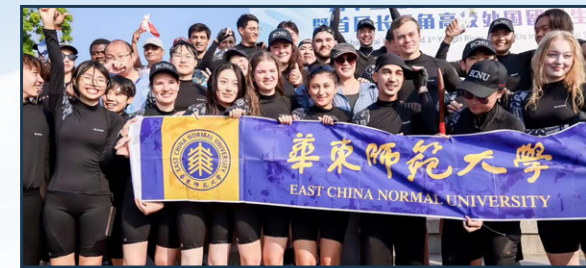
In November 2020, Xu determined to become a full-time voice actor and incorporated a company. He moved from the dormitory to an apartment near the university. As he said, “I slept upstairs and worked downstairs. I myself was a workshop.” He also systematically studied music production, film and television sound production and other content so as to further enhance his competence.

There are 26 students in Xu's class, but only 2 really step on the road of dubbing. Compared with his peers' stability-oriented attitude, Xu's decision to take odd jobs will inevitably be treated differently. However, Xu thinks to himself: work hard when young.

Xu firmly believes that with the development of the dubbing industry, more and more people will accept the profession of voice actor in the future. At that time, he will also be more confident to introduce himself: “Hi everyone, I am a voice actor, Xu Xueren.”



## ECNU international students dragon boat team takes the crown again



On the afternoon of June 10, there was shouting: “ECNU! ECNU! ECNU!” That's because the ECNU international students' dragon boat team couldn't hide their excitement after winning the championship. They jumped into the river and received cheers from both local fans and other spectators. The team of both female and male participants even jumped into the water three times to celebrate their victory after crossing the finish line.



Under the scorching 35-degree Celsius heat alongside Shanghai Bund, the 13th Shanghai University Dragon Boat Race for International Students and the 1st Yangtze River Delta Invitational Dragon Boat Race for Foreign Students kicked off with fanfare at Fengxian Campus of East China University of Science and Technology (ECUST).

This year's Dragon Boat Festival was even hotter than the weather! More than 800 international students from 32 universities, gathered here to participate in the dragon boat race and experience Chinese culture.

After a fierce round of preliminaries, ECNU's team came out on top during the finals, paddling across the finish line in the challenging 200-meter course with a remarkable time of under 55 seconds—all this despite headwinds from the water. Shanghai Maritime University and Tongji University secured the second place with a narrow gap of less than one second.

Since 2008, the Shanghai University Dragon Boat Race for International Students has been hosted by East China University of Science and Technology, combining dragon-boat racing, sportsmanship, and the promotion of traditional Chinese culture and festival stories.

Through years of practice, the dragon boat race on Tonghai Lake has become an important event and a classic activity to represent the cultural life of international students in Shanghai's universities. With the arrival of the Dragon Boat Festival, many international students studying and living in Shanghai eagerly anticipate at this event, immersing themselves in traditional Chinese culture through activities such as eating zongzi (sticky rice dumplings) and paddling dragon boats. The event simultaneously achieves the goal of fostering friendships among different nations.



# ECNU PhD candidate Chen Liang made the list of only ten for “2022 Shanghai University Student of the Year”

The list of “2022 Shanghai University Student of the Year” unveiled the ten individuals who were selected across the city of Shanghai. Chen Liang, a PhD candidate from ECNU’s School of Life Sciences was among the honorees to make the list.



Chen Liang

A PhD candidate from the School of Life Sciences of ECNU’s Class of 2020, who has been awarded the National Scholarship on two separate occasions, in addition to awards such as the Principal’s Scholarship for Graduates, the national “Top 100 Model Postgraduate Party Members” in Chinese universities, and the Gold Medal of the 12th “Challenge Cup” China College Students Entrepreneurial Plan Competition.

With Chen’s main focus on the development of cutting-edge gene editing technologies, he has published five Nature sub-publications as the first author (including co-author), and highlight reviews in top international journals such as *Nature Reviews Genetics* and *Nature Cell Biology*, and applied for 13 patent applications, of which two have been granted. Moreover, his achievements have been published in China Postgraduate Magazine of the Ministry of Education, and he was featured in People’s Daily as one of the “100 National Scholarship Winners”.



