

NITU HIGHLIGHTS



even distribution

Special Report:

Recruitment Challenges

high age diversity room temperature high abundance



- Causes of Lung Cancer Revealed
- Global Warming Affects Fish Distribution
- NTU to Improve Flu Vaccine for Kids

low abundance

uneven distribution

USR Report Chronicles NTU Contributions

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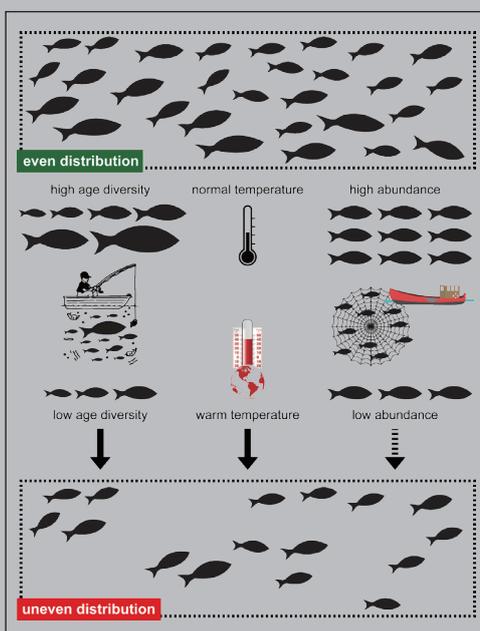
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The causes for the uneven distribution of fish populations.

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Message from Prof. April Chiung-Tao Shen, Vice President for Student Affairs

One of the missions of the Office of Student Affairs (OSA) is to help students navigate the job search process. Due to the COVID-19 pandemic, the annual NTU Campus Recruitment Fair, which serves as a job-matching platform for businesses and students, was moved online this year. In response to these challenges, we set up a campus recruitment webpage to bring together job-seekers and recruiters, allowing businesses to upload videos, use chatrooms, broadcast webcasts, and exchange information with potential job candidates. As of July 14, a total of 186 companies had joined the online platform, and since then the webpage has had over 170 thousand visits — a demonstration of enthusiastic support for this innovative strategy from the companies and students.

When the pandemic eased in May, the OSA began hosting a series of workshops on resume writing and interviewing skills to help improve the employment prospects of the graduates. We also invited our college deans and representatives from 40 reputable companies to join our career training and development seminars and enrich the exchange of ideas between academia and industry. These meetings gave our students the opportunity to better understand the job outlook after the pandemic, building on NTU's model of collaboration with industry while creating more job opportunities for students.

Besides student career development, we have been addressing the needs of disadvantaged students by promoting the NTU Comprehensive Support Program for Economically or Culturally Disadvantaged Students since 2018. This program offers over 30 different grants to help students from disadvantaged backgrounds pursue their dreams. Moreover, it places equal emphasis on financial aid and empowerment, offering grants that fund language learning, skill certifications,



Vice President for Student Affairs April Chiung-Tao Shen.

internships, and participation in international conferences. To facilitate the application process, the OSA built an online one-stop platform earlier this year to save applicants' time. Now, applicants can access and choose from the most suitable grants simply by uploading their basic information and selecting their needs on the system.

I believe one must first be a person of integrity before becoming a professional. NTU boasts rich educational resources. While developing expertise, students should also seize the opportunity to ponder and decide upon the way of life they wish to live. I fervently hope our students will be honest, benevolent, compassionate, and mindful of others as well as self. It is the goal of the university to nurture professionals who will use their knowledge to help others.

Symposium with Business Representatives on Post-Pandemic Recruitment

COVID-19 has caused drastic changes in the global economy, driving a wave of impact on enterprise operations and talent development strategy. To make its future talent cultivation plan more relevant to the current employment context and help students cope with workplace changes, NTU organized the “Symposium on Post-Pandemic Talent Cultivation and Development” on June 18. Representatives from about 40 businesses were invited to the symposium to share their companies’ recruitment plans so that the university can keep abreast of industry needs and expectations for future hires under the impact of the pandemic. NTU also hoped to brainstorm cooperation plans for future talent development, working with businesses, to train key professionals with the input from the private sector.

Dr. Chung-Ming Kuan, President of NTU, noted that the pandemic has brought changes to the

workplace, as it limited the development of industries that require physical contact, severely damaging the domestic service industry. But, crisis is also opportunity. Industries that do not require physical contact, such as e-commerce, food delivery services, gaming, and online learning, have actually benefited from the current situation. Online services and communication channels were originally designed for companies to respond to the trend of globalization, and the pandemic will only accelerate this trend. President Kuan believes that the world is continuously evolving, and nothing stays unchanged. Therefore, students who intend to join the workforce must plan ahead to be able to respond to industry needs, seize the opportunity for self-improvement and learning while at school, and take advantage of this period to develop new skills that will come in handy, such as programming, coding, and big data analysis, to boost their employability.

A total of 10 college deans attended the symposium in person, each briefly introducing their college’s approach to talent development and what they hoped to achieve through industry collaborations. This symposium was joined by representatives from around 40 companies. The information technology industry was represented by TSMC, Foxconn, Lite-On, MediaTek, Delta Electronics, Applied Materials Taiwan, Texas

The deans of all colleges engage in lively discussions with company representatives.



