NCU NEWSLETTER

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國立中央大學
National Central University

璀璨啟航 共創輝煌

110週年校慶暨在台復校63週年



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CWUR World University Rankings: NCU Ranks 5th Among Taiwan's Comprehensive Universities for the Fifth Consecutive Year

The Center for World University Rankings (CWUR) recently released its 2025 Global 2000 List, with National Central University (NCU) once again among the world's top universities, ranking 683rd globally (top 3.2%). NCU has maintained its position as Taiwan's fifth-ranked comprehensive university for five consecutive years (2021–2025), demonstrating its academic strength and international competitiveness.

The CWUR is a globally recognized ranking organization. In its latest Global 2000 Academic Ranking, NCU stood out among Taiwan's comprehensive universities for its outstanding institutional performance and research excellence. The 2025 rankings for Taiwan's comprehensive universities are as follows: National Taiwan University (113), National Yang Ming Chiao Tung University (328), National Cheng Kung University (406), National Tsing Hua University (461), and National Central University (683). NCU's continued presence in the country's top five highlights its consistent international performance.

The CWUR's evaluation method is known for its objectivity, as it does not rely on surveys or self-reported data from universities. Instead, all information is derived from publicly available and verified sources. The ranking is based on four key indicators: (1) Education Quality (25%), measured by alumni academic achievements, adjusted for university size; (2) Alumni Employment (25%), assessed by alumni success in leading international companies; (3) Faculty Quality (10%), based on the number of faculty members receiving top academic distinctions; and (4) Research Performance (40%), covering research output, publications in top journals, and citation impact.

Renowned for its interdisciplinary and innovative research, NCU has achieved outstanding results across a wide range of fields—from fundamental sciences to cutting-edge technologies—and continues to make significant contributions in sustainability, space science, astronomy, and remote sensing. Committed to holistic education and talent cultivation, NCU strives to foster students who possess both an international perspective and a strong sense of social responsibility. Looking ahead, NCU will continue to enhance teaching quality, strengthen research innovation, and expand international visibility and academic influence, further advancing Taiwan's presence on the global stage of higher education.



NCU Celebrates Its 110th Anniversary - A Brilliant New Chapter Begins

With the sound of drums echoing and lights gleaming, National Central University (NCU) grandly celebrated its 110th anniversary on May 16. Under the theme "A Brilliant Voyage: Co-create a Glorious Future," the event brought together distinguished guests, faculty, students, and alumni to honor more than a century of legacy while heralding NCU's new journey into its second century.





The celebration opened with a dynamic drum performance by G-Drumz, whose powerful rhythms and synchronized movements infused the ceremony with youthful and artistic vigor. The half-time performance featured the Department of Information Management, winner of the dance competition at the university's athletics meeting, presenting a lively and captivating dance that transformed the venue into a feast of sight and sound teeming with charm and magic. The celebration concluded with a heartfelt performance by the Guitar Club, which played "The Fool" by the Taiwanese band Bastard, leading the audience in a moving chorus of the university anthem.

President of NCU Hsiau Shu-San emphasized in his address that since its founding, NCU has upheld its guiding motto, "Sincerity and Simplicity." He highlighted the university's dedication to cultivating talent with macroscopic vision and professional expertise, as well as its achievements in key fields such as space technology, green energy and sustainability, and artificial intelligence. He also noted NCU's ongoing efforts to advance research and foster international collaboration, reflecting its strong R&D capabilities and global outlook.



The 110th anniversary celebrations featured a wide variety of activities. On May 15, the beloved "Starry Sky Cinema" made its debut, screening world-renowned director Luc Besson's film Weekend in Taipei, part of which was filmed inside NCU's Grand Auditorium—an iconic setting for the university community. The Anniversary Creative Market brought together 45 booths from on and off campus, offering handmade crafts, creative food stalls, food trucks, and interactive experiences. Highlights included a free photo booth, a popular photo wall, and a raffle with over 150 prizes. All activities attracted a continuous stream of crowds, filling the campus with joy, excitement, and cheer throughout the day.



