

ECNU

Newsletter



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E A S T C H I N A N O R M A L U N I V E R S I T Y

Contents

Headlines 01

Focus 05

Research 13

Campus 16

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EAST CHINA NORMAL UNIVERSITY



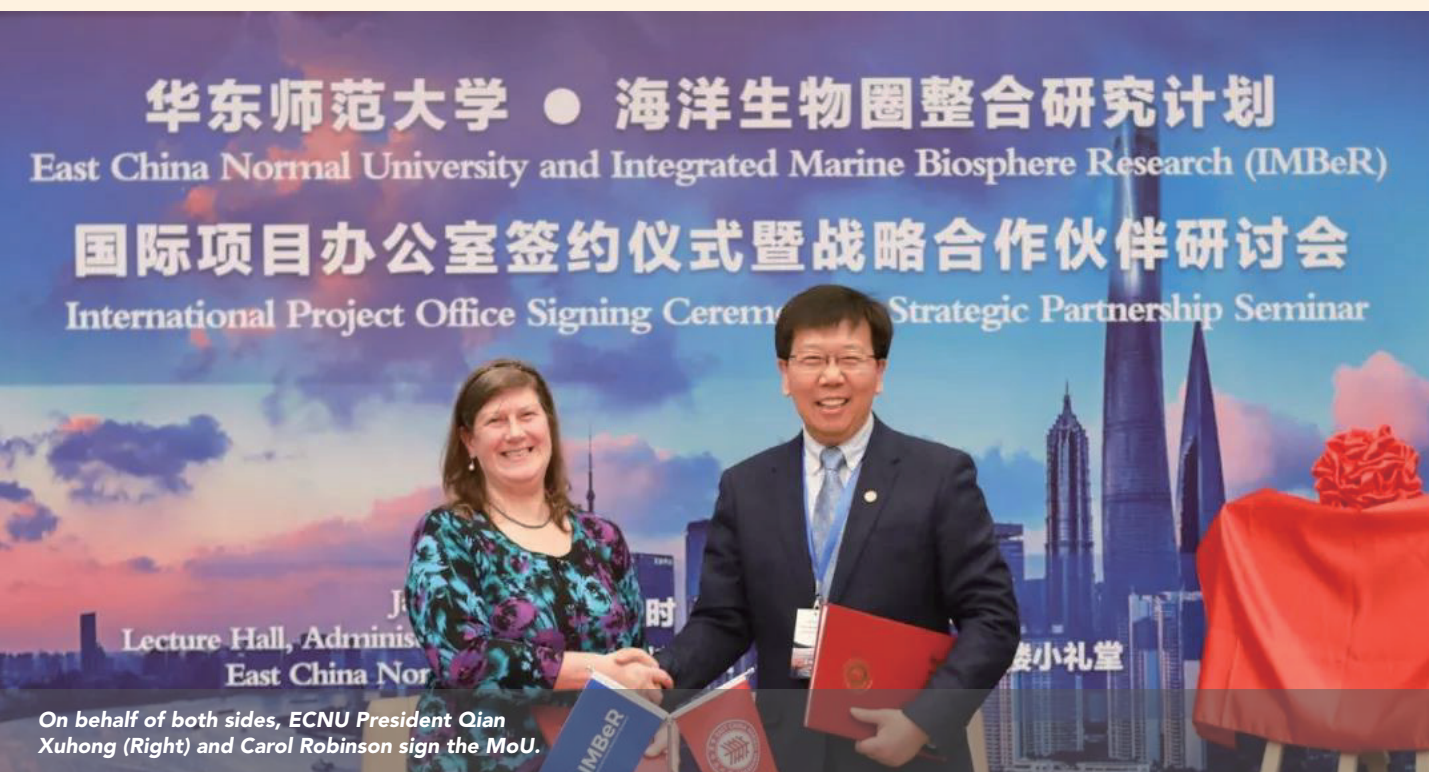
Headlines

IMBeR sets up its International Project Office-China in ECNU

The impact of climate change has become a hot issue in scientific research. To explore the sustainable development of the oceans and human society against global climate change, ECNU signed a memorandum of cooperation with the Integrated Marine Biosphere Research (IMBeR) on January 16. IMBeR, formerly the Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) project, is a global environmental change research initiative co-sponsored by the Scientific Committee on Oceanic Research (SCOR) and Future Earth, with the vision "Ocean sustainability under global change for the benefit of society" for the next decade (2016-2025).

According to the MoU, IMBeR will set up its International Project Office-China in the State Key Laboratory of Estuarine and Coastal Research (SKLEC), ECNU. The newly founded office will promote IMBeR research with a focus on the Asia-Pacific Region, Middle East, and Africa, support and coordinate the activities of IMBeR regional programmes and working groups, undertake educational outreach activities of IMBeR-related science, and promote capacity building of IMBeR relevant skills.