NTU hosts a symposium with representatives from 40 companies to help students prepare for their careers.



Instruments, ASML, Quanta Computer, Acer, Micron Technology, AU Optronics, Pegatron, Realtek, Taiwan Mobile, and the Institute for Information Industry. The financial and insurance industry was represented by major holding companies in Taiwan, including E.SUN, Yuanta, Fubon, CTBC, and Cathay Financial Holdings. The pharmaceutical and biotechnology industry was represented by Pfizer and GSK. Other participants included Owlting, CloudMile, Willis Towers Watson, and Giant Bicycles.

After several lively discussions, the business representatives agreed that student internships in companies should be extended and preferably made compulsory in the curriculum, thereby helping students to find out what to anticipate in the workplace. Students were also urged to learn a second foreign language besides English, as well as develop the ability to stay updated with digital information, so as to cope with the challenges accompanying the age of AI and big data.

NTU's Career Center stated that collaboration among the university, students, and businesses will serve the best interest of all. By partnering with enterprises in talent cultivation, the university can help create more internship and employment opportunities for students as well as match talents with companies. Not only does the Career

Center serve as a bridge between students and employers, it also helps foster mutual trust and reciprocal relationships between the university and companies. For enterprises, partnering with the university in talent cultivation and recruitment not only enhances brand image and brand recognition, but also facilitates the hiring of key talents and boosts corporate competitiveness. For students, they can stay updated with employment trends, enhance their workplace competitiveness, and create more career options.

Staff from the Career Center explained that they had to adjust the ways they assist students in finding employment this year due to the impact of the pandemic. The Campus Recruitment Fair had to be replaced with an online campus recruitment section on the Career Center's website as an alternative to help new graduates land their dream jobs. As of June 15, a total of 183 companies had joined the online recruitment section, with the number of clicks reaching over 156,000. In addition, the Career Center also actively assisted in matching recruiters with job seekers. As of June 15, it has assisted companies in posting 395 job ads and hosted several workshops on resume writing and interview skills, so as to enhance the students' competitiveness and help them transition smoothly into the workplace.



President Kuan states that university students can improve their digital capability and second foreign language skills to get better prepared for future workplace challenges.

NTU Publishes 1st Edition of USR Report

The first edition of NTU's University Social Responsibility and Sustainability (USR) Report was published on June 23, presenting a complete record of the concrete actions the university has taken in campus governance, teaching, research, and social services to carry out its USR in an effective and sustainable manner. The NTU administration hopes that the report comprehensively illustrates the sorts of influence that universities can exert on society by taking well-considered, knowledge-based actions, while demonstrating NTU's commitment to fulfilling its social responsibilities on both the global and the local arenas.

During the selection process for his position, President Chung-Ming Kuan pledged to issue USR reports regularly. The USR Committee and the Office of Institutional Research and Social Responsibility were established when he took office in 2019, with the mandate to develop the NTU Sustainability Vision and Blueprint, draft implementation plans, and compile the USR Report.

President Kuan affirmed that since CSR is an integral building block of each corporation's competitiveness, USR should be the key to connecting local efforts with the rest of the world. Following the guidance of the 17 Sustainable Development Goals (SDGs) proposed by the United Nations in 2015, as well as the Sustainability Tracking, Assessment & Rating System (STARS), NTU's USR Report is the first of its kind in Taiwan that integrates dimensions from SDGs and STARS.

For the first time, the report systematically details the university's performance in the environmental, social and governance (ESG) domains, as reflected in its sustainability vision and blueprint, social influence, and campus sustainability. Moreover, it describes how NTU integrates ESG objectives into its teaching, research, social



President Kuan, the executive vice presidents, and the deans of all colleges make the joint pledge to carry out NTU's USR.



The College of Bioresources and Agriculture fulfills USR by assisting indigenous people with product marketing, carpentry job training, and certification coaching.

service, innovation, and entrepreneurship, thus joining the ranks of the top universities around the world.

President Kuan moreover declared his intention to carry out the global social responsibility of keeping global warming within the range of 1.5°C as stated in the Paris Agreement, a goal that stems from the Science Based Targets Initiative (SBTi). Carbon reduction targets have also been set to this end, with 50% of carbon neutrality in 2028 when the university celebrates its Centenary, and 100% of carbon neutrality by 2048. The university will set clear carbon reduction targets, pathways, and propose specific measures within the following 12 months, as well as actively promote research and development related to carbon neutrality.

Boasting outstanding talents and abundant resources, NTU has not only pursued excellence in various academic fields but also proactively responded to social needs with expertise and the spirit of innovation. All members of the NTU community at home and abroad have long dedicated themselves to sustainable development endeavors that are vital to future generations by making contributions in such fields as medical research, public health education, food safety, food and agriculture



WVS students have been engaged in long-term charity projects, organizing teams during each summer and winter break to provide social welfare services at home and abroad.

education, long-term care, smart cities, sustainable environment, and energy transition.

