113年度國家衛生研究院論壇・遠距醫療國際研討會

遠距醫療的未來：醫學教育

The Future of Telehealth : Medical Education

9月29日 星期日 | 國立陽明交通大學 陽明校區 活動中心表演廳

大會手冊

主辦單位 | 國家衛生研究院 | 國立陽明交通大學 NATIONAL YANG MING CHIAO TUNG UNIVERSITY | 臺北醫學大學 TAIPEI MEDICAL UNIVERSITY

協辦單位 | 臺北榮民總醫院教學部及醫療創新中心 | 台北市醫師公會

校長的話：

國立陽明交通大學 林奇宏校長

大家好！

今天，我們齊聚一堂，共同探討「遠距醫療的未來」這一關鍵議題。我謹代表**國立陽明交通大學**，對各位的到來表示最誠摯的歡迎和感謝。遠距醫療不僅是大學的重要使命，更是全球醫療教育和產業發展中一個至關重要的挑戰。在這個數位化與科技飛速發展的時代，醫療產業正經歷著深刻的變革，通訊技術正打破地域限制，創造出全新的醫療模式和教育方式。

近年來，隨著人工智慧和其他先進技術的廣泛應用，醫療領域面臨著諸多新的機遇與挑戰。陽明交大一向致力於培養具備跨領域專業知識的人才，我們深信，未來的醫療專業人員不僅需要扎實的醫學知識，還必須能靈活運用科技工具，並具備應對法律、倫理等複雜挑戰的能力。在這次研討會中，我們希望進一步推動這一目標，探索如何在現代通訊技術的支持下，創新地培育未來的醫療人才。

我要特別感謝主辦單位國家衛生研究院、台北醫學大學，以及臺北榮總與台北市醫師公會的協辦，還有在座所有貴賓的積極參與。

在接下來的活動中，我們將深入探討以下四個主要議題：

1. **創新人才培育：跨域攜手**
2. **工具創新應用：未來發展**
3. **法政及政策面**
4. **新時代醫學教育的契機與挑戰**

我們期待透過本次論壇的深入討論，能夠為醫療領域帶來更多的創新與發展。

最後，我再次感謝所有支持和參與本次研討會的單位和個人，正是有賴於你們的支持，這次研討會才能圓滿舉行。希望大家在這裡度過一段充實而愉快的時光，並能帶著豐碩的成果和美好的回憶滿載而歸。

預祝本次研討會圓滿成功！謝謝大家！

遠距醫療國際研討會

International Conference on Telehealth

遠距醫療的未來：醫學教育

The Future of Telehealth: Medical Education

日期：2024 年 9 月 29 日 (星期日) 8:00-17:20

地點：國立陽明交通大學陽明校區活動中心表演廳、各會議室及廣場、守仁樓 103、104 教室、膺才廳

主辦單位：國家衛生研究院、國立陽明交通大學、臺北醫學大學

協辦單位：臺北榮民總醫院教學部及醫療創新中心、台北市醫師公會

主　　席：吳成文總召集人

籌備委員：張仲明副總召集人、許惠恒副總召集人、林奇宏校長、陳瑞杰董事長、吳麥斯校長、陳炯東前執行長

研討會網址：https://www.nhritelehealth.com/

論文投稿：https://www.nhritelehealth.com/%E5%BE%B5%E7%A8%BF%E8%A6%8F%E6%A0%BC

學分認證：

公務人員終身學習時數、中華民國醫師公會全國聯合會、台灣護理學會、中華民國醫事檢驗師公會全國聯合會、中華民國醫事放射學會、中華民國藥師公會全國聯合會、社團法人臺灣職能治療學會、社團法人臺灣物理治療學會、台灣聽力語言學會。

【研討會節目表 Conference Program】

Time	Topic	
07:40-08:00	報到 Registration	
08:00-08:05	**Group Photo Taking**	
08:05-08:40	開幕致詞 Opening Remarks	● 吳成文總召集人 國家衛生研究院論壇 (許惠恒副總召集人代理) Cheng-Wen Wu, Chairman, Forum, National Health Research Institutes ● 劉越萍司長 衛生福利部醫事司 Yueh-Ping Liu, Director-General, Department of Medical Affairs, Ministry of Health and Welfare ● 林奇宏校長 國立陽明交通大學 Chi-Hung Lin, President, National Yang Ming Chiao Tung University ● 王署君副院長 臺北榮民總醫院 Shuu-Jiun Wang, Vice Superintendent, Taipei Veterans General Hospital ● 司徒惠康院長 國家衛生研究院 Huey-Kang Sytwu, President, National Health Research Institutes