NCU also hosted reunion banquets for alumni celebrating their 30th, 40th, and 50th graduation anniversaries, warmly welcoming them back to their alma mater. The "Memory Trail: NCU Top Ten Scenic Spots" stamp collection activity invited alumni, faculty, and students to revisit classic campus landmarks, rekindling cherished memories and inspiring the NCU community to stride confidently into the next century.



NCU Team Unveils AI-Powered, Self-Charging Patch to Revolutionize Regenerative Medicine

A transnational research team from National Central University (NCU), supported by Taiwan's National Science and Technology Council, has developed a "sustainable triboelectric patch" that integrates artificial intelligence with regenerative medicine. Published in the top-tier international journal *Nano Energy*, the patch harnesses triboelectric effects to generate its own power through user movement and employs a lightweight generative AI algorithm to monitor physiological signals such as gait, respiration, and limb motion with 97% accuracy.

Animal studies show that the patch's micro-electric stimulation can accelerate wound healing by more than 30%, making it highly promising for treating chronic wounds, burns, and diabetic foot ulcers, where healing is often difficult. This breakthrough highlights the patch's potential for real-world applications in regenerative medicine.

Made from biodegradable materials, the patch is both recyclable and reusable, significantly reducing electronic waste and contributing to environmentally friendly healthcare solutions.

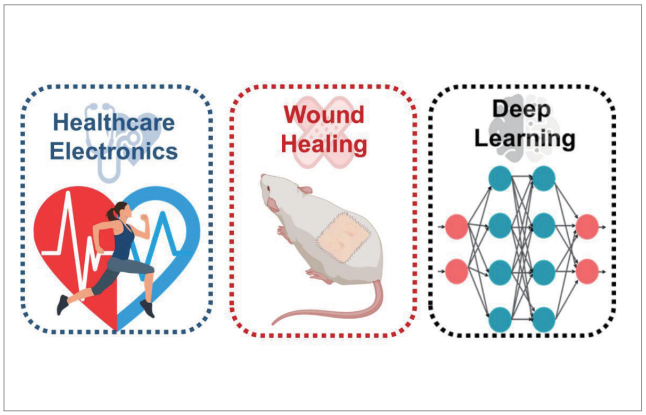
Led by Associate Professor Po-Kang Yang, the project combines expertise in materials simulation, biomedical regeneration, and AI signal analysis from international collaborators. With potential applications in smart wearables and long-term remote healthcare, the technology is set to open a new chapter for global health monitoring and regenerative medicine.



The green smart patch, jointly developed by Associate Professor Po-Kang Yang, Assistant Professor Ching-Yun Chen, and Associate Professor Chien-Chang Chen at National Central University.



The innovative patch, created by NCU's international research team, features self-powering, real-time monitoring, and wound regeneration.



The patch demonstrates three major potential applications.

NCU and Taipei Veterans General Hospital Break New Ground in Depression Treatment

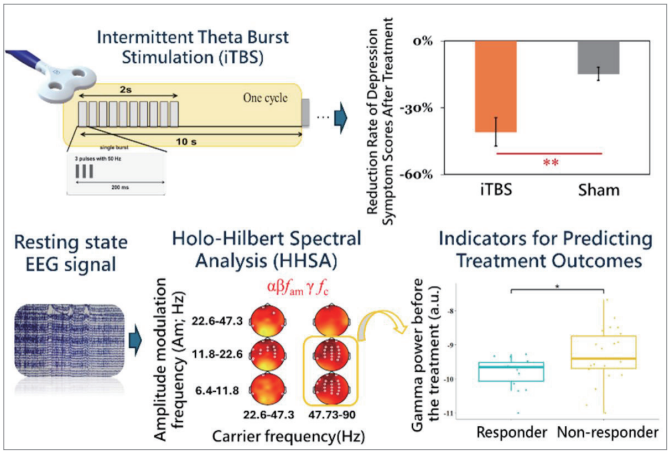
National Central University (NCU) and Taipei Veterans General Hospital (VGH) in Taiwan report a significant breakthrough in non-invasive brain stimulation for treatment-resistant depression. Supported by long-term funding from Taiwan's National Science and Technology Council (NSTC) and Ministry of Education, the research represents an important step toward precision and personalized mental health care. The study identified several brainwave biomarkers that are strongly correlated with depressive symptom severity and predictive treatment outcomes. These findings, published in the *International Journal of Clinical and Health Psychology*, may establish the foundation for leveraging brainwave biomarkers to guide individualized depression treatment.

