KMU Newsletter

Kaohsiung Medical University, Taiwan

Profile Interview | Research Achievements | Latest News

Kaohsiung Medical University

Kaohsiung Medical University (KMU), originally established in 1954 as Kaohsiung Medical College, was founded by Dr. Tsungming Tu, the first Taiwanese to earn a doctoral degree in medicine, and was the first medical institution in Taiwan established entirely by Taiwanese. Its founding was made possible through the collective efforts and donations of distinguished medical professionals, including Professors Li-Tung Ho and Pang-Hsing Hsu, as well as civic leaders from southern Taiwan such as Mr. Chi-Chuan Chen and Mr. Chuan-Tsung Tang. Guided by Dr. Tu's motto, "Learning with Passion, Research as Priority, " KMU has long emphasized the belief that " one must first learn to be a person before becoming a doctor," encouraging students to uphold lifelong dedication, reverence for life, and respect for human dignity.

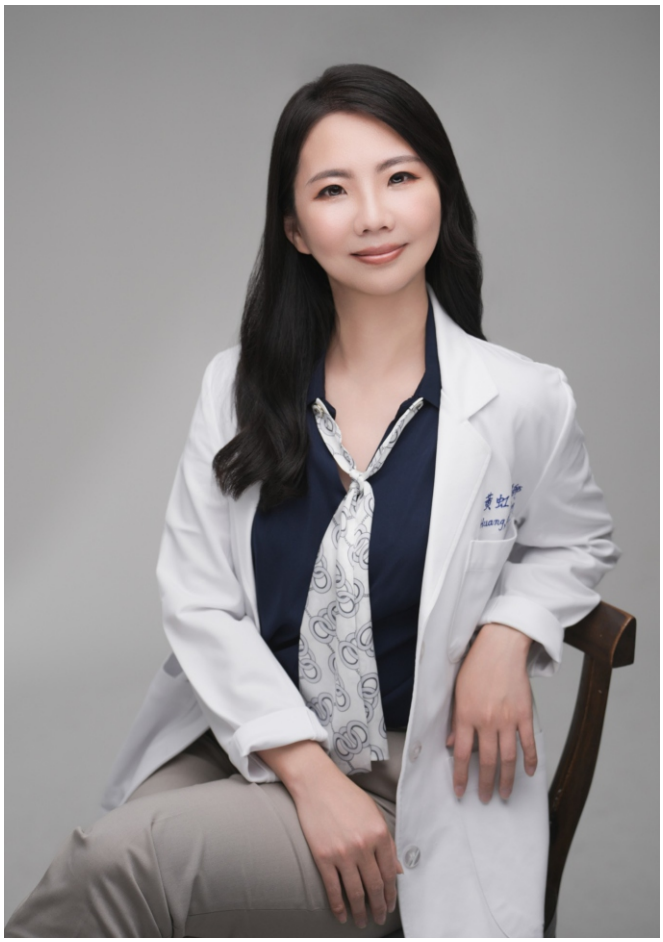
In its early years, KMU played a pivotal role in advancing medical care in southern Taiwan and was a leading center for research on tropical medicine. Following the World Health Organization's reclassification of Taiwan, the university shifted its focus toward the growing fields of basic medical sciences and clinical research, while continuously enhancing its medical services. In 1999, Kaohsiung Medical College was elevated to Kaohsiung Medical University, becoming the first private medical university in Taiwan. Today, KMU stands as a modern, forward-looking institution with comprehensive medical-related programs, strong research facilities, and a commitment to excellence in teaching, research, and healthcare. Located in the heart of Kaohsiung, Taiwan's second-largest city, it remains the leading medical education and research hub in theregion.

Profile Interview

Associate Professor Hung-Ling Huang is a thoracic and critical care specialist, as well as an emerging scholar in the field of pulmonary infectious diseases. Guided by the belief, "Dare to hypothesize, verify with care; embrace challenges with passion, overcome obstacles with persistence, and take each step with integrity," she has long been dedicated to the clinical practice and research of tuberculosis (TB), latent tuberculosis infection (LTBI), nontuberculous mycobacterial (NTM) infections, and pulmonary aspergillosis. Her central goal is to pursue appropriate personalized medical care to improve patients' quality of life.