For example, students from the College of Public Health flew to Malawi to assist in malaria research, and a team of experts from NTU Hospital travelled to Guatemala to help lower the infection rate of communicable disease for newborns. Students from the NTU World Volunteer Society (WVS) have been engaged in long-term charity projects, as well. Their latest initiatives include collecting computers in Taiwan before venturing to the remote Ladakh region of India in the Himalayas to sow the seeds of information education. Last but not least, students from the College of Bioresources and Agriculture fulfill USR by assisting indigenous people of Taiwan in promoting and marketing their specialty agricultural products, providing job training in carpentry, and coaching indigenous students to obtain the certificates and skills required for career development.

President Kuan hopes that this report will issue a clarion call to other higher education institutions in Taiwan to pitch in by giving full play to their respective strengths and thereby create a greater overall influence and raise public awareness of social responsibility issues. In the future, NTU will continue to publish USR reports as a management tool for self-inspection and self-improvement, while inventorying its teaching and research activities for further integration. By doing so, NTU aims to perform social responsibility tasks in a more thorough and effective manner, proactively responding to the expectations of society and realizing its vision for sustainable development. It is hoped that, with the concerted efforts of every member of the NTU community, the university will continue making progress and exerting greater social influence in promoting social equity and environmental sustainability.



Download the NTU USR Report
<https://oir.ntu.edu.tw/ntusdg/wp-content/uploads/2020/06/2019-NTU-USR-Report-EN.pdf>



NTU SDGs
<https://oir.ntu.edu.tw/ntusdg/homepage/3>



NTU publishes its 1st edition of USR Report.

NTU Holds Appreciation Tea Party to Honor Donors

On July 1, 2020, NTU hosted an appreciation tea party to celebrate the substantial support of its donors. The generosity of the donors has made it possible for the university to maintain its outstanding performance in all fields. President Chung-Ming Kuan attended the event to show the university's gratitude to each of the donors. President Kuan mentioned the long-established tradition of giving to schools in the West, as well as how this custom is growing in Taiwan, which greatly benefits education institutions. He quoted Mencius's famous saying, "If poor, they attend to their own virtue in solitude; if advanced to dignity, they made the whole kingdom virtuous, as well," highlighting the fact that alumni and non-alumni donors alike are changing and helping the world with their benevolent contributions. He offered his heartfelt thanks and respect to the donors on behalf of the school and expressed his hopes to see more individuals, organizations, and companies show their support for NTU. At the appreciation tea party, donors were invited to share their reasons for making the donations; most of them expressed their sincere hope to help NTU, the top-ranked university of Taiwan, remain dedicated to excellence in teaching and cultivating talents that can contribute to society.



Group photo of the donors, President Kuan, and staff.



Donors write down their reasons for making the donations.

To plan and raise funds for advancing teaching, research, and the construction of facilities on campus, the Office of Development was established in August 2019 under the Office of Financial Affairs, with a mission to reinforce NTU's position as a prestigious higher education institution. The office is also charged with the role of strengthening outreach, facilitating large sum donations from private entities and foundations, and helping donors to access NTU's research resources. Besides the general donations used for teaching, construction, research, and scholarships, the Office of Development is also raising funds for a campus tree-care program to protect the 40 hectares of greenery on campus. During the Japanese colonial period, NTU served as a botanical garden featuring various precious tropical plants. Now, hundreds of these trees are under municipal protection due to their heritage value. In addition to routine maintenance, NTU has been working with experts to provide tree health assessments and fertilization. Through the symbolic adoption of trees, it is hoped that the money raised to protect campus trees can be further used to prevent insect and disease problems while at the same time beautifying the campus.



Giving to NTU

<https://giving.ntu.edu.tw/index.aspx?lang=EN>

NTU Professors Honored with Various Awards

National Chair Professorships and Academic Awards

Every year, the Ministry of Education (MOE) presents the National Chair Professorships, National Awards for Distinguished Contribution to Industry-Academia Cooperation, and Academic Awards to promote higher education and research as well as industry-academia collaboration in Taiwan.

This year, Prof. Tay-Sheng Wang of the Department of Law, Prof. King-Chuen Lin of the Department of Chemistry, and Prof. Li-Chen Fu, Director of the Center for Artificial Intelligence and Advanced Robotics, were presented with the 23rd National Chair Professorships. Prof. Wang introduced historical dimensions to legal studies and pioneered in the research on the social history of Taiwanese law. Prof. Lin was recognized for his research on the application of molecular reaction dynamics and laser chemistry in materials chemistry analysis. Prof. Fu is an outstanding researcher dedicated to the control and automation of robotics and the application of artificial intelligence.

Prof. Ming-Shiang Wu, distinguished professor of internal medicine at NTU Hospital, and Prof. Pai-Chi Li, distinguished professor of the

Graduate Institute of Biomedical Electronics and Bioinformatics, received the 63rd Academic Awards. Prof. Wu's clinical studies help reduce the mortality rate among patients with gastrointestinal stromal tumors, while Prof. Li's research in molecular imaging has made him an innovator in the field of photoacoustic imaging of in vivo targeted therapy.