To learn more about the office and the cooperation, we had an interview with Prof. Carol Robinson, Chair of IMBeR Scientific Steering Committee, Dr. John Claydon and Ms. Lisa Maddison, IMBeR staff members, and Prof. Gao Shu, Director of SKLEC.



On behalf of both sides, ECNU President Qian Xuhong (Right) and Carol Robinson sign the MoU.

Q: Why does IMBeR choose to set up the IMBeR International Project Office in ECNU? How will this office cooperate with the SKLEC?



Carol Robinson: We have been looking for a host for the International Project Office for some time. The host should have a vision and mission that aligned with those of IMBeR. IMBeR's mission is to facilitate the science and policy required to move towards ocean sustainability for the benefit of society. We also strive for a global international perspective combined with scientific excellence and expertise in a range of interdisciplinary marine topics, world class education and training. We have made an open call for applications to host the International Project Office, and we have received five excellent submissions from around the world. The reason that we choose ECNU and SKLEC is the combination of their scientific expertise in marine biogeochemistry and ecological research, their commitment to education and capacity building, and their goal to achieve a global international perspective.

What's more, we have a good cooperation history with ECNU and SKLEC. Our Regional Project Office (RPO) has been set up in SKLEC for over 9 years. Ms. Zuo Fang, the officer of IMBeR's RPO, has experience and expertise in communicating IMBeR science throughout China. With her effort, the RPO has encouraged more Chinese early career scientists to take part in IMBeR activities and has organized a range of meetings and workshops. Therefore, SKLEC has exactly the combination of expertise and experience that IMBeR has been looking for. We are very excited to continue working with SKLEC in this new phase of IMBeR.

Q: The second question goes to Dr. Claydon. Would you tell me the difference between the current Regional Project Office and the International Project Office? What is the strategic plan for the newly founded office?



John Claydon: The plan is that we will continue to do everything that we currently do, but we're going to be more proactive and more innovative, and we will have more time to seek new collaborations and link with international networks. We aim to be THE global research network for interdisciplinary sustainable oceans research and communication.

As to how the new office is different from the current RPO, the first difference is more staff members. This will allow the project office to have a much more expansive role. What the RPO did in the past was mainly supporting the International Project Office in Bergen, but now the International Project Office-China will have more responsibilities with leading roles including organizing conferences and summer schools, as well as representing IMBeR throughout the Asia-Pacific region. IMBeR will benefit from having two international project offices, one in Shanghai and the other in Halifax, Canada. The two international project offices are equal in their responsibilities. This will enable IMBeR to improve our global representation and facilitate more engagement with early career scientists and more interaction with science, policy and society.

Q: Ms. Maddison, you have been involved in the cooperation between ECNU and IMBeR since the RPO was established in SKLEC. What's your impression on the cooperation?



Lisa Maddison: For me, the most impressive thing has been the way the staff of the RPO have developed. By this I mean, not only in the tasks that they have undertaken, the extremely efficient and professional way that they conduct themselves, but also in their individual development – it has been extraordinary!

One of the main things that they have really taken on and improved enormously is the capacity building of students and early career researchers. This was actually started by Prof. Zhang Jing from here at ECNU. He established a Capacity Building Task Team that aimed to include a capacity building component in every activity and aspect of IMBeR. When the Task Team ended they published a booklet on the legacy of capacity building in IMBeR and recommendations for continuing this going forward. The RPO have been instrumental in ensuring that this has been achieved and have not only organized specific capacity building activities, but also added training components to conferences that they have organized – like the China-Japan-Korea Symposium that they convene every second year always has a training program alongside it.

Last year the RPO organized the Maritime Silk Road Doctoral Forum, and it often helps us with the mentoring programs that we always hold with all our meetings – matching students

with more established researchers who are doing similar research. They are also very involved with the IMBeR ClimEco summer schools that are held every two years. Zuo Fang, the deputy executive director at the RPO, came to assist me with the one that we held in Turkey, and she organized the next one here at ECNU in Shanghai. She was so good at interacting with the lecturers and students, and it all went so successfully that she was given a standing ovation by everyone at the end – a totally amazing job with the scientists of the future!

Q: Prof. Gao, how will the IMBeR international project office impact ECNU and SKLEC ?

Gao Shu: We will benefit greatly from the international project office. Previously, IMBeR has given us great support in international cooperation and has enhanced the academic level of this cooperation. SKLEC is the only key laboratory in China that specializes in estuarine and coastal research. In the past, we concentrated on resource development, but now sustainability has become much more important. We need to identify scientific problems, and then try to find solutions to them.

Scientific problems are interrelated. If we want to solve them, we need to cooperate with international partners. IMBeR and SKLEC have much in common in their aims and responsibilities. I am confident that the cooperation between us will be successful.