In TB prevention and control, Associate Professor Huang actively responds to the World Health Organization's vision of "End TB by 2035." She collaborates with several major medical centers in Taiwan and the team at National Yang Ming Chiao Tung University to apply artificial intelligence in studying the side effects of the short-course 3HP regimen for LTBI treatment. Her team has successfully developed a genetic testing model capable of predicting the risk of systemic drug reactions (SDR) prior to treatment. In addition, she has promoted a screening and treatment model for LTBI in patients with poorly controlled diabetes, which has received international recognition and will soon be published on the APSR website.

With her outstanding achievements in thoracic medicine and interdisciplinary research, Associate Professor Huang has been honored with the Ta-You Wu Memorial Award by the National Science and Technology Council and the 33rd Wang Ming-Ning Outstanding Paper Award in the category of "Outstanding Paper Award for Medical and Pharmaceutical Research Institutes and Academic Research Institutions of Domestic Universities." Looking to the future, she will continue to combine clinical expertise with innovative AI technology, promote international cooperation, and contribute further to the prevention and control of pulmonary infectious diseases and the enhancement of global public health.



Profile Interview

1.Under the World Health Organization's goal of "End TB by 2035," what do you think is the greatest challenge Taiwan faces in tuberculosis prevention and control?

Taiwan has made remarkable progress in tuberculosis (TB) prevention and control, ranking second only to Japan in the region. However, the challenges posed by an aging society remain significant, as many patients suffer from multiple comorbidities, and latent TB has emerged as the greatest concern. Expanding preventive treatment among high-risk groups is therefore crucial, yet patient acceptance and concerns over potential side effects continue to hinder progress. Current strategies focus on shortening treatment regimens, strengthening health education, and enhancing directly observed therapy (DOTS) to improve adherence. These efforts aim to effectively reduce both disease incidence and transmission risk, aligning with the global goal of ending TB by 2035.

2.What specific changes or improvements would you like to bring to patients' quality of life in the prevention and treatment of pulmonary infectious diseases?

In the prevention and treatment of pulmonary infections, my goal is to balance efficacy and safety while minimizing the impact of adverse drug reactions on patients' daily lives. I have encountered young patients who experienced shock during latent tuberculosis treatment, as well as elderly patients who developed hives or flu-like symptoms that severely disrupted their routines. These cases underscore that drug safety and side-effect management are just as important as therapeutic effectiveness. Therefore, promoting shorter and safer treatment regimens is essential to help patients feel more confident in undergoing therapy, ultimately improving their overall quality of life.

3.In your opinion, what untapped potential still exists for the application of AI in thoracic medicine?

Currently, AI in thoracic medicine is primarily applied to image interpretation, but its future potential is far greater. I envision integrating hospital big data, including clinical information, blood samples, and biomarkers, so that AI can assist not only in diagnosis but also in treatment selection and side-effect assessment, enabling more precise therapies. With effective integration and continuous training, AI could become a key tool for improving treatment outcomes and enhancing patients' quality of life.

4.Could you share a clinical case where the application of a predictive model successfully improved a patient's treatment experience?

In a small-scale clinical trial applying predictive models, we conducted genetic phenotyping tests on diabetic patients with multiple comorbidities and complex medication regimens to predict potential drug-related side effects. The results showed that patients who underwent testing were able to safely complete their short-course, multi-drug treatments, with manageable side effects. These models have demonstrated good reproducibility across different patient populations, providing a foundation for future large-scale validation and improving both treatment experience and quality of life for patients.

5.If you could use one sentence to encourage young people aspiring to engage in medical research, what would you say?