Pan Wen Yuan Foundation Outstanding Research Award

The Pan Wen Yuan Foundation Outstanding Research Award recognizes distinguished ethnic Chinese scholars who specialize in electronics, information, and communications. This year, the three recipients are all NTU alumni, including Prof. Tim Kwang Ting Cheng, Dean of Engineering at the Hong Kong University of Science and Technology; Prof. Cheng-Wen Wu, Executive Vice President of National Cheng Kung University; and Prof. Yao-Wen Chang, Dean of Electrical Engineering and Computer Science at NTU. Prof. Chang is an IEEE fellow and the current President of IEEE CEDA (Council on Electronic Design Automation). His groundbreaking research in electronic design automation has made far-reaching impacts and been reported by *EE Times* various times. He has been a top publisher at DAC (Design Automation Conference) and ICCAD (International Conference on CAD), and won the DAC Best Paper Award in 2017. Prof. Chang is also an outstanding teacher, having received both the NTU excellent and outstanding teaching awards several times.



ROC President Ying-Wen Tsai takes pictures with the awardees of this year.



Dean Yao-Wen Chang of NTU's College of Electrical Engineering and Computer Science.

NTU and Kyushu University Hold 2nd Colloquium Online

Due to COVID-19, the 2nd Kyushu-NTU Colloquium 2020 was moved online and held on June 15. Hosted by the NTU Museums and co-hosted by the Office of International Affairs, faculty and students of all colleges at NTU participated in the event. Their lively discussions attracted over 1,000 viewers to the live-streamed sessions. With COVID-19 still wreaking havoc around the world, the colloquium demonstrated vividly that interdisciplinary exchanges remain possible even on the international level.

The morning plenary session was hosted by NTU Executive Vice President Chiapei Chou and Senior Vice President Prof. Koichiro Watanabe from Kyushu University (KU) who addressed two highly relevant topics, “Distance Instruction and E-Learning” and “Teaching Adjustments during the COVID-19 Prevention,” respectively. Prof. Hsin-Mu Tsai of NTU’s Department of Computer Science and Information Engineering, Prof. Koji Okamura of KU’s Research Institute for Information Technology, Dr. Lu-Cheng Kuo of NTU Hospital’s Department of Internal Medicine, and Prof. Yoshihide Mori of KU’s Faculty of Dental Science, were also invited speakers. In addition, four students from NTU and KU were invited to share their experiences in adjusting to research and life on campus due to COVID-19.

In the afternoon, 10 different subsessions were organized by different colleges, featuring such



2nd Kyushu-NTU Colloquium 2020 - Student Forum.



Group photo of the 2nd Kyushu-NTU Colloquium 2020.

topics as literature, building and planning, geology, medicine, distance learning, and so on. The subsessions took various forms, including live-streamed sessions that allowed audience participation, speeches by leading scholars, and end-of-term presentations. A student forum was also set up with 20 students who briefly introduced the research projects they were currently involved in.

NTU and KU became partner universities on May 1, 2001, starting collaborations in various academic fields, student exchange programs, and dual degree programs. The partnership has been strengthened in the past several years, with KU President Chiharu Kubo visiting NTU with high-level administrative supervisors in May 2019. The first NTU-Kyushu Colloquium 2019 was held in mid-December to demonstrate the results of research collaboration in at least 10 different fields.

Although the colloquium had to be held in virtual form this year due to the pandemic, the scope of collaboration was actually expanded, as the two universities shared experiences and joined hands in COVID-19 prevention and academic research. The live-streamed sessions also boosted participation. Both universities’ adeptness at making timely adjustments to their operations inspired the faculty and student participants alike by laying the foundation for sustainable collaboration.



Scan the QR code to find the agenda and photos of the colloquium.

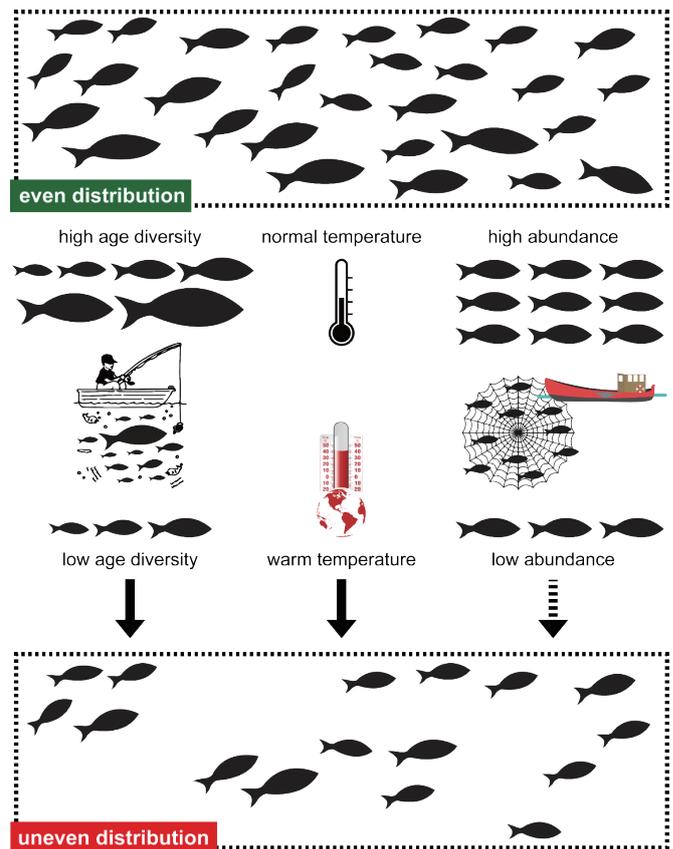
<http://ntu-kyushu.ntu.edu.tw/2020/>

Fishing and Global Warming Affect Fish Spatial Dynamics and Sustainability

Prof. Chih-Hao Hsieh and his student Jheng-Yu Wang of NTU's Institute of Oceanography and Assistant Prof. Ting-Chun Kuo of National Taiwan Ocean University's Institute of Marine Affairs and Resource Management found that fishing-induced age truncation and rising temperatures contribute to the uneven spatial distribution of marine fishes and thus weaken their sustainability. This study, published in *Nature Communications* on May 26, provided empirical evidence for the explanation of marine fishes' spatial distribution and offered information for making sound fisheries policies.