Repetitive transcranial magnetic stimulation (rTMS) is an FDA- and TFDA-approved treatment for major depressive disorder, using magnetic fields to induce weak electrical currents in the cerebral cortex and thereby modulate abnormal neural activity. However, clinical efficacy often varies significantly among patients due to individual differences. To address this variability, the research team employed Holo-Hilbert Spectral Analysis (HHSA), pioneered by Academician Norden E. Huang (Academia Sinica, Taiwan & U.S. National Academy of Engineering) during his tenure at NCU.

Using this innovative methodology, the NCU research team, led by Prof. Chi-Hung Juan (Director, Cognitive Intelligence and Precision Healthcare Center), Dr. Yi-Chun Tsai, and Prof. Cheng-Ta Li of Taipei Veterans General Hospital, found that high-frequency gamma oscillations, when modulated by slower alpha and beta rhythms, are strongly associated with the severity of depressive symptoms.

To advance the field of neuropsychiatric treatment, Professors Juan and Li are leading the development of a real-time closed-loop electromagnetic stimulation system that integrates artificial intelligence, deep learning, and advanced computational modeling.

Full-text:https://www.sciencedirect.com/science/article/pii/S1697260025000511



This study integrates repetitive noninvasive brain stimulation with EEG recording, using Holo-Hilbert Spectral Analysis (HHSA) to reveal key brainwave biomarkers associated with depressive symptoms and to gauge the efficacy of the treatment.

NCU Research Team Reveals the Cause of Severe Turbulence Encountered by Singapore Airlines Flight SQ321

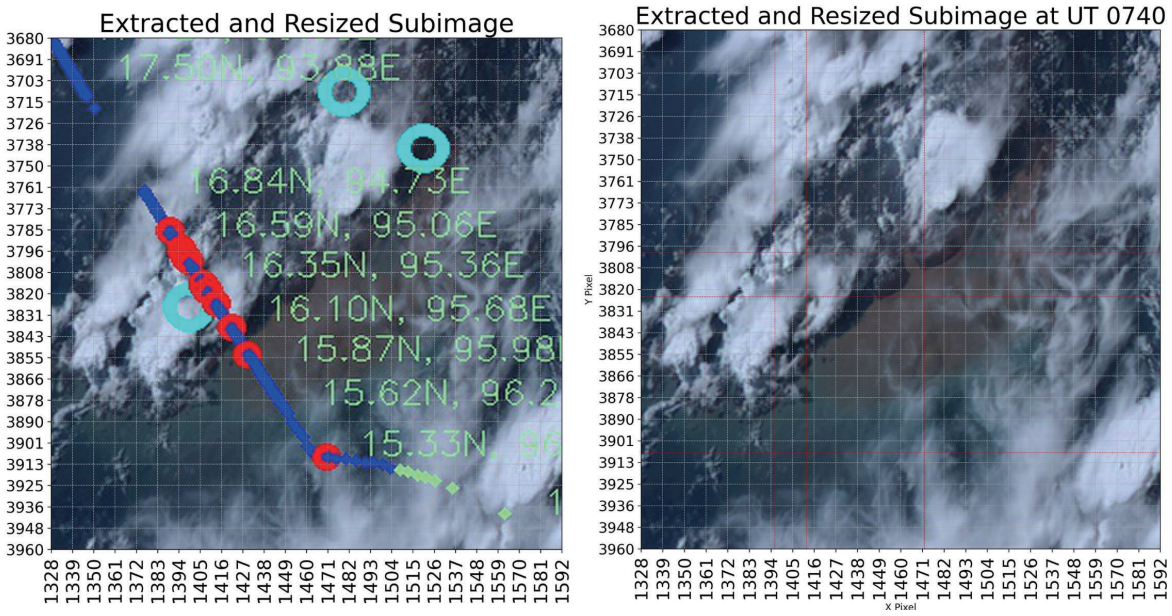
On May 21, 2024, Singapore Airlines Flight SQ321 encountered severe turbulence over Myanmar, resulting in one fatality and multiple injuries. Professor Wang Kuo-Ying from the Department of Atmospheric Sciences at National Central University (NCU) reconstructed the atmospheric conditions before and after the incident using geostationary satellite data, revealing that the turbulence was closely associated with the development of deep convective clouds (DCCs). The findings were published in the latest issue of the international journal *Scientific Reports*.