For young researchers aspiring to enter medical research, it is essential to start from your own clinical experience, observing details that may be overlooked in the literature, and to choose topics that genuinely interest you in order to sustain long-term engagement and in-depth exploration. Research requires time and careful planning, so managing daily responsibilities alongside research activities is equally important. By diligently exploring your chosen field, you can ultimately discover your own research treasures and carve out a path for professional development.

Research Achievements

Kidney multiome-based genetic scorecard reveals convergent coding and regulatory variants

Abstract

More than 800 million people worldwide suffer from kidney disease, with nearly 1 million dying annually from renal failure. Kidney function is highly heritable, predominantly influenced by common genetic variants. Genome-wide association studies (GWASs) map associations between these variants and disease, yet more than 90% of GWAS-identified variants reside in noncoding genome regions. This presents notable challenges in pinpointing their target genes and regulatory functions, a dilemma known as the "variant-to-gene" or "variant-to-function" problem.

Read more

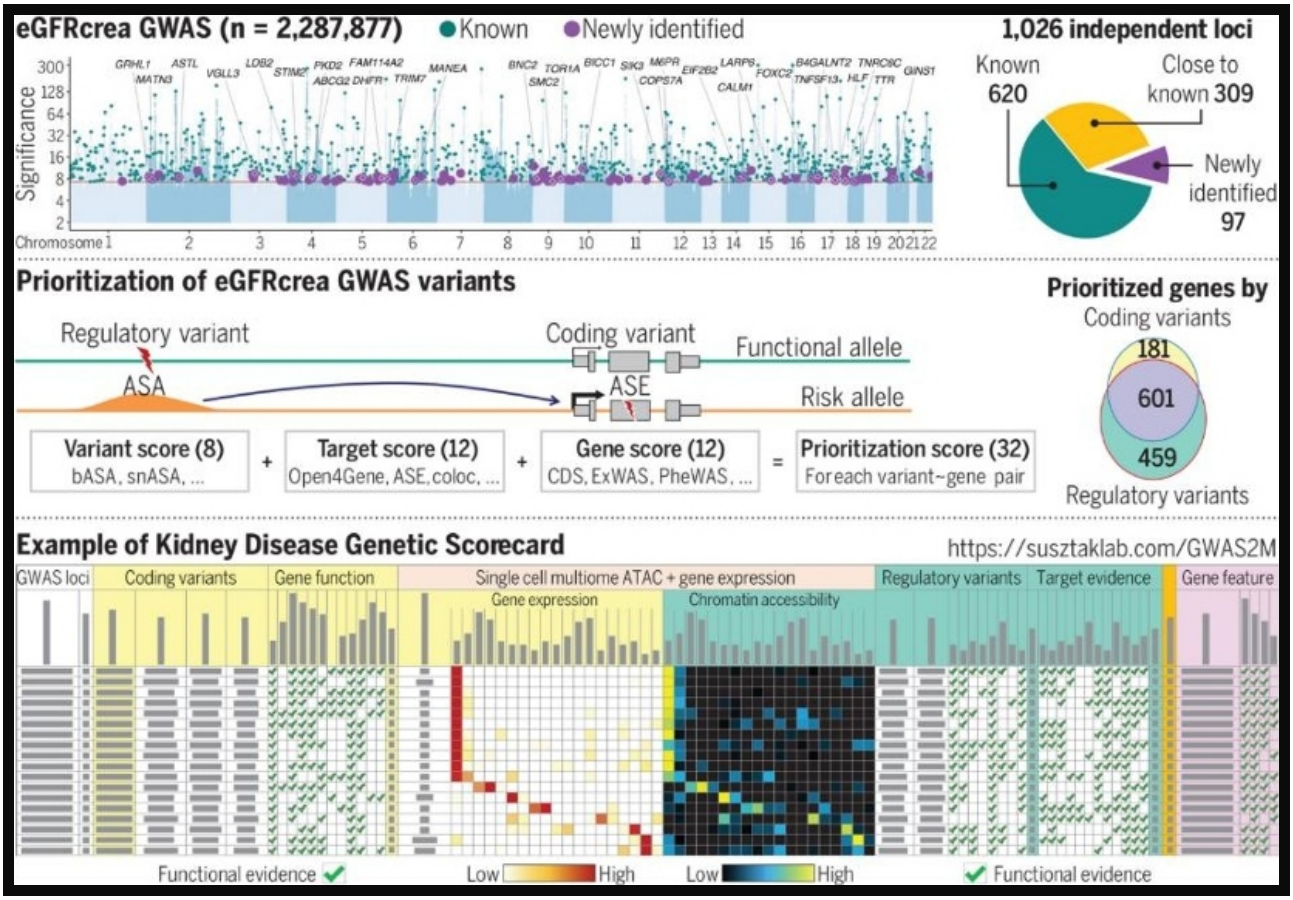
We conducted a multiancestry GWAS for kidney function, measured by the estimated GFR based on serum creatinine (eGFRcrea), involving 2.2 million individuals. Our analysis identified 1026 (97 previously unknown) independent loci. By mapping kidney function–associated common DNA variants across European-, East Asian–, and Africanancestry populations, we observed an attenuation of newly identified signals in European populations and highlighted the value of population diversity for further discoveries.