ECNU delays start of Spring semester

Based on the university calendar, the spring semester was originally set for February 22. Because of the spreading of the novel coronavirus pneumonia, ECNU has to delay the start of the new semester to March 9.

The university will make full use of its quality open online courses and laboratory resource platforms to organize online education activities. These courses and activities will benefit students unable to return to the university for education due to the virus.

The safety and health of all ECNUers are the top concerns of the university. There are about 500 students staying on both campuses. Since the outbreak of the novel coronavirus (COVID-19), the university has been monitoring the ongoing situation closely and taking proactive steps to safeguard the well-being of its students and faculty/staff members.

Read more about ECNU's efforts to fight COVID-19 in Focus.

ECNU wins 7 Shanghai Decision-making Consultation Research Awards

On February 12, the Development Research Center of Shanghai Municipal People's Government announced the winners of the 12th Shanghai Decision-making Consultation Research Awards. ECNU received seven awards, three first prizes with the largest number of winners in Shanghai, three second prizes, and one third prize. The total number of prizes it won rank second in Shanghai.

The Awards, selected every two years, is the highest award in the field of decision-making consultation research of Shanghai Municipal People's Government.

ECNU inks deal with Minhang Education Bureau and Huacao Town

On January 17, ECNU, the Minhang Education Bureau and the Huacao Town Government signed a cooperation framework agreement.

According to the agreement, the three parties will jointly build the Minhang New Hongqiao Basic Education Experimental Park in Hongqiao Business District and in the park will also be built seven primary and secondary schools affiliated to ECNU.



ECNU delays start of Spring semester.



ECNU inks deal with Minhang Education Bureau and Huacao Town.



Strict measures taken to prevent spread of novel coronavirus

ECNU has adopted its own measures to control the novel coronavirus and protect its students, faculty and staff in addition to carrying out the State measures.

All ECNUers are required not to return to the university before the spring semester starts. Anyone who has to return to the university from outside Shanghai and live on campus must report to their schools/departments for permission in advance. And they shall be screened for infection upon arrival at the university. Those who return from the key epidemic-stricken areas, such as Wuhan, will be kept in quarantine for a period of two weeks.

For ECNU faculty and staff who live outside campus, upon their return to Shanghai from other areas, they are required to stay at their own home for a period of two weeks before resuming work at the university.

For those who are staying at the university, ECNU will keep daily records of their health conditions. It has also prepared rooms for quarantine under medical guidance.

Any events to be held on campus, including lectures, meetings, conferences, and campus tours, are strictly prohibited. The libraries and stadiums on campus are also closed to all visitors.

The university has also provided guidance to all ECNUers on novel coronavirus prevention on its official websites and WeChat accounts and through email and text messages.

Fighting coronavirus: ECNUers are in action

Since the outbreak of the virus, ECNUers across the world have joined hands to help fight this epidemic. They donate money and supplies to the epidemic-stricken areas, serve the public with their professional expertise, and work closely with the government for epidemic prevention and control.



The university takes strict measures to prevent the spread of the epidemic.

The ECNU fund

The ECNU Education Development Foundation has established a special fund to raise money and supplies to fight the coronavirus. ECNUers at home and abroad have responded actively to the call for donation. Since the establishment of the fund at 19:00 on January 30, up to 727,136 yuan of donation has been received. Angels International Bilingual Kindergarten in Shanghai also donated 2.33 million yuan worth of supplies to the fund, which will be delivered to the epidemic areas. The money and supplies raised will be used for epidemic prevention and control in Wuhan and other severely affected areas.

Alumni's donations

ECNU alumni are also in action. Jiang Nanchun, chief executive officer (CEO) of Focus Media and an alumnus of the Department of Chinese Language and Literature, took the initiative to produce anti-epidemic advertisements and put them on more than 700,000 LCD screens nationwide.

Fang Hongbo, CEO of Midea Group and an alumnus of the Department of History, donated household appliances, such as air-humidifiers, microwave ovens and electric water heaters, to Wuhan Huoshenshan Hospital and Leishenshan Hospital, two makeshift hospitals for novel coronavirus patients in suburban Wuhan.

Tang Liang, CEO of Ossen Group and an alumnus of the Faculty of Economics and Management, donated 2 million yuan worth of air purification equipment to Wuhan Xiehe Hospital.

Zhou Li, an alumnus of grade 1996, organized ECNU alumni and other Chinese nationals in Indonesia to donate supplies (including masks, protective garments, protective hoods, and eye shields) to the ECNU special fund.

ECNU alumni association in Japan is also active in making donations. The first batch of 10,200

masks in 17 boxes arrived at ECNU on the afternoon of February 4. They will be used by the ECNU hospital for campus epidemic prevention and control. 30,000 more masks will be delivered to the university soon.

The mental health hotline

Since the virus has put many people under stress, teachers and students from ECNU's School of Psychology and Cognitive Sciences and the Counseling and Psychological Services Center opened a mental health hotline to provide counseling to the public.

