國立臺灣科技大學 Taiwan Tech

四月份電子報

APRIL, 2026 【第38期】

編輯：秘書室公共關係組

臺科大
TAIWAN TECH



NEWS 校內新聞快報

HOT NEW

臺科大 Taiwan Tech

校內新聞快報【四月・第38期】

School News Bulletin, April, Issue 38

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展現技職永續實力 臺科大榮獲 2026《遠見》USR 雙項大獎

2026-04-30

Taiwan Tech wins two top honors at 2026 Global Views Monthly USR Awards, demonstrating its strength in vocational and technical sustainability



第七屆《遠見》大學社會責任獎（USR）於 4 月 9 日舉行頒獎典禮，國立臺灣科技大學從兩百餘件參賽方案中脫穎而出，一舉奪下兩項大獎。分別為營建系何嘉浚副教授團隊以「水淨、茶香、人共好：跨域守護翡翠水庫的永續藍圖」榮獲「產業共創組」楷模獎，以及化工系王孟菊教授團隊的「行動工程師培育計畫」榮獲「永續課程組」績優獎。這兩項殊榮肯定了臺科大在環境永續與人才培育的深耕，也展現技職龍頭將專業技術轉化為社會正向改變的實作能力。榮獲「產業共創組」楷模獎的計畫，由臺科大營建系何嘉浚副教授帶領「智慧韌性水環境研究室」執行。該計畫鎖定大台北地區 600 萬人飲用水源—翡翠水庫集水區的坪林，面對環境保護與在地茶產業發展的拉鋸，臺科大團隊成功扮演關鍵橋樑角色，研發緩釋型低磷肥料與建置植生滯留槽（LID）設施，有效降低茶園逕流對水庫造成的磷污染負荷，每年平均減碳量達 500 公斤/公頃。 ...點擊看更多

The 7th Global Views Monthly University Social Responsibility (USR) Awards held its award ceremony on April 9. Taiwan Tech stood out among more than 200 competing projects, winning two major awards in one sweep. Associate Professor Chia-Chun Ho of the Department of Civil and Construction Engineering and his team received the Excellence Award in the Industry Co-Creation Category for their project “Clean Water, Fragrant Tea, Shared Prosperity: A Cross-Disciplinary Blueprint for Safeguarding the Sustainability of the Feitsui Reservoir”. Meanwhile, Professor Meng-Jiy Wang of the Department of Chemical Engineering and her team won the Merit Award in the Sustainable Curriculum Category for their “Engineers in Action”. These honors recognize Taiwan Tech’s long-term commitment to environmental sustainability and talent cultivation, and demonstrate how a leading university of technology can transform professional expertise into positive social impact. ...more

以大膽創意突破框架 臺科大鄭立楷二度摘 GBWC 鋼彈模型製作家世界冠軍

2026-04-27

Break the mold with bold creativity: Taiwan Tech’s Li-Kai Cheng wins Gundam Builders World Cup World Championship for the second time.



鋼彈動畫自問世以來風靡全球，從影視作品延伸到模型製作，漸漸發展出兼具工藝技術與個人創作的文化體系。對許多愛好者而言，鋼彈模型不只是收藏品，更是展現想像力與創造力的媒介，在這股風潮中，國立臺灣科技大學設計系二年級學生鄭立楷(haru)，從小受鋼彈動畫啟發投入模型製作與改裝，並曾於第 11 屆「GBWC 鋼彈模型製作家全球盃」U-20 組奪得世界冠軍，而今(2026)年他再度憑藉熱情與大膽前衛的創意，於第 13 屆的賽事中摘下同級別世界冠軍。鄭立楷自國小時期就特別喜愛《鋼彈創鬥者》動畫，當中角色自行製作、操控「鋼普拉」進行對戰的設定，成為他開始嘗試改裝模型、加入個性化元素的契機。從最初的興趣出發，他逐步進入模型製作的世界，並在國、高中階段開始動手製作零件、進行改裝與上色。鄭立楷說，早期他都是透過網路文章和影片進行自學，在資源尚不充足的情況下，許多基礎技法需仰賴自行摸索，每一個環節皆透過反覆嘗試、累積經驗。他表示，相較於單純學會既有技術，他更享受在過程中延伸出新的做法，例如思考如何讓製作更有效率、後續加工更便利，或是讓模型呈現更理想的效果，這樣不斷優化與調整的過程，是他持續投入的重要動力。...點擊看更多