Additionally, we analyzed genotype effects on allele-specific gene expression and regulatory circuitries in more than 700 kidneys and 237,000 cells. We developed a statistical approach named Open4Gene, which identified 1351 target genes of genetic variants located within open chromatin regions.

Furthermore, we introduced the "Kidney Disease Genetic Scorecard" concept, which integrates 32 types of data to support genetic information and nominate causal genetic variants and genes for kidney disease. The Kidney Disease Genetic Scorecard prioritized 24,437 regulatory variants targeting 1060 genes. We also observed convergence of coding and regulatory variations in specific genes, identifying 1363 coding variants disrupting 782 genes, with 601 genes also targeted by regulatory variants. Notably, 124 genes were identified as amenable to targeting by FDA-approved drugs, presenting opportunities for drug repurposing and therapeutic development.

Application and Highlights

We provide a genetic blueprint for kidney function, enabling geneticsbased prognostication and drug discovery. This study presents a largescale analysis of the genetic architecture of human kidney function, utilizing various omics datasets to offer biological insights.
Emphasizing the convergence of coding and regulatory variants on key disease genes, we introduce the concept of a Kidney Disease Genetic Scorecard for disease diagnostics and therapeutic development.



Research Achievements

Designing simple intervention methods and provided scientific evidence to reduce toxic exposure to melamine and phthalates in daily life

Abstract

The project aims to develop simple intervention strategies, supported by scientific evidence, to reduce everyday exposure to melamine and plasticizers. By translating scientific findings into accessible health education, the initiative seeks to raise public awareness on minimizing the impact of these harmful substances, ultimately improving food safety and contributing to a more sustainable and healthier society.

Read more

The 2008 melamine-tainted baby formula incident and the 2011 phthalatestainted food scandal incident raised significant public concern about food safety. To address these concerns, our research team provided two major innovative solutions based on scientific evidence:

1. Health Education Interventions to Reduce Phthalate Risk Exposure: In response to phthalates-tainted food scandal, we immediately assembled the multi-disciplinary scientists and pioneered the establishment of a "Special Consultation Clinic for Children's Phthalates" to provide professional follow-up and health education to affected children and their main-care givers. Our research results showed that two and six months after the intervention, the daily intake of DEHP (Di(2- ethylhexyl) phthalate, a type of phthalates) decreased by pproximately 40% and 73%, respectively.
2. Lifestyle Changes to Prevent Melamine Toxic Exposure: My research team firstly found that melamine-made tableware can migrate a substantial amount of melamine chemicals in the high temperature. Using stainless steel containers to replace melamine-made tableware can reduce melamine exposure by approximately 68% in our everyday life.