Anyone who doesn't know well about the disease or who is experiencing pneumonia-related anxiety or stress can dial 18918464934 (8:30-11:30 and 13:00-16:30) or send email to xlzx@admin.ecnu.edu.cn for help. They can also seek advice via the QQ group 839981124 (9:00-12:00 and 14:00-17:00).

Free online courses

Since many middle schools in China have decided to delay the opening of the spring semester due to the epidemic, the ECNU Press developed the "Huashi Little Assistant" APP to enable students to enjoy high-quality educational resources and free online learning courses at home. The online platform covers courses in mathematics, physics and chemistry from grade 6 to grade 9. There are 14 e-books and many embedded videos available for selection.

Led by Prof. Wang Xiaozan from ECNU's Department of Sports and Health, the KDL Sports and Health Curriculum Development team offers a series of courses to help those who stay at home to exercise properly. Using videos and pictures, the WeChat-based courses offer suggestions on at-home sports and health tips for teenagers, apart from providing dietary training and psychological knowledge.

ECNU succeeds in developing rapid test kit for COVID-19



Zhao Wenxiang(left) , leader of the emergency research team, works with his colleagues.

The biomedical team in the School of Life Sciences, East China Normal University has successfully developed the 2019 Novel Coronavirus (COVID-19) antibody rapid test kit, which can produce the testing result within 10 minutes with only one drop of blood. Currently, the kit has been handed over to the First Affiliated Hospital of Zhejiang University for clinical trials on patients with suspected infection, close contacts, and confirmed cases.

"We have been working on the test kit and therapeutic neutralizing antibody during the Spring Festival and have obtained some effective results," said Zhao Wenxiang, a PhD student in the School of Life Sciences.

After the outbreak of the epidemic, Liu Mingyao, Dean of the School of Life Sciences, went into action immediately. Together with Qiu Yunqing, Executive Vice Director of the First Affiliated Hospital of Zhejiang University, they formed an emergency research team. They launched substantial research on the test kit

and the therapeutic neutralizing antibody on January 10 when the viral sequences were released. The research was funded by the Education Foundation of Zhejiang University.

During the whole Spring Festival, Zhao Wenxiang and other team members, including Chu Min, Wei Haitao, and Chao Ruihua, had worked together on this program with Prof. Du Bing from the School of Life Sciences, ECNU, and Doctor Lou Yan from the First Affiliated Hospital of Zhejiang University.

The team selected multiple COVID-19 dominant epitope peptides and, on this basis, developed an IgG/IgM antibody test kit with high sensitivity and specificity. The kit is easy to operate and can produce the testing result within 10 minutes with only one drop of blood. It is now being tested on patients with suspected infection, close contacts, and confirmed cases in the First Affiliated Hospital of Zhejiang University.

ECNU-affiliated hospital sends psychological therapists to Wuhan

On February 22, Shanghai Mental Health Center, together with the mental health centers at the district level and some comprehensive medical institutions, sent the 9th batch of 50 psychiatrists and consulting psychologists to Wuhan in support of the city's battle against the novel coronavirus. Among them are Yang Daoliang, Gu Junjie and Chen Longyun, psychological therapists from the ECNU-affiliated Changning Mental Health Center.

The 50 physicians (49 doctors and 1 nurse) will be working in medical institutions in Wuhan in ten groups. Nine groups will provide psychological intervention to patients and the other

group will offer psychological counseling to doctors and nurses sent from Shanghai to work in Wuhan.

Changning Mental Health Center and Changning Maternity and Infant Health Hospital became affiliated hospitals of ECNU in May, 2019. By far, Changning Mental Health Center is the first mental health hospital in Shanghai that sends its doctors to Wuhan for psychological and medical aid. At present, the center has set up a psychological crisis intervention team and a psychological consultation room in the Third Hospital of Wuhan, providing psychological treatment and counselling to doctors, nurses, as well as patients in Wuhan.



Medical staff from ECNU-affiliated hospital work in Wuhan.



Medical staff from ECNU-affiliated hospital set out for Wuhan.



Chen Longyun



Gu Junjie



Yang Daoliang

Partner universities express solidarity

The outbreak of the novel coronavirus has changed many people's lives in China. Some international friends of the university are concerned about the epidemic. They express their solidarity with ECNU and China and voice their encouragement.

“

Hello, East China Normal University! On behalf of our staff and our students of emlyon Casablanca campus, I would like to express our solidarity. Because we know that China has been going through a difficult moment right now because of coronavirus. Our souls and our hearts are with you. We believe that very soon China will overcome this difficult moment and we will be able to meet each other either in Shanghai, Paris or Casablanca.