This study is the first to integrate satellite observations from East Asia, including Japan's Himawari-8/9 meteorological satellites, which capture imagery every 10 minutes to provide high-frequency monitoring of cloud system evolution. The research also utilized data from Taiwan's FORMOSAT-7/COSMIC-2 GPS Radio Occultation (GPSRO) to analyze the vertical atmospheric structure and temperature profiles in the turbulence region. In addition, flight data validation was performed using Automatic Dependent Surveillance–Broadcast (ADS-B) information, which precisely records aircraft altitude, speed, and flight paths. By combining these datasets, the research team successfully reconstructed the spatial and temporal context of the turbulence event.

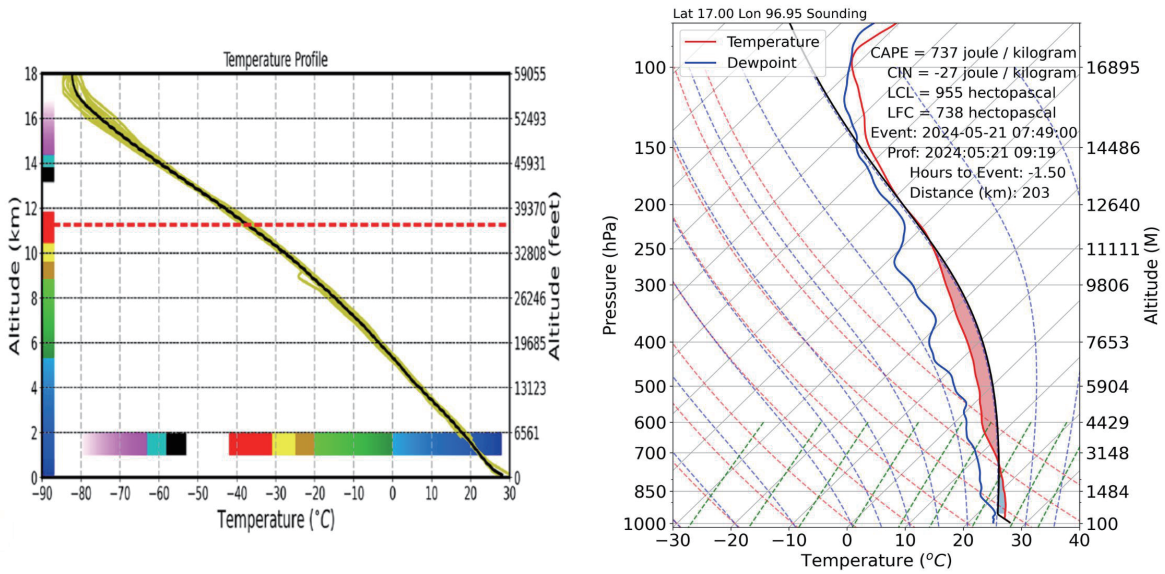


Professor Wang emphasized the importance of incorporating geostationary satellite data into aviation safety systems to provide airlines and pilots with real-time information that complements traditional onboard radar and weather forecasts. According to the International Air Transport Association (IATA), over 40 million scheduled commercial flights operated globally in 2023. As global warming increases atmospheric instability, flight safety faces greater challenges, underscoring the need for advanced technology and predictive tools. Professor Wang proposed establishing an integrated platform that combines real-time satellite monitoring (optical and GPSRO) with ADS-B flight data to enhance cross-border flight safety and comfort.

The study, titled “Severe Turbulence from Deep Convective Clouds during Flight SQ321 on 21 May 2024,” was officially published on August 15, 2025, in Scientific Reports (link to the study: https://www.nature.com/articles/s41598-025-15905-w).