Fish populations with even spatial distribution, or a larger distribution range, have a better bet-hedging capacity to withstand environmental variability and diminish the risk of extinction. In general, the spatial structure of a population is uneven and changes over time. Past research indicated that population spatial structure may alter due to such factors as age composition, species abundance, and habitat changes. For example, since animals of different ages prefer different living spaces, changes in age composition would alter their spatial structure. Also, animals in a larger population are likely to expand their territories when competition for resources increases in their habitat. Similarly, environmental changes may lead to migration and create a different spatial distribution.

While previous studies were focused mainly on observing the correlation between these factors, few were able to offer empirical data to establish the aforementioned causal relationships between them. However, by leveraging a 25-year spatiotemporal data set from the North Sea and empirical dynamic modeling, the team



The causes for the uneven distribution of fish populations.

demonstrated the causal relationships between population spatial variability and age diversity, abundance, and environmental conditions. The researchers also found that reduced age diversity and rising temperatures could increase population spatial variability, while reduced abundance may cause the population to increase or decrease depending on the animal's aggregation tendency.

This study suggests that overfishing not only leads to severe age truncation and declining abundance, but also disrupts fishes' spatial variability, making them more susceptible to environmental changes. These findings highlight the danger of excessive fishing activities on fish populations and the importance of factoring in spatial dynamics in fisheries management.



Scan the QR code to read the paper.

<https://www.nature.com/articles/s41467-020-16456-6>

Major Findings in Early Lung Adenocarcinoma Detection

Although lung cancer is typically associated with smoking, a high percentage of lung cancer patients are actually never-smokers. In Taiwan especially, the number of lung cancer patients who have never smoked has exceeded the number of those who do. Dr. Pan-Chyr Yang, professor of internal medicine at NTU Hospital, joined hands with many local research institutes to make the discovery that lung cancer is associated with the prevalence of the APOBEC mutational signature in the human body, as well as exposure to carcinogens. The research consortium also made the striking finding of a new subtype of lung cancer (EGFR-L858R in stage IB late-like subtype), as well as the differences in oncogene mutations. This result will facilitate the early detection of potential clinically high-risk lung cancer patients. The NTU team included renowned researchers, such as Profs. Jin-Shing Chen, Sung-Liang Yu, and Huei-Wen Chen, who joined forces with researchers from Academia Sinica, Taipei Medical University, and Taichung Veterans General Hospital.

The result is a fruit of labor from the first collaboration between the Taiwanese consortium and the Clinical Proteomic Tumor Analysis Consortium (CPTAC) of the United States. The researchers worked together to unveil the underlying biology of lung cancer in patients from both countries through proteogenomics. Two resulting independent papers were simultaneously published in the top international journal, *Cell*, on July 9, 2020. They were jointly featured on the journal cover for facilitating the development and research of innovative diagnostic methods and new drugs using proteogenomic big data. Prof. Yang pointed out that proteogenomics has shed light on the unique racial and geographic characteristics in never-smoking lung cancer patients in terms of tumorigenesis and cancer progression. It also provides significant new insights into never-smokers with early-stage lung adenocarcinoma.

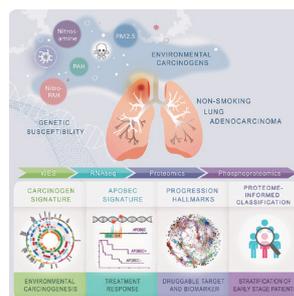
The study showed that the mutagenesis caused by exposure to environmental carcinogens may be the main factor for early-stage cancer. Proteomics reveals the activation signals in the metabolism and detoxification of chemical carcinogens, as well as evidence that the activation of specific pathways may lead to tumorigenesis, deterioration, and immune regulation abnormalities. This proved that reducing exposure to carcinogens, such as air pollutants and food preservatives, may be an effective strategy for preventing lung cancer.



Cover of the *Cell* journal.



Scan the QR code to read the paper.
<https://reurl.cc/626v1y>



A page in the *Cell* journal.

NTU Sheds Light on the Development of Children's Flu Vaccine

Prof. Chi-Tai Fang of NTU's Institute of Epidemiology and Preventive Medicine and his research team successfully identified the causes for the inconsistent results of oil-in-water emulsion-adjuvanted influenza vaccine trials, shedding new light on the design of future influenza vaccines. Their findings were published in the prestigious *Nature Communications* on January 16, 2020.