Since its debut, the Gundam anime franchise has gained global popularity, evolving from screen productions into a model-making culture that blends craftsmanship with personal creativity. For many enthusiasts, Gundam models are not merely collectibles but a medium for expressing imagination and creativity. Among them is Li-kai Cheng (Haru), a sophomore in the Department of Design at Taiwan Tech. Inspired by Gundam anime from a young age, he has dedicated himself to model making and customization. He previously won the U-20 World Championship at the 11th Gundam Builders World Cup (GBWC), and in 2026, he once again claimed the world title in the same category at the 13th competition with his passion and bold, avant-garde creativity.Cheng developed a strong interest in the anime Gundam Build Fighters during elementary school. The concept of characters building and customizing their own “Gunpla” for battle inspired him to start modifying models and adding personal elements. Beginning as a hobby, he gradually entered the world of model making, and during junior and senior high school, he started crafting parts, modifying structures, and painting models himself. Cheng explained that he initially relied on online articles and videos for self-learning. ...more

臺科大與研揚科技深化合作 展現 Edge AI 產學研發成果

2026-04-24

Taiwan Tech and AAEON Technology Inc. deepen partnership and showcase Edge AI innovation result.

國立臺灣科技大學與研揚科技股份有限公司，於 115 年 3 月 18 日舉辦「產學合作研發成果展」，以「Edge AI and AI Applications」為主軸，展示雙方在 AI 與邊緣運算領域的關鍵研發成果與創新應用。本次成果展以「AI 導入企業內部提升工作效能」與「Edge AI 技術開發與應用」為核心亮點，透過技術成果導覽與專題發表，完整呈現多項具實務價值的創新方案，包括產品終檢站自動化平台、AI 瑕疵檢測系統，以及結合大型語言模型（LLM）的智慧文件分析應用與 AI 知識系統建置等，展現 AI 技術從研發到應用的整合能力，並有效回應產業對智慧製造與數位轉型的需求。在企業應用層面，雙方進一步分享 AI 於實務場域的導入成果，涵蓋 AI 輔助程式開發、AI 驅動系統管理、企業數據導向的 AI 轉型應用，以及低代碼 AI 工具實作等重點議題，具體



說明企業如何運用 AI 提升營運效率與決策品質。在產業實務應用層面，現場亦展示 BMC firmware、MIPI GMSL2 平台及 RICO-Q6490 平台等關鍵技術研發成果，體現軟硬體整合與 Edge AI 運算的技術深度。...點擊看更多

Taiwan Tech and AAEON Technology Inc. jointly held an “Industry - Academia Collaborative R&D Achievements Exhibition” on March 18, 2026, under the theme “Edge AI and AI Applications”. The exhibition showcased key research achievements and innovative applications developed through their collaboration in artificial intelligence and edge computing.The exhibition highlighted two main focuses: “Applying AI to Enhance Enterprise Operational Efficiency” and “Development and Application of Edge AI Technologies”. Through guided demonstrations and project presentations, a range of practical and innovative solutions were showcased, including an automated final product inspection platform, an AI-based defect detection system, and intelligent document analysis applications integrated with large language models (LLMs), as well as AI knowledge system development. These achievements demonstrated the integration of AI from research to real-world applications, effectively addressing industry demands for smart manufacturing and digital transformation. .....more

臺科大機械系友會拜會總統賴清德 提五大建言聚焦智慧製造與高值化轉型

Taiwan Tech Alumni from Department of Mechanical Engineering meet President Ching-te Lai, present five proposals on smart manufacturing and value-added transformation.