Flight path of SQ321 between 07:00 and 08:00 UTC on May 21, 2024 (red > 37,000 ft; blue = 37,000 ft; green < 31,000 ft), Himawari-8 satellite image (07:40 UTC), and FORMOSAT temperature profiles (light blue). Image courtesy of Professor Wang Kuo-Ying.



Turbulence region of SQ321 on May 21, 2024: (a) FORMOSAT temperature sounding and profile (red dashed line at 11.58 km altitude); (b) sounding data collected 1.5 hours later and 203 km away. Image courtesy of Professor Wang Kuo-Ying.

Solving the Cube Beyond Its Faces: NCU Student Wang Kai-Wen Wins Third Place at World Rubik's Cube Championship with "Three-Dimensional Thinking"

Wang Kai-Wen, a student in the Department of Space Science and Engineering at National Central University, achieved third place in the 5x5 Rubik's Cube event at the World Cube Association (WCA) World Championship held in Seattle, USA, this July. Selected from over 2,000 top competitors representing more than 70 countries, Wang's performance set a new record for Taiwan's best-ever result in the event. Currently holding 11 official national records, Wang believes that many people misunderstand the Rubik's Cube as something solved face by face, when in fact it requires three-dimensional thinking and must be solved layer by layer—a process that brings a deep sense of accomplishment and joy upon completion.





Now 21 years old, Wang has competed in numerous WCA World Championships, breaking Taiwanese records 60 times and Asian records 12 times. In 2024, he won the 5x5 Asian Champion title at the WCA Asian Championship in Malaysia. However, he recalls that during the 2023 World Championship, excessive nervousness affected his performance. From that experience, he learned the importance of maintaining composure and confidence, and of not dwelling too much on mistakes—lessons that have since helped him perform at his best.

At this year's World Championship, Wang—who competed as an amateur—faced a skill gap compared to the top two professional cubers. Yet, he says the most rewarding part of the competition was meeting like-minded friends who share his passion.

Wang expressed gratitude to his mother, whose book first planted the seed of his interest, and to his father, who has accompanied and supported him from local to international competitions. For him, the Rubik's Cube is more than just a test of hand-eye coordination—it is also a way to cultivate perseverance, mental focus, and mutual encouragement among those who share the same enthusiasm.



Photo provided by Wang Kai-Wen

NCU Student Chiou Min-Han Wins Gold in Floor Exercise at the 2025 FIG Artistic Gymnastics World Challenge Cup

The 2025 FIG Artistic Gymnastics World Challenge Cup, held in mid-May in Slovenia, brought exciting news for Taiwan as National Central University (NCU) student Chiou Min-Han from the Department of Finance won the gold medal in the men's floor exercise. Delivering a steady and fluid performance in the final round, Chiou achieved a flawless landing and scored 13.833, earning his first-ever international gold medal. This remarkable victory not only marked a personal best for Chiou but also brought great honor to Taiwan.

Chiou's gymnastics journey began at an early age. Showing exceptional talent as a child, he attended the kindergarten affiliated with Yilan County's Gongzheng Elementary School—the school featured in the documentary Jump! Boys—and quickly caught the attention of gymnastics coaches. Despite numerous challenges along the way, he never gave up on his athletic dream. At the 2025 National Intercollegiate Athletic Games, Shining brightly, Chiou won silver in the men's artistic gymnastics division, second place in vault and third place in pommel horse and floor exercise. He showcased his all-around excellence. His outstanding performance also earned him a place on Taiwan's 2025 World University Games national team.

In this World Challenge Cup in Slovenia, Chiou performed the same floor routine he performed at the Intercollegiate Games, displaying even greater confidence and precision. Although he performed well in the preliminaries, an imperfect landing on his final pass placed him fifth, just enough to advance to the finals. Learning from that experience, Chiou refined his technique and delivered a perfect landing in the final, earning a crucial 0.1 bonus point. With a difficulty score of 5.0, an execution score of 8.733, and the landing bonus, he totaled 13.833 points, edging out the runner-up by 0.033 to claim his first international gold medal.