Young children are particularly vulnerable to complications from influenza, but the standard inactivated influenza vaccines are poorly immunogenic in young children. The oil-in-water emulsion-adjuvanted vaccine is a new generation influenza vaccine that offers the potential to enhance immunogenic efficacy; however, the clinical trials showed inconsistent results, and vaccine developers have been unable to identify the reasons for the inconsistency. These obstacles have thus severely delayed the research, development, and production of the vaccine.

Prof. Fang and his team meta-analyzed the efficacy data of over 15,000 participants and found that the baseline serostatus of the vaccine recipients had not been taken into account in previous studies. The team found that the baseline serostatus of participants would impact

vaccine immunogenicity and protection. This study undertook the world's first systematic review and meta-analysis on the use of oil-in-water emulsion adjuvants in seasonal influenza vaccines for young children. According to the results, adjuvanted influenza vaccines provided significantly better protection for healthy, unvaccinated children under the age of three, reducing the infection rate by 74%. However, for older children who had received standard inactivated influenza vaccines or had already been infected with influenza, the adjuvanted influenza vaccines did not show superior results, and thus standard vaccines are sufficient to offer favorable immunogenicity to these groups. These findings not only highlighted the necessity to factor in the patient's serostatus but also served as important references for future vaccine development.

Every member of the research team is an advisee of Prof. Fang, including Yu-Ju Lin, the first author of the paper and senior technical specialist at the Center for Disease Control, Ministry of Health and Welfare; Ph.D. student Chiao-Ni Wen; and Ph.D. candidate Yi-Hsuan Chen. This research was funded by the Center for Disease Control of the Ministry of Health and Welfare.



Scan the QR code to read the full text.
<https://www.nature.com/articles/s41467-019-14230-x>



Prof. Chi-Tai Fang and his research team.

Students Learn to Cultivate Fruits and Taste Wine

Fruit crops are a major part of global agricultural production, and Taiwan is known as “the Kingdom of Fruits” for the excellent quality and vast quantity of its fruits. Fruit crops occupy the largest portion of cultivated land on the island, and they are celebrated as the nation’s main agricultural produce. One of the great perks of living in Taiwan is being blessed with the availability of a wide variety of fresh fruits throughout the year — everywhere you go in the country.

Numerous factors contribute to the abundant fruit harvests in Taiwan, including its subtropical climate, fertile soil, and farmers’ tireless efforts to improve the quality of their fruits with science and technology. The College of Science and Agriculture was one of the first colleges

established by Taihoku Imperial University (now National Taiwan University); in 1943, the college was divided into the College of Science and the College of Agriculture. The College of Agriculture was renamed the College of Bioresources and Agriculture (CBA) in August 2002. Since the establishment of CBA, its faculty members have been dedicated to the teaching and research of fruit crop planting, breeding, post-harvest operations, pest management, marketing and distribution, and industrial policy. The academic program has nurtured numerous fruit crop experts and equipped students with knowledge of biology, life science theory, and applied biological technology.

Two of the most interesting courses offered by CBA are “Advanced Pomology” and “Deciduous Fruits.” “Advanced Pomology,” a course co-lectured by experts in pomology, is a mandatory course for graduate students in the Department of Horticulture and Landscape Architecture. Besides the standard lectures and group presentations, the course offers the



opportunity for students to participate in two seminars on fruit crops during the middle of the semester. Since renowned experts in industry and academia from home and abroad attend the seminars to share their experiences and discoveries, students are offered precious chances to learn the latest scientific findings, industry trends, and policies in the field. The seminars also provide students with outreach to the job market, as they meet and interact with leaders in the field.

Starting from 2014, the course has included a two-week introductory program on wine for students to understand the high economic, social, and cultural importance of grapes and wines, as well as acquire basic wine appreciation skills. The first week of the class covers winemaking and wine quality, factors in assessing and evaluating wine, and the impact of grape variety, soil, and climate on wine quality. During the second week, the students learn the history of winegrowing, differences between grape varieties, and the diverse wine styles. They also participate in wine tasting sessions to experience how wine regions, grape varieties, and production techniques create drastically different tastes. Overall, the program offers students the chance to expand their wine horizons efficiently and effectively, immersing students in the sophisticated culture of wine.

Taiwan is famous for its tropical and subtropical fruits, and the economic value and potential of deciduous fruits should not be underestimated. The course “Deciduous Fruits” is focused on the physiological characteristics and special planting techniques of deciduous fruits in a subtropical climate. This field offers great potential as well as paramount academic and industrial value, as both human beings and plants face the rising temperatures caused by climate change. In 2006, English became the language of instruction of the course, attracting more international and exchange students to enroll. In recent years, overseas students have comprised over half of the class enrollment. In the first half of the two-semester course, students learn about the

planting of woody deciduous fruit trees, such as apple, plum, peach, prune, and persimmon trees, and read extensively about the latest industry models and research. In the second semester, the lectures are focused on viticulture, berry crops, and especially the high economic and nutritional value of “super fruits,” such as blueberries, blackberries, and kiwis. The course is comprised of lectures, videos, field trips, experiential activities, and a final team project on a topic of students’ choice. Students are required to select a topic from industry-related media reports and deliver a detailed presentation at the end of the semester. This course not only trains students to work in teams and keep abreast with the latest industry trends, but also provides a platform for them to improve their academic and language skills as they collaborate with students from different parts of the world.