Application and Highlights

1. World's Top 2% Scientists 2021-2023.
2. Highly Cited Research Contributions: Numerous academic papers have received high citations, demonstrating the international recognition of the research outcomes.
3. Safeguard Lung Health: "An Innovative and Simplified Oil Fume Filter: Reducing Pollution and Lowering the Risk of Lung Adenocarcinoma Among the Population" was honored with the SNQ National Quality Certification and awarded the Bronze Prize at the National Biotechnology and Medical Care Quality Awards for its outstanding contribution to reducing pollution and mitigating the risk of lung adenocarcinoma.
4. International Cooperation: Collaborate with a distinguished scientist, Dr.David Diner, in NASA on Air Quality Monitoring: Partnered with NASA in environmental monitoring efforts,

promoting precise air pollution control in southern Taiwan and contributing to environmental sustainability.

5. Cultivate young talent: Train KMU's doctoral student, Dr. Chia-Fang Wu,to become an assistant fellow in the Research Center for Environmental Changes, Academia Sinica.

Latest News

KMU Participates in Ministry of Education's European Talent Recruitment Initiative, Actively Attracting Young International Scholars to Return to Teach in Taiwan

To attract outstanding international scholars to return to Taiwan and engage in higher education and research, KMU participated in the European Talent Recruitment Initiative organized by the Ministry of Education in July 2025. Together with representatives from Taiwan's top universities, KMU joined a delegation that held overseas recruitment sessions at the TU Dortmund University in Germany and Association of Commonwealth Universities. The delegation was led by Po-Chiao Lin, Chief Secretary of the Ministry of Education, who presented Taiwan's latest talent recruitment policies to ethnic Chinese early-career scholars in Germany and the UK, extending a sincere invitation for them to return to serve in Taiwan.

KMU President Ming-Lung Yu personally participated in the talent recruitment initiative. In addition to presenting the university's educational philosophy and internationalization achievements to international scholars, he provided in-depth explanations on key topics of concern for early-career researchers, such as research resources, promotion systems, salary packages, and supportive workplace benefits, demonstrating KMU's strong commitment to attracting and supporting outstanding talent. President Yu also engaged in in-depth discussions with several scholars on site, conducting preliminary matches and offering career consultations.

President Yu stated that KMU was honored to participate in the Ministry of Education's European talent recruitment initiative and to engage in face-to-face exchanges with outstanding young scholars from various fields. He emphasized that KMU has always placed great importance on talent cultivation and research innovation, and sincerely welcomes scholars with international vision and potential to join the university's teaching and research teams. Through this initiative, he hopes to successfully attract more like-minded partners to contribute to the university's development and to the advancement of higher education in Taiwan.

KMU has long been committed to strengthening its research capabilities and promoting international academic exchange. Its participation in this recruitment initiative reflects the university's proactive approach to attracting outstanding academic talent from around the world. Across a wide range of disciplines including medicine, dentistry, pharmacy, nursing, health sciences, life sciences, and the humanities and social sciences. KMU offers diverse teaching and research positions, along with competitive salaries and stable research support. The university warmly welcomes young scholars and postdoctoral researchers worldwide to join KMU's academic community and work together to advance academic development in Taiwan.

Latest News

2025 International Spinal Muscular Atrophy Symposium Held in Kaohsiung, Experts from Around the World Gather to Share Translational Treatment and Care Experiences for SMA

KMU, Kaohsiung Medical University Chung-Ho Memorial Hospital, and the Taiwan Child Neurology Society jointly hosted the "2025 International SMA Symposium" on July 26 and 27 in Kaohsiung. The event brought together over 30 interdisciplinary experts from the United States, Japan, China, and Taiwan, covering fields such as pediatric neurology, neurology, and gene therapy. Participants shared the latest developments in translational research and clinical care for spinal muscular atrophy (SMA), with the goal of fostering international collaboration and establishing a consensus on clinical care practices, ultimately aiming to improve the quality of life for SMA patients and their families.

Chen Chien-Chih, Chairman of the Board of Trustees at KMU, noted that the U.S. FDA has approved three therapeutic drugs for spinal muscular atrophy (SMA), and Taiwan's National Health Insurance Administration has expanded its coverage to include more than 90% of SMA patients with disease onset before age 18. This demonstrates the government's commitment to promoting health equity for patients with rare diseases.