## Be a pacesetter pioneering in cutting edge technologies

“Realizing the high level scientific and technological self-reliance is the key to the Chinese modernization.” Chen Liang’s research focus is on the “development of cutting edge gene-editing technology”. Technological breakthroughs are not achieved overnight, however, as they require thousands of repeated transfection experiments, months of no positive data outputs, and repeated questioning from peers. These struggles did not shake Chen Liang’s determination. With the collective efforts of his mentor and research team, he insisted on screening over 200,000 cell

samples, and, as a result, he successfully developed four novel gene editing technologies at the forefront of the field worldwide.

These groundbreaking technologies by Chen and the ECNU research team achieved high precision and low off-target effects for the first time, providing a revolutionary technological upgrade for the treatment of rare genetic diseases.

All of the research achievements have been published in prestigious international journals, including Nature sub-journals, and reported

by 23 mainstream media, domestically and internationally, including Global Times, China Science News, and China Education Net. The related technologies have garnered interests from 14 renowned universities and research institutions both at home and abroad, including ETH Zurich in Switzerland, Seoul National University in Korea and Chinese Academy of Sciences, who have requested to use these technologies for other researches. Chen Liang has also been invited to participate in the Genome Engineering Seminar held at the Harvard Medical School and deliver a presentation.



## Be a pioneer benefiting people’s health with innovation

The “sky-reaching” research also requires “grounded” transformation. “No small group should be left behind!” The words

of Zhang Jinni, the negotiator from the National Healthcare Security Administration, deeply resonate with Chen Liang.

In his research, Chen Liang learned that there are over 7,000 rare genetic diseases in the world, affecting a significant number of patients who



suffer greatly from these conditions. As an example, the use of traditional treatment options for  $\beta$ -thalassemia, which is more prevalent in impoverished areas provide temporary relief but not a permanent cure. Frequent blood transfusions and iron chelation therapy become a painful and costly burden for patients and their families. Genetic-editing offers a fundamental approach to treatment. Chen Liang is dedicated to finding ways to translate cutting edge laboratory technologies into practical solutions that can benefit more rare disease patients.

Chen Liang established an interdisciplinary innovation and entrepreneurship team with students from other majors such as Business

Administration and Product Design etc. They focus on “novel strategies for genetic disease diagnosis and treatment” and collaborate with multiple hospitals and high-tech enterprises to bridge the gap between research outcomes and commercialization.

After six months of market research, online meetings, skill training and business plan development, Chen Liang led the team to win the national Gold Medal in the “Challenge Cup” China College Student Entrepreneurial Plan Competition and the Silver Medal in the Shanghai division of the “Internet+” College Students’ Innovation and Entrepreneurship Competition. More importantly, their technology provides a new solution for the eradication of rare diseases. As Chen Liang said, participating in competition and winning awards is not the final purpose, he aims to raise awareness about rare disease patients through their competition projects, ensure the translation of laboratory research into practical applications that can benefit more patients, and make genetic disease treatments more accessible and affordable for those in need.



## Be a dedicator to practicing original aspiration with patriotism

To address the issue of insufficient regular maintenance of the school’s public laboratory platform, Chen Liang led the branch to plan and implement the “Party Member Pioneer Station Service Platform” regular volunteer service activities, playing the exemplary role of party members in serving the people and solving problems. He also volunteered to join the university’s “Woodpecker” laboratory safety guards, actively promoting a safe and clean laboratory environment.

As the monitor of the 2020 doctoral program, Chen Liang actively cooperated with the university and the department in carrying out epidemic prevention and control measures as well as managing daily class affairs. He also volunteered in the

Shanghai Science and Technology Festival Open Day to help primary and junior school students and their parents experience the charm of science and uncover the mysteries of scientific research.

In March 2021, Chen Liang received a commendation letter from the Security Department of Shanghai Jiao Tong University for his honest act of returning a lost mobile phone to its owner (a PhD student of Shanghai Jiao Tong University) despite waiting in heavy rain. His act of integrity and exemplary moral character was highly praised.