2026-04-23



國立臺灣科技大學機械系友會日前偕同校長顏家鈺、副校長王朝正、主任祕書郭俞麟、工程學院院長陳明志及產創學院副院長鄭逸琳，前往總統府拜會總統賴清德，針對機械產業發展提出多項政策建言，並就國內外經貿情勢與產業升級方向進行交流。此次會談聚焦產業發展議題，期望透過產學界的實務觀點，提供政府施政參考，強化臺灣產業整體競爭力。本次會談以五大主題為核心，包括「應對國際關稅與貿易壁壘」、「加速推動雙軸轉型」、「產業升級與國產化政策」、「匯率應具備彈性」以及「人才為均衡產業之關鍵」，從國際貿易環境、產業結構調整到人才培育等面向提出具體建議。與會代表指出，在全球供應鏈重組及地緣政治變動下，臺灣機械產業面臨新的挑戰與契機，需透過政策引導與資源整合，協助企業提升技術層次與市場布局能力，以因應國際競爭，提升經濟韌性。總統賴清德於會中分享他日前出席「國家智慧機器人研究中心」揭牌典禮的觀察，指出臺灣將以成為 AI 新時代中全球重要力量為目標，而台灣機械產業是國防自主與經濟發展的重要基石，不僅帶動台灣從「代工製造」邁向「高附加價值生產」，更是支撐製造業並連結科技產業的關鍵力量。...點擊看更多

The Alumni Association from Department of Mechanical Engineering at Taiwan Tech, together with President Jia-Yush Yen, Vice President Charles C.J. Wang, Secretary-General Yu-Lin Kuo, Dean of the College of Engineering Ming-Jyh Chern, and Associate Dean of the Industry-Academia Innovation College Yih-Lin Cheng, recently visited the Presidential Office to meet with President Ching-te Lai. During the meeting, they presented a series of policy recommendations on the development of Taiwan’s machinery industry and exchanged views on global economic and trade conditions as well as strategies for industrial upgrading. The discussion focused on industry development, aiming to provide the government with practical insights from academia and industry to strengthen Taiwan’s overall industrial competitiveness.The meeting centered on five key themes: addressing international tariffs and trade barriers; accelerating the dual-axis transformation; promoting industrial upgrading and localization policies; ensuring exchange rate flexibility; and recognizing talent as a key factor in balanced industrial development.....more

從 Doing 到 Being 臺科大校友張庭瑋推動森林療癒，引導現代人慢下來

From Doing to Being: Taiwan Tech Alumnus Ting-Wei Chang leads forest therapy movement to help people slow down.

2026-04-22

你有多久沒有真正「無所事事」了？在行程表被會議與待辦事項填滿、手機訊息不斷跳出的日常裡，現代人幾乎很難為自己保留一段純粹放鬆的時間。暫且不妨離開城市節奏，走進自然，來一場回歸身心的「森林療癒」。國立臺灣科技大學應用外語系校友張庭瑋，近年持續投入森林療癒推廣，是台灣首位美國 ANFT 認證森林療癒師。她鼓勵步調過於匆忙的現代人，透過「森呼吸，回初心」，重新與自己連結。張庭瑋指出，現代社會高度重視效率與產出，許多人長期處於「Doing」的狀態，卻忽略了「Being」的重要性。她認為，人並非必須透過不斷努力與表現，才能證明自身價值；適度停下腳步、覺察當下的狀態，同樣是一種必要的生活能力。她強調，「無所事事」並非消極或浪費時間，而是不預設立場地慢下來，讓自己與環境、尤其是自然，產生更深層的連結。在森林中，允許感受自然流動，而非急於抓住或控制，正如電腦需要重新開機，身心在調節後，才能恢復更好的運作狀態。...點擊看更多



When was the last time you were truly “doing nothing”? In a daily routine packed with meetings, to-do lists, and constant phone notifications, it has become increasingly difficult for modern people to reserve a moment of pure relaxation. Why not step away from the pace of city life, walk into nature, and experience a journey of “forest therapy” that reconnects the body and mind? Ting-Wei Chang, an alumna of the Department of Applied Foreign Languages at Taiwan Tech, has been actively promoting forest therapy in recent years. She is the first forest therapy guide in Taiwan certified by the U.S.-based Association of Nature and Forest Therapy (ANFT). She encourages those caught in a fast-paced lifestyle to “breathe with the forest and return to one’s original self”, reconnecting with who they truly are.Ting-Wei Chang points out that modern society places great emphasis on efficiency and productivity. Many people remain constantly in a state of “doing,” while neglecting the importance of “being”. She believes that individuals do not need to prove their worth solely through continuous effort and performance. Learning to pause and become aware of one’s current state is also an essential life skill. .....more

臺科大推性平教育 體驗學習倡多元尊重

2026-04-20

Taiwan Tech promotes gender equality education, advocates diversity and respect through experiential learning.