(Excessive drinking is bad for your health.)



Wine tasting in the course “Advanced Pomology.”



Students of the course “Deciduous Fruits” visit a winery.

Union is Strength: NTU Women's Volleyball Wins 2nd Straight Championship

The final of the University Volleyball League for the 2019/2020 academic year was hosted recently by National Central University, with NTU and National Taichung University of Science and Technology (NTCUST) vying as contenders for the championship title. After a fierce back-and-forth battle, the NTU Women's Volleyball Team won the set 3 to 1, successfully retaining the title from the previous year.

The NTU Women's Volleyball Team passed the preliminaries with flying colors and advanced to the quarter-finals as the top team of the group. Although the schedule for the quarter-finals was delayed due to the COVID-19 pandemic, the quarter-finals were finally held in late June on NTU campus. With home court advantage, the team took every match by storm and reached the final set. Looking back at the 10-month long season, even though the team faced endless waiting and the possibility that the matches would be cancelled altogether, they did not give up hope. Instead, they kept up their training schedule to stay at the top of their game. Captain Li-An Lin also encouraged everyone to hang in there and stay prepared. The long season

certainly brought the players the additional pressure of needing to juggle training and studies, but their resilience and determination truly shined through.

Associate Prof. Wan-Chen Lu, the coach from NTU's Athletic Department, said, "It is a common goal for every player to make it to the court, and we succeeded this year." The victory was a result of the starting lineup doing their utmost best, supported by the timely efforts of the substitute players. Associate Prof. Lin-Huan Hu, the coach from the Athletic Department, also stressed that the spectators worked together with the players. The match was not just about the players' skills, but also about the vibe everyone in the stadium gave off.

The team remains grateful to the group of specialists from NTU's School and Graduate Institute of Physical Therapy for offering injury prevention and rehabilitation to the players. From Kinesio taping prior to the match, personalized training agenda, to post-match massages, the specialists helped the players maximize their capabilities on the court. The generous assistance from team officials, the manager, and alumni was also greatly appreciated. Without them, victory would not have been possible.

The NTU Women's Volleyball Team has won numerous titles in its 30 years of history, and it is the team's fondest hope that the latest win will encourage more students to enter the courts and start playing volleyball!



NTU Women's Volleyball Team wins 2nd straight championship.



Team members huddle for each point earned.



Tao Pui Yin, 2nd-year graduate student of the Department of Animal Science and Technology, is honored with the title of MVP.

Students Save Lives on Campus

The extensive, lush campus of NTU is home to many wild animals. Besides squirrels, birds such as oriental turtledoves, turtledoves, light-vented bulbuls, and Japanese white-eyes are commonly spotted on campus. To ensure the safety of the animals, NTU Lovelive Club and NTU Conserve help promote wildlife conservation and render assistance to injured animals on campus. Although the members of the clubs are not trained vets, they save lives by being the first to arrive on the scene and making sure that injured animals receive medical help.

Posts regarding injured animals appear on NTU students' Facebook page every week. When students spot a squirrel lying on the ground, or a sparrow with a dangling leg, they upload a picture of the animal with its exact location and wait for those with animal rescue experience to arrive on the scene. NTU Lovelive Club mostly looks after dogs and cats while NTU Conserve keeps an eye on the other species. Club members work with NTU Campus Security to build a notification system that allows them to quickly arrive on the scene and determine whether it is necessary to send the injured animal to a hospital.

Though this reporting system between students has greatly benefited animal rescue work on campus, sometimes well-intentioned rescue efforts may turn out to be unnecessary. For example, nightingales build their nests near the ground. Protected by heavily camouflaged plumage, they do not fly away even when people are close. Thus, it is easy for people to think that birds of this species are injured. NTU Conserve has posted online reminders to advise campus Samaritans that intervention is only needed when necessary. "Assume that everything is fine" is the club's motto when it comes to animal rescue. According to Chi-Ping Chang, President of NTU Conserve, seeing fledglings on the ground is usually perfectly normal because they are still learning to fly and not fully feathered. Unless the

baby bird is injured and must be treated, the best thing to do is to leave the animal alone and wait for the adult birds to return. However, "assuming everything is fine" doesn't mean leaving injured animals behind. If club members encounter severely injured birds, they serve as "ambulances" and transport the animals to the Wild Bird Society of Taipei or animal hospitals. Since the school has erected "Slow Down" signs to prevent road kills and seeks ways to prevent bird window collisions, the campus is becoming an increasingly animal-friendly space where wild animals can feel at home.



A scaly-breasted munia is feeding at the NTU Farm. (Photo provided by NTU Conserve)



Injured birds should be placed in carton boxes for further treatment. (Photo provided by NTU Conserve)



An injured bird is placed in a carton box during treatment. (Photo provided by NTU Conserve)

Congratulations, NTU Class of 2020 – You are One of a Kind!

On June 6, many members of the NTU community gathered at the NTU Sports Center to reflect on the accomplishments of this year's graduates as they embark on a new journey. Although the COVID-19 pandemic limited the number of attendees allowed to join the event, it did not lessen the excitement of the graduates and parents, and everyone there celebrated the occasion with joy and pride.