As he approaches his graduation from his doctoral program this June and prepares to step out of the campus, Chen Liang expressed his commitment: “In the future, I will continue to pursue my academic path I am passionate about. I also hope to develop more valuable and practical cutting-edge technologies to apply them in a wider range of scenarios to bring health and well-being to humanity.”



## 2023 IJCAI YES inaugurated at ECNU With Keynote Speeches about the field of AI



On July 4, the highly anticipated 2023 IJCAI YES (Young Elite Symposium) was officially opened at the Putuo Campus of ECNU in Shanghai. Zhang Ying, Vice Chairman of Shanghai Municipal Commission of Economy and Information; Professor Maria Gini, representative of IJCAI; and Zhou Aoying Vice President of ECNU were present at the event and delivered speeches respectively. In addition, five internationally renowned scholars were also invited to make keynote speeches, while 62 young academic leaders from universities across the country and 54 first authors and co-authors of IJCAI-2022 and IJCAI-2021 papers were invited to share the latest scientific research progress.

At the beginning of the opening ceremony, Zhang Ying delivered the opening speech. She mentioned that a new round of scientific and industrial revolution represented by AI is evolving rapidly. In this revolution, strengthening the fundamental theoretical research and accelerating the development of core techniques in key fields has become the key to innovation and development.

Shanghai attaches great importance to academic research and technological innovation in the field of AI. The city focuses on large language models, intelligent computing, scientific intelligence and embodied intelligence, pays high attention to talent development in related fields, and builds platforms for talent exchange. She further said that the symposium aimed to gather more young scholars to show research findings, exchange academic views, and interact with world-class scientific and technological talents, promoting a win-win situation with co-created technology and shared knowledge.

Maria Gini extended her heartfelt gratitude to all the participants. She compared the young scholars present to promising stars of tomorrow and the hope for the future.

Zhou Aoying mentioned in his speech that the boom of ChatGPT in early 2023 has not only brought AI back into the spotlight, but also inspired us from two perspectives. For one thing, the scientific paradigm has undergone a fundamental shift; for another, technological development has embarked on new approaches.

Zhou expressed his admiration for the achievements made by the country in the field of AI, which would not be possible without the intellectual contributions and efforts of young scholars. Prof. Zhou also emphasized the significant role that ECNU has also played in the development of science and technology. On the one hand, the Department of Information and Technology of ECNU has formed a discipline system that attaches equal importance to both fundamentals and applications. On the other hand, 2023 IJCAI YES is the largest-scale international conference of its kind hosted by ECNU in the field of information science, reflecting the university's efforts in building an international highland for AI research.

Following the opening ceremony, five keynote speeches were delivered. To name specifically, Maria Gini delivered a speech called "Large Robot Swarms: Towards

Real Applications" with Zhou Leonardo Assistant Professoro at

Opportunities". Toby Walsh, Professor at the University of New South Wales in Australia and fellow of the



Carnegie Mellon University, delivered an online speech called "Game Theory and Machine Learning for Addressing Societal Challenges: Keynote speech From Theory to Real-World Impact". Bo Li, Assistant Professor at the University of Illinois at Urbana-Champaign, presented a speech called "Certifiably Robust Learning via Knowledge-Enabled Logical Reasoning". Tuomas Sandholm, Professor of Computer Science at Carnegie Mellon University, presented an online speech called "Modern Organ Exchanges: Keynote address on Market Designs, Algorithms, and

Australian Academy of Sciences, presented a speech called "Generative AI: why all the fuss?".

In the two days of the conference, 54 first authors and co-authors of IJCAI-2022 and IJCAI-2021 papers took turns to present their latest research findings. The research fields covered computer vision, machine learning, natural language processing, data mining, reinforcement learning, human-computer interaction and other major directions.



### About IJCAI YES

IJCAI YES, short for IJCAI Young Elite Symposium, was first held in Shanghai in 2021, aiming to cultivate the next generation of AI researchers, innovators and entrepreneurs by providing a platform for young people to showcase their cutting-edge work, learn from industry experts and collaborate with like-minded peers. At the same time, it also focuses on strengthening international exchanges in the academic field in order to promote the popularization and development of AI throughout the Asia-Pacific region.