”

— Tugrul Atamer
Acting President and Dean
emlyon business school

“

In this battle against the epidemic, we have seen unprecedented, decisive action taken by the Chinese government and the positive results thus produced. We believe that China, with its profound cultural, scientific and economic strength, can win this battle. China's success will be a victory for the whole world. We are ready to provide all necessary assistance and support to our Chinese partner.

”

— Andrei Ivanovich Rudskoi
Rector

Peter the Great St. Petersburg Polytechnic University

“

East China Normal University (ECNU) is an important strategic partner for the University of Alberta (U of A) in China. I understand that your university has been making tremendous efforts in supporting your faculty members and students in this challenging situation. On behalf of the U of A, I would like to express my solidarity and support to everyone at your

university.

Remaining strong as a university community is a key priority for all of us. The U of A is committed to working with you to overcome this challenge and continuing our successful partnership in the future.

”

— David H. Turpin
President and Vice-Chancellor
University of Alberta

“

Over the past few weeks, the faculty, students and staff at the University of British Columbia (UBC) have been closely following the situation of a novel coronavirus outbreak in China.

We've seen the catastrophic damage that the virus is causing to the lives of millions of Chinese people. We are deeply concerned about the developments, and at the same time, encouraged and touched by the fast and heroic responses by the Chinese governments and medical workers in fighting against this coronavirus.

”

— Santa J. Ono
President and Vice-Chancellor
University of British Columbia

“

I want to assure you, our valued partner, colleagues and friends in the People's Republic of China, that we, the University of Hull, remain deeply committed to our relationship with you.

The welfare, health and safety of all our students and staff is our top priority, and we

have put into place strong support systems for your students who may be worried about friends and family members in China. We have also asked all students and staff to support their fellow friends and colleagues in solidarity.

We also assure you that we are working hard internally, and with the support of our national agencies including the British Council, Universities UK International and Public Health England, to find solutions to the current challenges, and trust that the outbreak will soon be contained, so that international travel and student mobility will resume as soon as possible.

”

— Philip Gilmartin
Pro-Vice Chancellor International
The University of Hull

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In these difficult times, the Université Libre de Bruxelles would like to express its full solidarity to your University and its members.

We sincerely hope that the situation will soon improve and that activities can resume as normal.

”

— Judith le Maire
Vice Rector of International Relations and
Cooperation of Development
Université Libre de Bruxelles

“

With the current situation concerning the outbreak and impact from the coronavirus throughout the whole of China, I would like to express my deepest sympathies and condo-

lences to those who have lost loved ones.

I would also like to express my gratitude and respect to all the people who have made sacrifices and endured hardships as a nation to prevent the further spread of the virus. Their efforts have been widely been reported in Japan.

”

— Gonokami Makoto
President
The University of Tokyo

“

We know this is a very challenging time. We express our deepest sympathy to all Chinese people who have been impacted by the virus.

ECNU is the oldest partner of La Trobe University, and a dear friend. Difficult times call for friends to support one another. In this spirit, we stand ready to offer our expertise and support in whatever way we can.

”

— John Dewar AO
Vice-Chancellor and President
La Trobe University

In addition, the University of Haifa, University College Cork, the Autonomous University of Yucatan, Sungshin Women's University and some other partner universities have also expressed their sincere solicitude and support through letters, e-mails, videos and other forms.

Int'l students: we can't just stand by

As one of the most internationalized universities in China, ECNU receives more than 6,000 international students every year. At present, there are nearly 200 international students staying on campus. They have also kept a close eye on the latest development of the epidemic, and tried to do what they can to help fight the virus.

The international students from the School of Advanced International and Area Studies donated a total of 5,000 yuan to the People's Hospital of Wuhan University in support of the anti-epidemic work.

Sisavath Phonenasay, a Laotian student from the school and chair of the Laotian International Student Association in Shanghai, organized fellow Laotian students in the city to donate nearly 7,000 yuan to Hubei Province.

With the help of Nodirjon Boymirov, an alumnus of the School of Advanced International and Area Studies, Lt Textile International in Uzbekistan donated 110,000 masks and 210 sets of protective clothing to Xinjiang.

Habibur Rahman, a Bangladesh student from School of International Chinese Studies, encouraged other Bangladesh students in Shanghai to donate immediately after he heard that the university's fundraising channel for Wuhan was open for donations. Md. Abdullah al Mahbub, a Computational Mathematics student and Saifur Rahmanm, a Politics student, and other students from the Bangladesh students' community responded quickly, raising a total of 2,000 yuan for donation.

"The new coronavirus is threatening people's lives. We can't just stand by. No matter which country we come from, we must unite. We also want to express our support and friendship to Wuhan and the Chinese people. We firmly believe that China will win this battle soon. We love China. China is our second home!" said Habibur Rahman.



Sisavath Phonenasay (center) and some Laotian students in Shanghai pose for a group photo on the donation ceremony.



International students pick up food they ordered at the university gate.