KMU President Ming-Lung Yu further stated that, thanks to the integration of newborn screening, National Health Insurance coverage for treatment, and high-quality multidisciplinary care, the life trajectory of SMA patients has been fundamentally transformed.

At the symposium, Professor Perry Shieh from the Departments of Pediatrics and Neurology at the University of California, Los Angeles (UCLA), Professor Emerita Kayoko Saito from Tokyo Women's Medical University, and Professor Dai Yi from the Department of Neurology at Peking Union Medical College Hospital shared their countries' experiences in SMA treatment. All three emphasized the critical importance of newborn screening and early therapeutic intervention.

Professor Emeritus Yuh-Jyh Jong pointed out that Taiwan's five-year experience (2017–2022) with newborn screening shows that approximately 80% of diagnosed infants have two or three SMN2 copies. Among them, nearly all with two copies develop symptoms within two months of birth, while those with three copies typically present symptoms before one year of age. This indicates that the actual onset of SMA occurs much earlier than previously believed. Experts at the symposium unanimously recommended revising the diagnostic and treatment protocols for SMA cases identified through newborn screening. They also stressed the need for improved communication with parents regarding treatment timing and prognosis, in order to enhance the overall outcomes of newly diagnosed SMA cases.

Latest News

KMU Chair Professor Li-Tzong Chen Receives Lifetime Achievement Award from the Taiwan Oncology Society in Recognition of His Outstanding Contributions to Cancer Research and Clinical Practice

KMU, Chair Professor and Chief of the Center For Cancer Research , Dr. Li-Tzong Chen, was honored with the prestigious Lifetime Achievement Award from the Taiwan Oncology Society at the 29th Taiwan Joint Cancer Conference in Taiwan, held in 2025. This highest distinction recognizes Professor Chen's exceptional contributions to cancer care, basic research, and academic leadership, marking a significant milestone in his decades-long dedication to oncology in Taiwan.

Professor Chen has long been devoted to clinical and translational cancer research, focusing primarily on gastrointestinal malignancies, including gastric adenocarcinoma, mucosa-associated lymphoid tissue (MALT) lymphoma, as well as liver, biliary tract, pancreatic cancers, and rare GI tumors such as gastrointestinal stromal tumors (GISTs) and gastroenteropancreatic neuroendocrine tumors (GEP-NETs). Through investigator-initiated multicenter clinical trials in Taiwan, he has provided therapeutic opportunities for patients with limited treatment options. He has also collaborated in industry-sponsored trials, contributing to the development of new cancer drugs both domestically and internationally. His research has been published in top-tier journals such as Journal of Clinical Oncology, JAMA, Lancet, and Lancet Oncology, opening new avenues in gastrointestinal cancer treatment.

In recognition of his groundbreaking work, Professor Chen received the Dr. Chien-Tien Hsu's Outstanding Cancer Research Award in 2003, the National Health Research Institutes Academic Achievement Award in 2010, and the Ministry of Science and Technology's Outstanding Research Award in both 2014 and 2017. He was also honored with the Wang Ming-Ning Award in 2014 for his significant contributions to biomedical science and public health, and the Yung Shin Tien-Te Lee Medical Technology Award in 2017 for excellence in pharmaceutical innovation, elevating Taiwan's profile in global anti-cancer drug development.

In 2019, he received the National Innovation Award for Academia-Industry Collaboration for his contributions to the clinical development of ONIVYDE® (liposomal irinotecan) for pancreatic cancer, developed by PharmaEngine. Most recently, in 2024, he was awarded the National Innovation Award in Clinical Innovation for developing a high-affinity humanized CXCR2 antibody that significantly improves the tumor microenvironment and suppresses cancer cell proliferation.

At the award ceremony, held during the society's general assembly, Professor Chen was presented with the award in the presence of the board and numerous peers. In his remarks, he stated, “Cancer research and clinical care must go hand in hand. Through precision medicine, drug development, and global collaboration, we can offer more effective treatments to patients, especially in hard-to-treat cancers like pancreatic cancer.” He emphasized his commitment to leading Taiwan's cancer research teams in international collaboration and translating research into clinical application to improve patient survival and quality of life.