For the latest agenda and the list of guests, please log on to the 2023 IJCAI YES official website: <https://ijcai.org/cn/>



## ECNU looks forward to 'sweet and juicy' oranges on campus

East China Normal University planted 70 orange trees to mark China's 45th Tree-Planting Day.

The 10-15-year-old trees, gifts from Huangyan District of Taizhou City in Zhejiang Province, were planted in 1,700sqm on the university's campus in Minhang District. Students and faculty are expecting a good harvest next year.

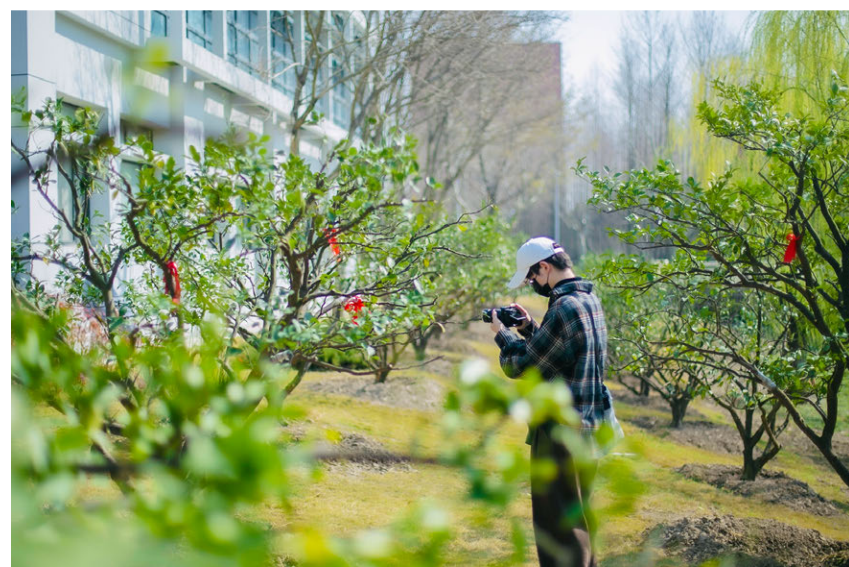
Huangyan tangerines are known for their sweet and juicy taste since the Tang Dynasty (618-907) days, and emperors would receive them as tributes. It came to be known as the "king of oranges" during the Song Dynasty (960-1279).

ECNU has a close relationship with Huangyan Normal University because its third president graduated from ECNU.

He Jingye, a well-known Chinese-French translator and ECNU professor, was born in Huangyan.

This year marks the 30th anniversary of the university's school of foreign languages.

The tree-planting activity enabled students to learn not only about the Huangyan culture but also tree-planting traditions in other countries, such as Arbor Day in the United States and National Tree Week in the United Kingdom.



## ECNU Student Societies Fair kicks off under cherry trees

ECNU Student Societies Fair finally returned after three years and was held simultaneously at the two campuses of ECNU from noon on March 29th, attracting many students.

Three years ago in the spring, President Qian Xuhong made a promise with students in the first "cloud" class saying "I look forward to seeing you again at the campus when the spring breeze gently blows and cherry blossoms."

Three years later in the spring, 327 cherry trees are in full bloom on both sides of the 550-meter walk along the Cherry River on Daxia Road at Minhang Campus. The Cherry River seems to stretch out like a rosy ribbon of cloud, attracting staff and students to stop and enjoy, take photos, and go to the "Cherry Blossom Date."

This year, more than 100 Student Societies from the two campuses return to the offline stage. The Fair is held on the two campus landmarks, Cherry Blossom Trail at Minhang Campus and the Lawn of Gongqingchang at Putuo Campus. The Student Societies covers 7 categories, including Ideology and Politics, Academy and Technology, Culture and Sports, Innovation and Entrepreneurship, Self-discipline and Mutual Assistance, Volunteer Work and Comprehensive Practice. Not only do Student Societies provide a big platform for students to show their styles, exchange ideas and learn from each other, but they also represent one of the new vehicles of ECNU to cultivate students with culture, aesthetics and the spirit of pursuing excellence.







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