International students are advised to stay at home or in dormitory as much as possible and to wear masks when going outdoors. The university and the Global Education Center (GEC) are reaching out to inform them about measures to contain the spread of the coronavirus in the form of handbooks and notices written in English. In addition, the GEC has worked with the supermarkets on campus to provide the students with daily necessities and regular "take-home" food every week starting from February 11.

"Life is quite different from before. But we understand the university's measures. No matter how hard it is now, I am confident that China and its people are able to conquer this virus" said Elizabeth Miller Holly, an American postgraduate student from the Department of Politics.

ECNU-supported Confucius Institute students: Stay strong, Wuhan!

Confucius Institute at University of Turin, Italy

Immediately after the epidemic outbreak, the Confucius Institute at the University of Turin, which was jointly founded by ECNU and the University of Turin, released a message on its official Facebook page to raise money for anti-epidemic medical supplies to aid China. On February 4, two articles, "Give as much light as the heart can produce" and "Isolate the virus, but not love", appeared in *La Stampa*, *La Repubblica* and *Corriere della Sera*, two of the top three Italian newspapers, voicing their support of China's anti-epidemic campaign. They evoked profound responses in local communities.

On February 13, "Flash China", a flash event sponsored by the Confucius Institute of the University of Turin, was staged at the Castle Square in the center of Turin to cheer for China. Hundreds of Italians and local Chinese participated in the event. They carried banners and cards inscribed with "We are together with the Chinese people and the people of Wuhan", "Be strong, Wuhan", and "Isolate the virus, but not love" and chanted slogans to show their support to the Chinese people fighting the novel coronavirus. The event was broadcast live by Italian State Television (RAI 1) and was covered by several other media companies, such as Rai 3 and *La Stampa*.

Teenagers from the Confucius Institute also

drew pictures in support of China and Wuhan. On the pictures were written such Chinese characters as "Stand with China, stand with Wuhan". They sang the song "We are the World" by Michael Jackson and demonstrated that no difficulties were unconquerable before a united world.

Confucius Institute at Universite libre de Bruxelles, Belgium

On the evening of February 11, a party to celebrate the Chinese Lunar New Year was held at Université libre de Bruxelles. The event was organized by the Confucius Institute jointly established by ECNU and Université libre de Bruxelles. The most touching scene appeared at the end of the party when the performers held out banners with Chinese characters on them, such as "China, Jiayou" and "Wuhan, Jiayou" and shouted them out in unanimity. While the students expressed their concerns about China's current situation, they believed that the measures taken by the Chinese government were timely and effective.

Lu Xiaohong, the Chinese Director of this Confucius Institute, said that despite the cold weather that day, many students showed up to express their support to China's fight against the epidemic. "I was moved by their understanding and support. We will continue to work hard to promote friendship between China and Belgium," said Lu.



Research

Researchers observe echo in single molecule



Researchers from ECNU in China and Weizman Institute of Science in Israel have made a breakthrough in the measurement and control of ultrafast dynamics of molecules in strong laser fields. They experimentally observed the echo of a vibrational wave packet in an isolated single molecule for the first time. The article “Echo in a single vibrationally excited molecule”, which introduced the observation, was published in *Nature Physics* on January 20.

This work is a cooperation between the group of Prof. Wu Jian from ECNU and the group of Prof. Yehiam Prior and Prof. Ilya Sh. Averbukh from Weizman Institute of Science. Prof. Wu Jian’s PhD student Qiang Junjie and Ilia Tutunnikov, a PhD student from Weizman Institute of Science, are the first authors of the article.

The echo of the acoustic wave is a typically observed natural phenomenon. When the acoustic wave meets an obstacle, the reflection results in an echo during the propagation. A coherent response was studied when an ensemble of nonlinear objects — e.g., spins, molecules, plasma, or a beam of parti-

cles—were acted on by an external stimulus. Because each of the nonlinear objects evolves at a different frequency, the response disappears as the members of the ensemble step out of the phase. However, by applying a second pulsed excitation, and then waiting for a time period equal to the delay between the two excitations, it is possible to retrieve the initial coherent response — the echo. Echoes are generally used to examine the quantum coherence of the system as well as to enable the observation of inherent properties within an object. Echoes also play an important role in numerous applications. For instance, the electron spin echoes applied through magnetic resonance imaging.

Although in most cases the echoes were accepted as a collective response of inhomogeneous ensembles, researchers for the first time were able to observe the echo of a vibrational wave packet in an isolated single molecule.