Beyond gymnastics, Chiou is a multi-talented and well-rounded student. With an impressive TOEIC score of 940, he also plays the violin as a member of NCU's String Orchestra and performed at the university's anniversary celebration last year. A passionate music lover, Chiou often selects calming pieces to suit his mood before competitions, helping him stay composed and focused amid the tension. Welcoming every challenge, he strives to meet a better version of himself.





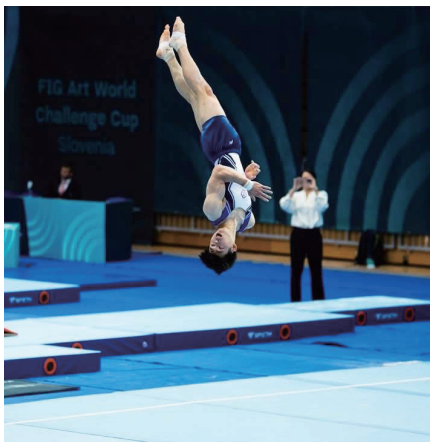


Photo courtesy of the event organizer

Three “Central” Universities in Taiwan, Japan, and Korea Sign Collaboration Alliance to Advance International Exchange

On September 19, 2025, National Central University (Taiwan), Chuo University (Japan), and Chung-Ang University (Korea) officially signed the Triple-C Collaboration in Seoul. Through this alliance, the three universities will promote student exchange, faculty research collaboration, and staff mobility, jointly creating a new model of cross-border higher education cooperation.

Before 2023, the three institutions had each established individual sister-school relationships. Later, inspired by the fact that their Chinese names all share the same pronunciation “Zhongyang,” meaning “Central” in English, the idea of forming an alliance gradually took shape. In October 2024, the Office of International Affairs at National Central University organized a benchmarking visit for administrative staff to Japan and Korea, during which the three universities reached a consensus to establish the Triple-C Collaboration. After months of preparation and discussion, the agreement was formally signed on September 19, 2025, marking an important milestone in this partnership.

The signing ceremony was hosted at Chung-Ang University, attended by President Park Sang-Gue of Chung-Ang University, President Hisashi Kawai of Chuo University, and Vice President Jen-Inn Chyi of National Central University, who represented the NCU president in signing the agreement. Vice President Chyi was accompanied by Dr. Chung-Pai Chang, Vice President for International Affairs, Prof. Hsieh-Lung Hsu, former Vice President for International Affairs, and Dr. Hou Tun-Jen, Director of the Research Core Facility Center.

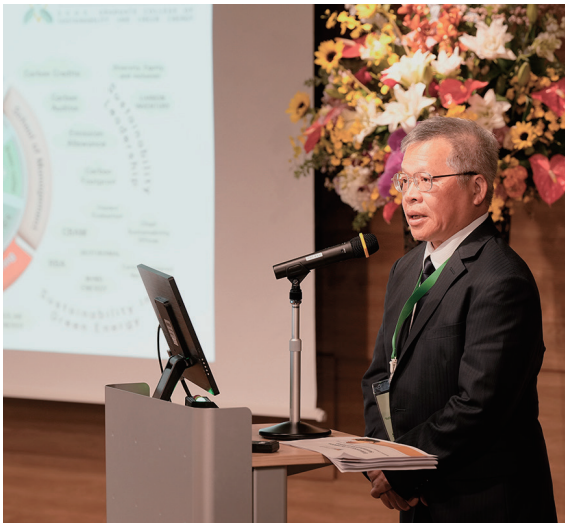
Looking ahead, the three institutions will use the alliance as a foundation to deepen cross-cultural student learning and exchanges, promote joint international research projects, and expand administrative and professional staff collaborations. The “Triple-C” aspires to work hand in hand to cultivate globally minded talent and to establish a lasting model of international cooperation in higher education.





Hiroshima A-bomb 80th Anniversary: National Central University Attends the “University Presidents Peace Forum” and Signs a Global Peace Declaration

On the historic occasion of the 80th anniversary of the atomic bombing, Hiroshima University hosted the 4th Hiroshima University Presidents’ Peace Forum on August 6. Presidents from 12 universities across nine countries and regions gathered to discuss the crucial role of higher education in promoting peace and sustainable development.