President Chung-Ming Kuan congratulated the graduates and, speaking on behalf of NTU, noted the unprecedented challenges facing the world and the school since this spring. In his opening address, he noted how the pandemic has changed our actions and social behaviors, as well as severely struck industries that involve face-to-face interpersonal interactions, highlighting that remote working and learning will become the

new norm in the future. As the world continues to rapidly change, President Kuan discussed how COVID-19 has catalyzed these changes and poses greater challenges for the graduates.

“In the post-COVID-19 era, don't cease caring for others and contributing to society, and always remember to stay passionate and hopeful. Words and actions of kindness will bring people closer and keep our society together,” said President Kuan. President Kuan also stated that the world will continue to change as globalization and information technology advance, thus one must note the importance of CQ (cultural quotient) in addition to IQ (intellectual quotient) and EQ (emotional quotient). CQ evaluates one's ability to comprehend, respect, and adapt to diverse cultures. It requires more than just foreign language skills and international competitiveness, but also the aptitude to appreciate and embrace different cultures.

This year, the commencement speaker was Dr. Taiyin Young, an NTU alumna in chemistry who graduated in 1974 and received her Ph.D. in organic chemistry from the University of Southern



California. Young is currently the Executive Vice President of Pharmaceutical Development and Manufacturing at Gilead Sciences. One of her most well-known recent developments is “Remdesivir,” a drug designed to treat Ebola. Although Remdesivir has limited effectiveness for treating Ebola virus infections, recent clinical data and statistics have shown that it has potential for treating the new coronavirus. Remdesivir is now regarded as the hope for COVID-19 patients and the world.

In her speech, Dr. Young encouraged the graduates to stay confident, enthusiastic, and uncompromising as they face a future of unlimited opportunities. “Do not fear to experiment but also do not be willful,” said Dr. Young. Citing her own experiences, she stressed that only courage and resilience can help one turn challenges into opportunities. “Never be discouraged or give up, remember that your future lies in your own hands.” Dr. Young also stressed the importance of a noble character and good interpersonal relationships in the workplace, as these are essential qualities that help people build trust, foster teamwork, and create effective leadership.

Two graduates took the stage to present their commencement speeches this year. The first speaker was Tzu-Hsuan Li of the Department of Law. Li stated that though the pandemic has made this school year and graduation season drastically different from the past, students actually gleaned valuable lessons and gained more than what they had lost. The optimism, mutual encouragement, and rapport that NTU Class of 2020 has demonstrated in this time of chaos are unique, valuable, and unprecedented. For example, Li joined hands with her peers to launch the NTU Tutor Team, a project dedicated to helping financially disadvantaged senior high school students prepare for the college entrance examination. The volunteers schooled the students, explained how to solve problems, and offered them advice. These acts of kindness demonstrated NTU students’ ability to give and support each other in times of adversity. It is her



President Kuan addresses the attendees of the ceremony.



Student speakers Tzu-Hsuan Li (left) and Achille Wendyam Tapsoba (right).

hope to see the graduates take good care of themselves and others as they continue to thrive in society.

The second speaker was Achille Wendyam Tapsoba of the Department of Civil Engineering, an international student from Burkina Faso. Achille shared how he overcame language barriers and the obstacles posed after Taiwan and Burkina Faso ended their diplomatic ties. At NTU, Achille earned his bachelor’s degree in civil engineering, participated in international and club activities, and gained invaluable experiences despite the setbacks he encountered. At the end of his speech, he encouraged the graduates to always rise up to challenges with optimism.

As graduates wave their caps in the air at the end of the ceremony, NTU Class of 2020 celebrated this seminal moment with gratitude and pride.

NTU Varsity Basketball Team—“Play Hard, Play Smart”

“Play hard, play smart” is the team motto of the NTU Varsity Basketball players. Unlike players on other college basketball teams, NTU Varsity Basketball players are required not only to have excellent basketball skills but to also pass the college entrance exam. Compared with their rivals from other schools in the league, NTU players have less time for practice since they must devote more time to studying than to practicing on the basketball court. This weakness, however, turns out to be what motivates players to both learn and practice harder — a strength that distinguishes them from their rivals.

As students at the top university in Taiwan, NTU players are required to work on both their basketball skills and their academic performance, an unimaginable pressure for most students. As a

result, the NTU players cherish every second, hustling in the drills and doing their best to strike a balance between practice and school work. Many people don't expect team members to push themselves so hard, but these players are determined to achieve their goal — to enter the UBA (University Basketball Association) Division I.

Every year, the NTU players outperform expectation. Ever since 2016, the team has made it into the UBA final 16, and in 2018 and 2019, they even entered the quarter-finals. This year, NTU players were also ready to amaze the league with their polished skills and hard-earned experience. From May 7 to 13, NTU's Varsity Basketball Team headed to Taichung City to compete with the other college basketball teams. After making it to the final 16, they played again from June 2 to 5. Though the team has never passed the quarter-finals, this year they made it to the UBA Division I.

For those interested in learning more about NTU Varsity Basketball Team, please follow or contact the team via Instagram (ntu_menbasket) or Facebook (NTU Men's Basketball Team).

NTU Varsity Basketball Team players.



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