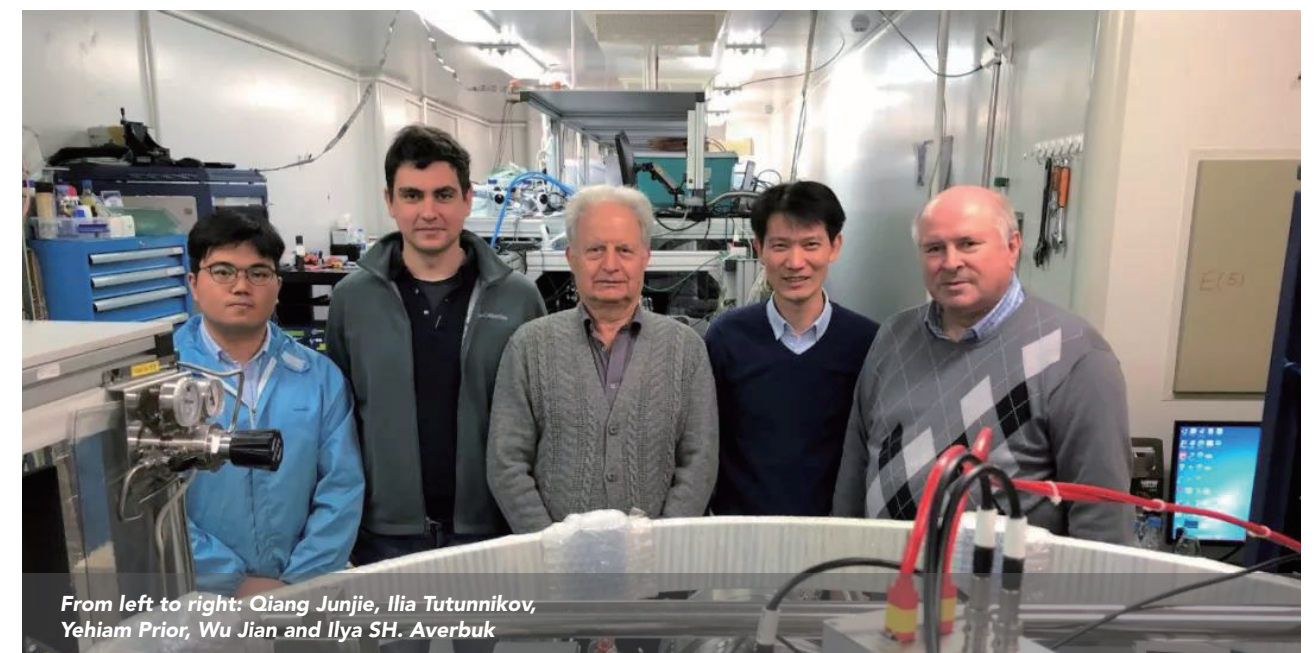
The ‘single particle experiment’ is an experiment based on the interference of a single electron, or single photon, when it passes

through a double slit—one at a time. The probability of hitting the screen at a specific location is due to quantum mechanics in which it derives from repeating the measurement many times, each time with a new single particle and distribution. These experiments are known as ‘single particle’ experiments, and this is exactly the type of experiment of the echo in a single molecule, but in the present case the interference happens in the same time domain: the molecules interact with the laser fields one at a time and are individually measured. As in similar experiments, to see the distributions, the measurement is repeated many times and then driven by an ultrashort femtosecond (10-15s) laser pulse; thus, a vibrational wave packet in an argon dimer cation is launched. This vibrational wave packet oscillates back and forth before it disperses swiftly. After a time delay of T , a second laser pulse is applied. It is then demonstrated that an impulsive molecular response—the echo—does emerge at the instant of $2T$.

This experiment was conducted by a group of ECNU researchers who employed two femtosecond laser pulses to excite a vibration wave packet echo in an isolated molecule. The spatiotemporal dynamics of the echo were visualized by scanning the time in delay of a probe pulse by dissociating the molecule. Two

mechanisms were identified for the observed echoes — i.e., the potential shaking of the a.c. stark-induced molecule and the creation of a depletion-induced ‘hole’ in the nuclear spatial distribution. The semiclassical and the full-quantum simulations by the group at Weizmann Institute of Science successfully reproduced the experimental observation and confirmed the mechanisms of the whole process.

ECNU’s Professor Wu Jian led the group in their focus on the precision measurement and control of the ultrafast dynamics of molecules in strong laser fields. In collaboration with the groups from Israel and France, Prof. Wu’s group have made several breakthroughs on the topic of molecular echoes since 2016. For example, the first spatiotemporal visualization of the rotational echoes (*Phys. Rev. X* 6, 041056) was selected as a “Research Highlights” in *Nature Photonics*.¹¹ 27 (2017) and also reported as a “World News of Molecular Photonics” in *Laser Focus World* (published in April, 2017). Not too long ago the echoes were used to probe the collisional dynamics of dense gas mediums subdued by high pressures (*Phys. Rev. Lett.* 122, 193401) and to observe collisions beyond the limits of secular approximation (*Nature Communications* 10, 5780).



Manicured wetland sucks up more carbon than natural marsh

A restored and carefully managed wetland on the Chinese coast is a much larger carbon sink than a natural marsh nearby.