國立臺灣科技大學通識教育中心日前以「妝扮平等 美學無畏」為主題，舉辦 115 年性別平等教育日活動。在校園內設立多個攤位，分別以「教育區」、「體驗區」以及「互動區」，分享性別平等知識，呼應教育部今年「認識及尊重多元性別」主題，鼓勵以無畏的精神來展現自我獨特美學，落實「更多認識、不再歧視」的教育目標。教育部於 111 年正式訂定每年 4 月 20 日為「性別平等教育日」，深化校園性別平等教育、建立尊重多元性別特質的友善環境。臺科大通識教育中心石美芳老師藉由教育部補助「性別平等教育課程教學開發及推動計畫」，以「時代與妝扮美學」課程為核心，運用體驗式學習為媒介，讓抽象的性別平等理念與文字論述，轉化為具體的多元性別妝扮自我實踐經驗，藉由本次活動，希望讓課程學生進行社會實踐，並促進校園環境性平意識的對話與反思。臺科大學務長王惠君於活動開幕致詞時指出，從舊石器時代的人類遺跡中，已可見以魚骨、貝殼製成的飾品裝扮自身，顯示人類對美的追求既源於天性，亦是基本權利。她期盼大家能以本課程為起點，培養自信，在當代社會中自在展現自己所喜愛的樣貌。...點擊看更多

The Center for General Education at Taiwan Tech recently held a Gender Equality Education Day event under the theme “Fearless Aesthetics: Dressing for Equality.” Multiple booths were set up across campus, including a “Knowledge Zone”, “Experience Zone”, and “Interactive Zone”, to share concepts of gender equality. The event echoed the Ministry of Education’s annual theme, “Understanding and Respecting Gender Diversity”, encouraging individuals to express their unique aesthetics with confidence and without fear, while promoting the educational goal of “greater understanding, no more discrimination.”In 2022, the Ministry of Education officially designated April 20 each year as “Gender Equality Education Day” to deepen gender equality education on campus and foster an inclusive environment that respects diverse gender traits. .....more

臺科大男籃奪 UBA 二級冠軍 明年重返一級

2026-04-18

Taiwan Tech Men’s Basketball Team wins UBA Division II Championship, set to return to division I next year.



國立臺灣科技大學男籃隊於 4 月 17 日晚間，在臺北小巨蛋舉行的大專籃球運動聯賽（UBA）男二級冠亞軍戰中，以穩健攻守與團隊合作擊敗臺北市立大學，以 70 比 62，勇奪冠軍。不僅成功站上最高頒獎台，也確定於明年賽季重返男一級舞台，為球隊寫下重要里程碑。本場比賽在小巨蛋盛大舉行，面對場地規格與觀眾壓力帶來的挑戰，臺科大男籃展現高度專注與臨場穩定度，從開局便掌握節奏，在攻防兩端皆有亮眼表現，展現出成熟的比賽掌控能力，最終順利奪冠，為整季努力劃下完美句點。臺科大男籃教練李永祥表示，這座冠軍意義非凡，是球隊自民國 99 年由一般組升級至公開組後，首次摘下冠軍榮耀，具有指標性意義。他指出，小巨蛋的比賽環境對選手而言充滿干擾，但球員能在高壓氛圍下穩住節奏，顯示團隊長期累積的默契與心理素質。「贏球從來不是某一個人的功勞，而是整個團隊共同完成的成果。」他強調，「我們」才是這支球隊最重要的核心價值。 ...點擊看更多

On the evening of April 17th, the National Taiwan University of Science and Technology men's basketball team defeated University of Taipei 70-62 in the UBA Men's Division II championship game held at the Taipei Arena. The victory not only secured them the top podium finish but also confirmed their return to Division I next season, marking a significant milestone for the team.The game was held in Taipei Arena. Facing the challenges of the venue's specifications and the pressure from the audience, the Taiwan Tech men’s basketball team demonstrated high focus and composure, controlling the tempo from the outset. They took control of the rhythm from the start and had outstanding performances on both offense and defense, demonstrating mature game control ability. In the end, they won the championship and brought a perfect end to their hard work throughout the season. ...more

專業與服務並進 臺科大社會服務團、親善大使團奪全國社團評選雙獎

2026-04-16

Taiwan Tech Teams win dual national awards for service excellence.