As the only university in Taiwan invited to participate, National Central University (NCU) was represented by President Hsiau Shu-San, who joined university leaders from Japan, the United States, Germany, Italy, Sweden, Spain, India, and Malaysia. Together, they signed the University Presidents' Peace Declaration: Commemorating the 80th Anniversary of the Atomic Bombing, demonstrating NCU’s visibility and contributions in international higher education cooperation.



During the forum’s key ceremony, President Hsiau, along with university representatives from around the world, signed the University Presidents' Peace Declaration, reaffirming the vital role of higher education institutions in advancing global peace, social inclusion, and sustainable development. The signatories also pledged to promote peace education and social engagement through transnational collaboration and youth empowerment.



NCU has been actively expanding its international engagement since establishing its sister-school relationship with Hiroshima University. The two universities have promoted various initiatives, including student exchanges, faculty visits, and joint research projects. Participation in the 80th anniversary events not only deepened the friendship between the sister institutions of Taiwan and Japan but also underscored NCU’s firm commitment and proactive efforts in advancing global peace, educational sustainability, and university social responsibility.



2025 Student Club Fair
Kicks Off with Energy and Youthful Spirit

The 2025 Student Club Fair was held with great enthusiasm on Saturday, August 30, in front of the Teaching and Research Building. The event drew large crowds of students, creating a lively atmosphere brimming with youthful energy. In her opening remarks, Vice President for Student Affairs Chen Szu-Yu noted that this year's fair featured 68 booths, showcasing the diversity of student organizations at NCU. She encouraged new students to actively participate, hoping they would discover their passions and forge lifelong friendships through club activities.

Chief of the Extracurricular Activities Division Huang Chih-Yuan expressed his expectation that students would not only pursue their interests through club involvement but also develop essential soft skills such as leadership, communication, coordination, and creativity, all of which are core values of student organizations. He also urged senior students to share their enthusiasm and give their all in recruiting the next generation of members.



Captivating performances kept the audience engaged throughout the fair. The Pop Music Club filled the air with stirring melodies and powerful rhythms that had students nodding along to the beat, while the Guitar Club's gentle tunes offered a refreshing contrast, inviting quiet appreciation amid the bustling crowd. Midway through the performances, the overcast sky unexpectedly cleared, and sunlight bathed the stage, brightening the festive mood. The grand finale by the Dance Club brought the event to its peak, as waves of cheers and applause filled the air, perfectly concluding the day's performances.



Heart to Heart; Love Nurturing Love: NCU International Volunteers Serve in Vietnam

To fulfill its commitment to social responsibility and promote youth international service, the Service-Learning Development Center of the Office of Student Affairs at National Central University (NCU) led an international volunteer team to Vietnam from July 11 to 20 for a ten-day program of community service and cultural exchange. The team, composed of six students selected from different departments, engaged with local educational and social welfare institutions, offering services such as elder companionship, children's health education, cultural exchange, and material donations—embodying NCU's dedication to global engagement and humanistic care.

During the visit, the student volunteers collaborated with an elder care center to create cross-cultural musical memories and rhythmic physical movement activities. Despite the summer heat, the volunteers accompanied the elderly with enthusiasm and received heartfelt appreciation in return. At another institution housing over 150 Vietnamese orphans, the team designed and taught an English health education course themed "Body Boundaries," guiding children to understand body autonomy and self-protection—a program highly praised by teachers and students alike.



The volunteers also participated in a cultural exchange with students from Gia Dinh University, discussing "Taiwanese Culture and the UN Sustainable Development Goals (SDGs)" and exploring the roles and responsibilities of youth as global citizens. In addition, the NCU team visited a Vietnamese Child Welfare Center to donate collected supplies, for which they received a certificate of appreciation in recognition of their care and contributions to child welfare.



The project was made possible through the sponsorship of the Department of Youth Affairs of Taoyuan City Government, and the support of the Taipei Economic and Cultural Office in Ho Chi Minh City and the Chen-yung Memorial Foundation in Vietnam. Ultimately, the project's outcomes stand as a testament to the power of youth in action, and aim to inspire more within the NCU community to engage in service. Through these efforts, the university continues to demonstrate its warmth and strength to the world.



National Central University

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