Dr. Tang Jianwu at the Marine Biological Laboratory (MBL) in Woods Hole (now at the Institute of Eco-Chongming), Dr. Chen Xuechu at ECNU's School of Ecological and Environmental Sciences in Shanghai and their colleagues measured the flows of three powerful greenhouse gases and found that wetlands restoration is crucial for both maintaining biodiversity and combating climate change.

The team found that the rehabilitated wetland took up more carbon dioxide and emitted much less methane than the natural one. As a result, the restored habitat has the net effect of soaking up twice as much carbon as the natural marsh.

Since 1970, 35% of the global wetland habitat has disappeared, largely owing to human activities. Over the past two decades, coastal wetlands in China have been enclosed by thousands of kilometers of seawalls to create extra land in support of the country's rapid economic growth. However, such a "new great wall" causes huge losses of ecosystem services and negatively impacts ecological security. In order to mitigate the coastal wetland losses, the Chinese government has launched a series of large-scale restoration projects along the coastal zone in recent years. Since 2009, Chen has worked as the leading scientist and main designer for some coastal restoration projects along the coastline of Shanghai. One of the projects he led was about Yingwuzhou Wetland, with an area of 23.3 hectare, located at the Citizen Beach, Jinshan District, Shanghai.

Dr. Tang Jianwu is one of the world's leading scientists in blue carbon studies, and he leads a global team including scientists from ECNU to explore the ecosystem value and mechanisms of blue carbon ecosystems worldwide. Chen worked at MBL as a visiting scientist in 2014 and 2015. After learning the methodolo-

gy from Tang's laboratory and returning to Shanghai, Chen became an associate professor of ECNU. In recent years, he has been trying to introduce the concept of blue carbon and incorporate it into coastal wetland restoration projects in China.

Since late 2017, Chen and Tang collaborated at Yingwuzhou Wetland to establish a novel coastal blue carbon assessment system and provide a scientific and technological basis for coastal wetland restoration activities in China. Dr. Hualei Yang, a postdoctoral fellow in their team, together with their students, measured GHG (CO₂, CH₄, and N₂O) emissions to accurately estimate the blue carbon storage of the Yingwuzhou Wetland and the nearby natural wetlands.

Long-term field investigations revealed that water regulation and adequate plant biomass are emerging as an effective method to promote carbon storage in restored coastal habitats, which took up more carbon dioxide and emitted much less methane than the natural one. The success of Yingwuzhou Wetland demonstrates that similar approaches can be applied to wetland restoration projects in other geographical locations as a mechanism to maintain wetlands as carbon sinks and help mitigate GHG emissions.

The outcome of this study, titled "Enhanced carbon uptake and reduced methane emissions in a newly restored wetland", was recently published in *Journal of Geophysical Research: Biogeosciences*. The pioneering research at the Yingwuzhou Wetland is attracting worldwide attention as it proves that wetlands restoration is crucial for both maintaining biodiversity and combating climate change. *Nature* highlighted this study on January 16, 2020, in an article titled "The manicured wetland that sucks up more carbon than a natural marsh". This team is planning to expand their efforts and provides more nature-based solutions to fight global climate change.

ECNUers bring the Chinese New Year on Campus

The lunar Chinese New Year, or the Spring Festival, is a time for friends get-together and family reunion. In recognition of the hard work of each and every ECNUer in the past year, the university hosted a variety of celebrating activities on campus including food, traditional games, musical performances, and more.

The Chinese New Year's Eve Dinner

The Chinese New Year's Eve Dinner, also known as the family reunion dinner or "nianyefan", is the most crucial part of the lunar new year celebration. On January 16, more than 200 international students from nearly 40 countries gathered for the reunion dinner on ECNU Minhang and Zhongbei campuses. They enjoyed themselves immensely having dinner with friends from all over the world.

The Xiao Nian Celebration Party

According to the lunar calendar, the 23rd day of the last month in 2019 marks another traditional Chinese festival called Xiao Nian, or "Preliminary Eve", which is a prelude to the official celebration of the Lunar New Year. On the night of Xiao Nian, the School of the International Chinese Studies hosted a party to familiarize international students with Chinese New Year history and traditions. It was a chance for the students to have hands-on experience with the unique Spring Festival culture.

The Spring Festival Gala

On January 20, the university's annual Spring Festival Gala was staged on the university's Minhang campus. ECNUers who stayed on campus during the winter vacation gathered there to welcome in the Year of the Rat. The gala was kicked off with a series of interactive games, such as writing Spring Festival couplets, playing Chinese riddle games, learning about rat-related Chinese idioms, and writing blessings on red paper. They offered the participants with some new insights into traditional Chinese culture.

Campus



The Chinese New Year's Eve Dinner



The Xiao Nian Celebration Party



The Spring Festival Gala



Creativity
Character
Community

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