教育部日前主辦「全國大專校院學生社團評選暨觀摩活動」，吸引 116 所大專院校、共 225 個學生社團參與，國立臺灣科技大學社會服務團榮獲最高榮譽「特優獎」，國際親善大使團則獲得「甲等獎」，創下校內單屆兩個社團同時獲獎的紀錄。社會服務團長期投入偏鄉服務，逐步發展出結合技職專業與社會關懷的運作模式，在寒暑假期間深入教育優先區國小舉辦「兒童育樂營隊」，將「免費電器維修」服務與「用電安全」理念向下扎根，形成兼具專業與人文溫度的獨特服務模式。社會服務團社長鄭詠華表示，團隊除了在與學童互動的過程中融入用電知識，也會進入社區活動中心提供免費家電修繕服務，「我們不只是幫忙把東西修好，更重要的是在過程中教導正確的用電觀念，從源頭解決問題，讓電器能用得更久、更安全。」在實際服務中，團隊觀察到部分長者對用電安全與電器保養較為陌生，因此在修繕時加強宣導，並將相關知識融入營隊課程中，讓學童能將觀念帶回家庭，形成跨世代的延伸效果。...點擊看更多

The Ministry of Education recently organized the “National Collegiate Student Club Evaluation and Exhibition”, attracting participation from 225 student clubs across 116 universities and colleges. The Social Service Corporation of Taiwan Tech received the highest honor, the “Outstanding Award”, while the International Goodwill Ambassador Club earned the “First Prize”, setting a record for the university with two clubs winning awards in the same year.The Social Service Corporation has long been committed to serving rural and underprivileged areas, gradually developing an operational model that integrates technical and vocational expertise with social care. During winter and summer breaks, the club organizes “Children’s Enrichment Camps” in priority education zone elementary schools, incorporating both “free electrical appliance repair” services and “electricity safety” education. This approach has formed a unique service model that combines professional expertise with humanistic care. ...more.

臺科大電機團隊結合 MR 導航 提升髖關節手術精準度

2026-04-13

Taiwan Tech enhances hip surgery precision with mixed reality navigation.



國立臺灣科技大學電機工程系謝易錚教授帶領研究團隊，結合混合實境（Mixed Reality, MR）技術，透過頭戴式裝置將病患骨骼 3D 影像即時疊加於醫師手術視野中，可協助判斷人工髖關節植入的位置與角度。謝易錚教授表示，系統的研發源於臨床需求。傳統人工髖關節置換手術高度仰賴醫師經驗判斷，而現有高精度導航設備或機械手臂系統成本昂貴，因此團隊與臨床醫師合作導入 MR 技術，發展更直覺且更具效益的手術輔助方案。謝易錚教授指出，透過 MR 技術，醫師在手術過程中無須頻繁查看外部螢幕，而能在同一視野中即時掌握關鍵資訊，達到「眼到手到」的直覺操作。系統可即時顯示植入物的傾斜角與前傾角，有助降低手術誤差，同時減少對額外影像檢查的依賴，在提升手術精準度的同時降低輻射風險。在系統開發過程中，團隊也面臨多項技術挑戰，包括如何在動態且高干擾的手術環境中維持影像定位精準度，以及如何將醫學影像資料轉換為可即時計算的演算法。博士班學生、團隊隊長鄒承儴表示，目前系統主要透過人體骨骼模型（sawbone）進行模擬測試，並依照實際手術流程進行驗證。團隊會在模型上模擬完整手術步驟，並透過光學量測平台分析定位誤差，以確保系統精準度符合臨床需求。...點擊看更多

Professor Yi-Zeng Hsieh from the Department of Electrical Engineering at Taiwan Tech leads a research team that integrates Mixed Reality (MR) technology. Using head-mounted devices, the system overlays patients’ 3D bone images in real time onto the surgeon’s field of view, assisting in determining the optimal position and angle for hip implant placement.Professor Yi-Zeng Hsieh noted that the system was developed in response to clinical needs. Traditional hip replacement surgery relies heavily on surgeons’ experience, while existing high-precision navigation or robotic systems are costly. Therefore, the team collaborated with clinical physicians to introduce MR technology and develop a more intuitive and cost-effective surgical assistance solution. ...more.