This Lifetime Achievement Award is not only the highest recognition of Professor Chen's individual accomplishments, but also a testament to Kaohsiung Medical University's leadership in the fields of cancer research and medical innovation. Looking ahead, Professor Chen and the KMU Cancer Research Center will continue advancing precision oncology and novel therapies, creating new possibilities for cancer prevention and treatment worldwide.

Latest News

KMU Honored with 2025 Global Views Taiwan's Best University Award for Exemplary Overall Performance among Private Universities

The 2025 Global Views Taiwan's Best University Rankings Award Ceremony was held on the afternoon of July 10, recognizing institutions with outstanding performance across various categories. This year, KMU was honored with the "Exemplary Private University Award for Overall Performance," a distinction that affirms the university's excellence in six key performance areas: academic achievement, teaching quality, internationalization, social impact, industry-academia collaboration, and financial soundness.

Now in its 10th year, the Global Views university rankings are regarded as one of Taiwan's most comprehensive and credible evaluations of higher education. The 2025 assessment encompassed 53 indicators and 69 sub-indicators, offering a multidimensional evaluation of university performance. After receiving the Exemplary Award in the medical category last year, KMU has now been awarded the top honor in overall performance among private universities, ranked first in southern Taiwan, demonstrating broad recognition of its institutional effectiveness.

KMU Vice President Chih-Lung Lin accepted the award on behalf of the university. In his remarks, he emphasized that education is not merely professional training but also a process of shaping values. "The value of talent lies not in competition, but in co-creating the future," he stated. KMU aspires to nurture students who think for the future, act for the future, and create the future. To this end, the university is committed to integrity-based governance, the development of AI biomedical research and a smart campus, the establishment of specialized research centers to drive cross-disciplinary innovation, the integration of its affiliated healthcare system to strengthen medical education in southern Taiwan, and the construction of a bilingual and internationalized campus to cultivate globally competitive talent.

Since the appointment of President Ming-Lung Yu in July 2024, KMU has adopted the forward-looking vision of "Future KMU, Leading the Future," anchored in the "i6" strategic framework: Integrity, Intelligence, Innovation, Integration, Internationalization, and Impact. This framework guides the university's governance and sustainable development, aligning institutional strategies with student-centered higher education policies, national priorities, and the United Nations Sustainable Development Goals (SDGs).

KMU continues to make progress in enrollment, teaching, research, industry collaboration, international engagement, and administrative innovation. The university aims to become a sustainable institution with both global competitiveness and local relevance, contributing meaningfully to Taiwan's healthcare system and public health landscape. Notably, in the 2025 Times Higher Education(THE) University Impact Rankings, KMU again achieved remarkable results: it ranked No. 1 nationally for SDG 5 (Gender Equality) for the second consecutive year, and No. 8 globally for SDG 3 (Good Health and Well-Being), reflecting the university's long-standing commitment to health equity and inclusive excellence.

