



吳登強教授

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高雄醫學大學特聘教授吳登強長期致力於幽門螺旋桿菌（*Helicobacter pylori*）及腸道微生物生態的臨床與轉譯研究，是該領域的領軍學者。他的研究橫跨基礎與臨床，聚焦於幽門螺旋桿菌感染、抗藥性、免疫調控及微生物群落的交互作用，推動台灣在精準醫療與腸道健康研究的國際能見度。

吳教授團隊首先揭示幽門螺旋桿菌如何透過毒力因子（如 CagA 與 VacA）導致胃炎、胃潰瘍及胃癌前病變，為亞洲胃癌防治政策提供重要依據（Lancet Oncology, 2025）。團隊也針對抗生素抗藥性提出創新策略，成功建立抗藥菌株基因資料庫，並推動「高劑量雙合併療法」與「鉍劑四合併療法」的臨床應用（Am J Gastroenterol, 2025）。

在微生物生態領域，吳教授帶領跨國合作團隊探討腸道菌與心血管疾病的關聯，發現能產生 β -羥基丁酸的菌株可改善心肌梗塞後心臟功能（Nature Communications, 2023），揭示腸道代謝物在全身健康中的新角色。

目前他擔任國科會「微生物相在精準健康之研發及應用」計畫召集人，以及衛福部再生醫學諮議小組召集人，並與史丹佛、慶應義塾、密西根、南洋理工及新加坡大學等國際團隊合作，推動微生物醫學與再生醫療的整合應用。其研究不僅深化了對感染與免疫的理解，更為疾病預防與臨床治療開啟新方向。

**【具體成果】**● **學術成就****2025 Publication List**

1. Kuo WH, Kawade SK, Adak AK, Juang DS, Liu CJ, Wang YK, Hsu WH, Kao CL, **Wu DC***, Lin CC*. Improved serum biomarker detection via self-clickable Cu₂O nanoparticle-coated Ag slides with oriented and stable antibody presentation on antifouling surfaces. *Biosens Bioelectron.* 2025 Nov 1;287:117710
2. Hsu PI, Yamaoka Y, Chuah SK, **Wu DC***. Future direction of *Helicobacter pylori* infection treatment. *Lancet.* 2025 Jul 19;406(10500):232.
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4. Huang KH#, Tai WC#, Tsay FW, Hsu PI, **Wu DC**, Loke SS, Yao CC, Chuah SK, Liang CM*. Efficacy and safety of ten-day bismuth quadruple therapy for first-line anti-*Helicobacter pylori* infection in the elderly- A multicenter real-world report. *J Microbiol Immunol Infect.* 2025 Jul 2:S1684-1182(25)00131-8.
5. Hsu PI#, Chen CL, Shih CA*, Chen KY, Tai WC#, Chuah SK, Lee CL, Tsay FW, Yang JC, Lei WY, Kuo CH, Shie CB, Lee HC, Yamaoka Y, Graham DY, **Wu DC***; Taiwan Acid-related Disease and Microbiota (TARD-M) Consortium. Vonoprazan High-Dose Dual, Vonoprazan Triple, and Rabeprazole Reverse Hybrid Therapies for First-Line Treatment of *Helicobacter pylori* Infection: A Multicenter Randomized Trial. *Am J Gastroenterol.* 2025 Jun 16
6. Hsu YW, Su H, **Wu DC**, Lee CW, Hung SJ*, Shiea J*. Investigation of potential biomarkers for psoriasis in skin with matrix-assisted laser desorption/ionization time-of-flight mass spectrometry and ambient ionization mass spectrometry. *J Mass Spectrom Adv Clin Lab.* 2025 Apr 17;36:52-62.
7. Tseng CH#, Wong S#, Yu J, Lee YY, Terauchi J, Lai HC, Luo JC, Kao CY, Yu SL, Liou JM, **Wu DC**, Hou MC, Wu MS, Wu JJ, Sung JJY*, El-Omar EM*, Wu



- CY*. Development of live biotherapeutic products: a position statement of Asia-Pacific Microbiota Consortium. *Gut*. 2025 Apr 7;74(5):706-713.
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 11. Shih CA, **Wu DC**, Shie CB*, Hsu PI*. Dual Therapies Containing an Antibiotic Plus a Proton Pump Inhibitor or Vonoprazan for *Helicobacter pylori* Infection: A Systematic Review. *Microorganisms*. 2025 Mar 21;13(4):715. Review
 12. Tsai HY, Tsai KJ, **Wu DC**, Huang YB*, Lin MW*. Transplantation of gastric epithelial mitochondria into human gastric cancer cells inhibits tumor growth and enhances chemosensitivity by reducing cancer stemness and modulating gastric cancer metabolism. *Stem Cell Res Ther*. 2025 Feb 23;16(1):87.
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 14. Lin WC, Lin CC, Hsu WH, Chiang FF, Chang CW, Hsu TC, **Wu DC**, Wang HY, Wong JM, Wei SC. Short-term and long-term outcomes of acute severe ulcerative colitis in Taiwan: a multicenter study with pre- and post-biologics comparison. *Intest Res*. 2025 Jan 24.