臺科大攜手 UC Irvine 打造 36 小時 EMI 教師培訓 28 校教師實戰演練強化教學力

2026-04-09

Taiwan Tech and UC Irvine launch 36-hour EMI Teacher Training Program for lecturers from 28 universities.

隨著全英語授課(EMI)逐漸成為高等教育轉型的重要核心，國立臺灣科技大學雙語教育推動辦公室與 EMI 教學資源中心再度攜手加州大學爾灣分校(UC Irvine)，集結來自 UC Irvine 管理、人文、生物及工程等領域的跨學科教學團隊，並與臺科大教師共同規劃為期一週、總時數達 36 小時的「EMI 教師專業發展培訓」課程。本次培訓規模再升級，透過跨國教學合作與實務導向訓練，全面提升臺灣大專校院教師的全英語授課能力，吸引全臺 28 所大專院校、共 113 人次參與。「EMI 教師專業發展培訓」延續 2025 年臺科大赴美交流所奠定的合作基礎，進一步深化雙方在教學與研究上的夥伴關係。臺科大雙語教育推動辦公室執行長洪紹挺表示，「此次培訓不僅是經驗引進，更是校際合作的深化。」透過與國際頂尖團隊對話，教師能將全英語授課的啟發轉化為實踐，為雙方未來的教學資源共享與跨國研究奠定堅實基礎。...點擊看更多



As English-medium instruction (EMI) gradually becomes a central pillar in the transformation of higher education, the Office of Bilingual Education Initiatives and the EMI Teaching and Learning Center at Taiwan Tech have once again partnered with University of California, Irvine (UC Irvine). Bringing together an interdisciplinary teaching team from UC Irvine spanning management, humanities, biology, and engineering, and working collaboratively with Taiwan Tech faculty, they jointly designed a one-week “EMI Teacher Professional Development Program” totaling 36 hours. This year’s program has been further expanded in scale. Through international teaching collaboration and practice-oriented training, it comprehensively enhances EMI teaching capabilities among faculty in Taiwan’s higher education institutions, attracting 113 participants from 28 universities and colleges across Taiwan. …more.

技職力化為影響力　臺科大蕃薯球志工隊展成果

2026-04-08

From Technical Skills into Social Impact: Taiwan Tech Sweet Potato Ball Volunteer Team presents achievements.



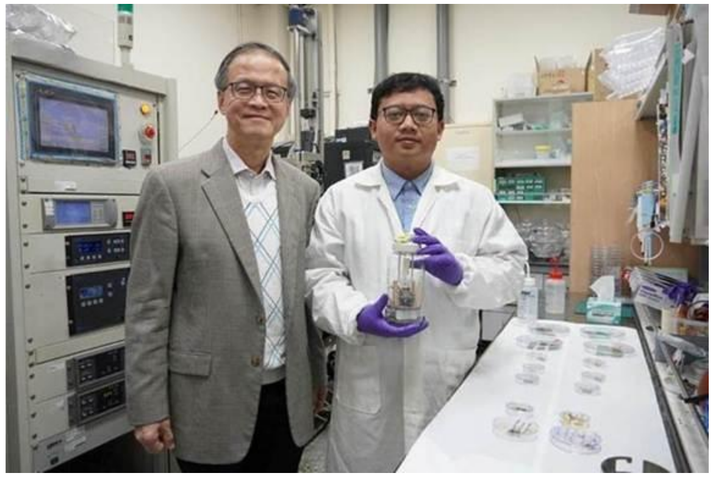
由臺科大應用科技學士學位學程技優專班學生組成的「蕃薯球志工隊」，憑藉技能競賽累積的實作專長，近年持續走入偏鄉與在地社區，透過創客課程推動科技教育，實踐大學社會責任（USR）。志工隊將於 2026 年 4 月 11 日（六）上午 11 時，在台北萬華剝皮寮歷史街區演藝廳舉辦發表會，4 月 10 日至 12 日連續三天則將開放展覽及免費體驗課程，包括 3D 列印筆實作、帆布袋燙印及雷射切割文創小物等，讓民眾參與理解技職教育與創客學習跨域整合的實用價值，呈現技優青年將專業技能轉化為公共影響力的具體成果。歡迎大家前來看展及體驗！「蕃薯球志工隊」以「創客魂偏鄉行」為核心理念，成員皆為全國技能競賽獲獎選手，專長涵蓋機械工程、室內配線及電資技術，致力將 STEAM 創客教育、3D 列印與數位科技導入偏鄉，落實科技平權。自 2023 年起，團隊已深入新北、苗栗、新竹、彰化、南投、宜蘭與花蓮等 7 縣市，辦理 22 場客製化課程，累計出勤 96 人次，服務逾 510 位民眾。透過手把手教學，引導在地居民運用 3D 列印與雷射雕刻製作兼具實用與地方特色的作品，推展科普教育並深化社區連結。…點擊看更多