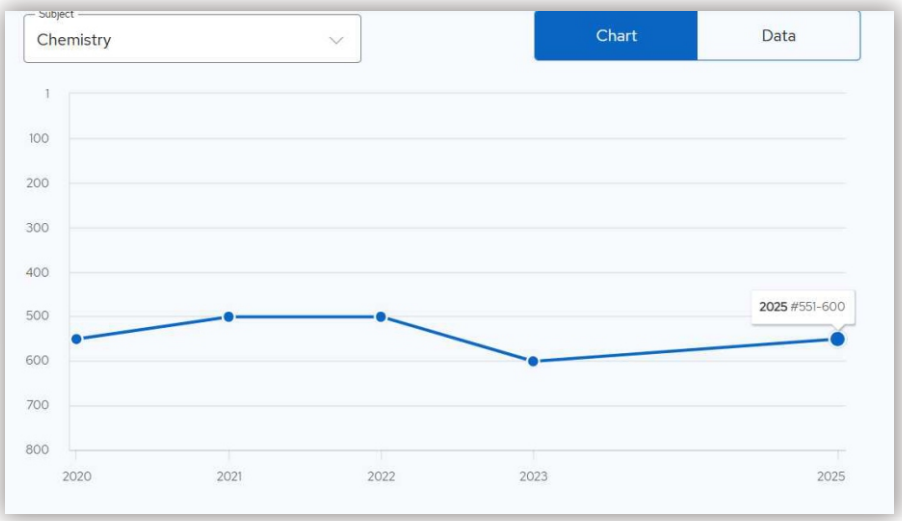
This award not only affirms KMU's overall institutional performance but also highlights the collective efforts of its team in laying a strong foundation for sustainable advancement. Looking ahead, KMU will remain people-centered, health-driven, technology-empowered, and globally connected, originating from southern Taiwan, linking with the world, and giving back to society.

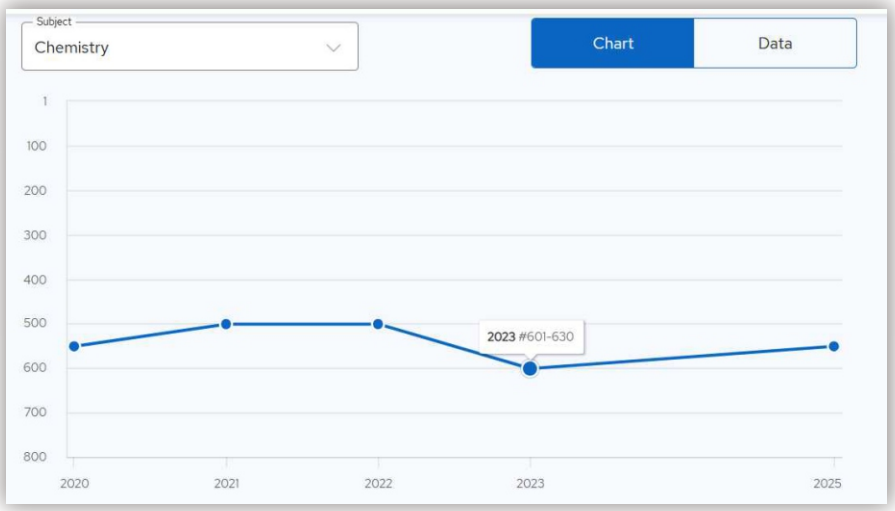
Latest News

Globally Recognized: KMU Department of Chemistry Demonstrates Academic Strength in QS Rankings

The Department of Chemistry at KMU delivered an impressive performance in the 2025 QS World University Rankings by Subject, placing in the global 551–600 range. This marks a significant leap from previous years, highlighting notable progress across multiple indicators, including teaching quality, research output, and international academic reputation.

The department's advancement reflects its recent efforts to deepen research capacity, enhance laboratory teaching and research infrastructure, and actively promote international collaboration and publications. With steady improvements in talent cultivation and research performance, the Department of Chemistry is laying a strong foundation for KMU to gain greater visibility and recognition on the global academic stage.





Latest News

2025 KMU International Conference on Biomedicine – Revolutionizing Medicine with AI: Opportunities and Challenges

Kaohsiung Medical University will host the 2025 KMU International Conference on Biomedicine – Revolutionizing Medicine with AI: Opportunities and Challenges from October 10 (Friday) to 12 (Sunday), 2025.

The conference will bring together leading experts from Taiwan and abroad to explore the applications and challenges of artificial intelligence in the medical field, fostering inter-disciplinary exchange and international collaboration.

We warmly welcome all KMU faculty and students to visit the site for the latest program and speaker updates, and to register for participation:
Conference Website:
https://www.kmu-icobm2025.tw

The conference is now open for registration and will feature keynote sessions and thematic forums. Please refer to the website for full details.

We sincerely invite you to join us in this exciting and meaningful event!

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