【研究團隊】

團隊成員：吳登強，郭昭宏，吳政毅，余方榮，謝清河，許秉毅，蔡成枝，許文鴻

團隊簡介：

特色與成就

1. 聚焦幽門螺旋桿菌與消化道疾病的關聯性

幽門螺旋桿菌感染是全球最常見的細菌感染之一，影響約 50% 的人口，世界衛生組織（WHO）更將其列為 I 類致癌因子，目前胃癌位居人類十大癌症第八名，主要成因與幽門螺旋桿菌息息相關。這種細菌憑藉其獨特的構造與生理代謝機制，可在胃部環境中自由生存，並改變胃內環境，導致胃炎、胃潰瘍，甚至胃癌等病症。高醫胃腸內科吳登強教授領導的研究團隊深入分析臺灣各地（北、中、南、東）病患的幽門螺旋桿菌抗藥情況，成功提昇菌株培養率從 50% 至 88%，使臨床醫學從傳統的治療模式轉向精準醫療與個人化治療的方向，通過抗藥性分析與創新治療策略成功提升患者的治療成功率。

2. 潰瘍性結腸炎與克隆氏症患者探索新療法

隨著現代生活壓力與免疫相關疾病的增加，潰瘍性結腸炎與克隆氏症患者人數不斷上升。針對這類患者，本研究團隊與中研院及國衛院合作，致力於開發更高效的新型生物製劑，以改善患者的生活品質。

3. 預防醫學與微生物群分析

預防醫學研究也是團隊的重要發展方向之一，尤其是以菌群分析為核心的非侵入性檢測技術。透過檢測口水、牙垢與糞便中的菌群組成，分析好菌與壞菌的平衡狀態，為患者提供健康管理建議，讓更多人得以維持健康、提升生活品質。

4. 跨界合作，啟迪未來

團隊堅信，每一項研究都承載著改善患者生活、延續健康希望的使命。我們的初衷在於透過不懈探索疾病本質，突破診療瓶頸，推動醫學進步，讓更多人因科學的力量而受益。無分院別與國界，持續與國內外專家合作，致力於以科學創新並造福人群、啟迪未來。

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Professor Deng-Chyang Wu, Distinguished Professor of Kaohsiung Medical University and gastroenterologist at KMUH, is a leading expert in *Helicobacter pylori* and gut microbiota research. His multidisciplinary studies bridge molecular mechanisms with clinical practice, focusing on infection, antibiotic resistance, immune modulation, and microbiome interactions, paving the way for precision and personalized medicine in gastroenterology.

Professor Wu's team elucidated how *H. pylori* virulence factors such as CagA and VacA drive gastritis, ulcer formation, and precancerous lesions, providing crucial evidence for gastric cancer prevention policies in Asia (*Lancet Oncology*, 2025). They further developed innovative treatment strategies for antibiotic-resistant strains and introduced new regimens like high-dose dual and bismuth quadruple therapies with enhanced eradication rates (*American Journal of Gastroenterology*, 2025).

Beyond infection, his team revealed that β -hydroxybutyrate-producing gut bacteria significantly improve cardiac recovery after myocardial infarction, highlighting a novel gut-heart axis (*Nature Communications*, 2023).

Currently serving as the Convener of the NSTC Project on Microbiota and Precision Health and Chair of the MOHW Regenerative Medicine Advisory Committee, Professor Wu collaborates with Stanford, Keio, Michigan, NTU, and NUS to integrate microbiome science with regenerative medicine. His work not only deepens understanding of host-microbe interactions but also drives innovation in disease prevention and clinical therapy.

**【Concrete Results】**● **Academic Achievements****2025 publication List**

1. Kuo WH, Kawade SK, Adak AK, Juang DS, Liu CJ, Wang YK, Hsu WH, Kao CL, **Wu DC***, Lin CC*. Improved serum biomarker detection via self-clickable Cu₂O nanoparticle-coated Ag slides with oriented and stable antibody presentation on antifouling surfaces. *Biosens Bioelectron.* 2025 Nov 1;287:117710
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