The “Sweet Potato Ball Volunteer Team,” formed by students from the Bachelor Degree Program of Applied Science and Technology (Elite Skills Class) at Taiwan Tech, has leveraged the hands-on expertise gained through national skills competitions to actively engage in rural and local communities in recent years. Through maker education initiatives, the team promotes technology learning while fulfilling University Social Responsibility (USR). The team will hold a public presentation on April 11, 2026 (Saturday) at 11:00 AM at the Performance Hall of Bopiliao Historic Block. From April 10 to 12, a three-day exhibition and free hands-on workshops will also be open to the public. Activities include 3D printing pen creation, heat-transfer canvas bag design, and laser-cut cultural and creative products. These experiences allow visitors to better understand the practical value of integrating technical-vocational education with maker learning across disciplines, showcasing how skilled youth transform professional expertise into meaningful social impact. The public is warmly invited to attend and participate. . …more.

臺科大攜手臺大開發自供電水質監測系統 偵測重金屬、殺菌一次搞定

2026-04-07

Taiwan Tech and NTU develop self-powered all-in-one system for heavy metal detection and water sterilization.



乾淨且安全的水資源是全球永續發展的重要基礎，但隨著工業化與都市化持續擴張，水污染問題日益受到關注。國立臺灣科技大學材料系朱瑾教授研究團隊，攜手國立臺灣大學醫工系林宗宏教授團隊開發出「液固摩擦奈米感測器」，可在不依賴外部電源的情況下，同步完成重金屬、細菌偵測與水質淨化等工作，研究成果已刊登於國際高影響力期刊《Advanced Functional Materials》(Impact factor: 19.0)，為智慧化水質監測提供新的技術方向。「液固摩擦奈米感測器」整合兩校材料工程與生醫感測兩大領域的研究優勢，林宗宏教授團隊長期投入智慧生醫材料與自驅動化學感測器的開發，在遠端智慧監控平台與生醫應用方面具備成熟的技術；朱瑾教授團隊則專注金屬奈米管陣列結構與表面處理能力，研發高功能奈米材料，透過兩校團隊的技術整合，成功打造出兼具「污染物偵測」與「水質處理」能力的自供電水質監測系統。在材料設計方面，臺科大團隊以鎳、鎢與鎳(Ni-W-Ni)組成的金屬奈米管為核心，當水滴在奈米管表面滾動時，水滴與奈米管結構之間的接觸與分離會產生摩擦電，系統將這些電荷集轉換為電能，進而驅動感測與殺菌。…點擊看更多

Clean and safe water resources are fundamental to global sustainable development. However, with the continued expansion of industrialization and urbanization, water pollution has become an increasingly critical concern. A research team led by Professor Jinn Chu from the Department of Materials Science and Engineering at Taiwan Tech, in collaboration with Professor Zong-Hong Lin from the Department of Biomedical Engineering at National Taiwan University, has developed a liquid - solid triboelectric nanosensor. This innovative system can simultaneously detect heavy metals and bacteria while purifying water without relying on an external power source. The findings have been published in the high-impact international journal Advanced Functional Materials (Impact Factor: 19.0), offering a new technological direction for intelligent water quality monitoring. The liquid–solid triboelectric nanosensor integrates the research strengths of both universities in materials engineering and biomedical sensing.. …more.