Session 1：創新人才培育：跨域攜手 Innovative Talent Development: Interdisciplinary Collaboration

Time	Topic	Speaker	Moderator
08:40-09:00	遠距醫療的未來：醫學教育 Education & Training for Future Medicine	林奇宏校長 國立陽明交通大學 Chi-Hung Lin President, National Yang Ming Chiao Tung University	Moderator1：司徒惠康院長 國家衛生研究院 Huey-Kang Sytwu President, National Health Research Institutes Moderator 2：吳麥斯校長 臺北醫學大學 Mai-Szu Wu President, Taipei Medical University
09:00-09:20	文科大學實驗平台開發 - 以國立政治大學為例 Developing an Experimental Platform for a Liberal Art University – Taking NCCU as an Example	李蔡彥校長 國立政治大學 Tsai-Yen Li President, National Chengchi University	Moderator 1：陳瑞杰董事長 臺北醫學大學 Ray-Jade Chen Chairman, Taipei Medical University Moderator 2：林奇宏校長 國立陽明交通大學 Chi-Hung Lin President, National Yang Ming Chiao Tung University
09:20-09:30	Discussion 林奇宏校長 國立陽明交通大學 Chi-Hung Lin, President, National Yang Ming Chiao Tung University		

09:30-10:00	通訊醫療與健康人文 Telehealth and Healthcare Humanities	Kirsten Ostherr Director, Medical Humanities Research Institute and Medical Futures Lab, Rice University	Moderator 1：林奇宏校長 國立陽明交通大學 Chi-Hung Lin President, National Yang Ming Chiao Tung University Moderator 2：王署君院長 國立陽明交通大學醫學院 Shuu-Jiun Wang Dean, College of Medicine, National Yang Ming Chiao Tung University
10:00-10:30	面對通訊醫療新趨勢，創新人才培育經驗分享 Facing New Trends in Telehealth: Sharing Experiences in Innovative Talent Development	蔡天堯主任 天主教輔仁大學附設醫院 遠距醫療中心 Tien-Yao Tsai Director, Telehealth Center, Fu Jen Catholic University Hospital	陳炯東前執行長 國家衛生研究院論壇 Chiung-Tong Chen Former Executive Director, Forum, National Health Research Institutes
10:30-10:40	Discussion 王署君院長 國立陽明交通大學醫學院 Shuu-Jiun Wang, Dean, College of Medicine, National Yang Ming Chiao Tung University		
10:40-10:50	**Coffee Break**		
Session 2：工具創新應用：未來發展 Tool Innovation and Application: Future Development			
Time	**Topic**	**Speaker**	**Moderator**
10:50-11:10	多元醫學教育科技的優勢與挑戰 Advantages and Challenges of Multi-Medical Education Technologies	楊盈盈副系主任 國立陽明交通大學醫學院醫學系 Ying-Ying Yang Associate Director, School of Medicine, College of Medicine, National Yang Ming Chiao Tung University	王署君院長 國立陽明交通大學醫學院 Shuu-Jiun Wang Dean, College of Medicine, National Yang Ming Chiao Tung University
11:10-11:30	從陽明交大醫師工程師組看遠距醫療未來於醫學教育的發展 The Future of Telemedicine in Medical Education: Insights from the NYCU Physician-Engineer Program	楊智傑系主任 國立陽明交通大學醫學院醫學系 Chih-Chieh Yang Director, School of Medicine, College of Medicine, National Yang Ming Chiao Tung University	凌憬峯副院長 國立陽明交通大學醫學院 Jiing-Feng Lirng Vice Dean, College of Medicine, National Yang Ming Chiao Tung University

11:30-12:00	未來遠距醫療的潛在限制：危機與轉機 The Potential Limitations of Telehealth in the Future: Risks and Opportunities	與談者 1：吳懿哲前系主任 馬偕醫學院醫學系 Yih-Jer Wu Former Chair, Department of Medicine, Mackay Medical College 與談者 2：查岱龍執行長 TMAC 暨國家衛生研究院癌症研究所所長 Tai-Lung Cha CEO, TMAC; Director, National Institute of Cancer Research, National Health Research Institutes	Moderator 1：鄭子豪副校長 國立陽明交通大學 Tzu-Hao Cheng Vice President, National Yang Ming Chiao Tung University Moderator 2：洪冠予副校長 臺北醫學大學 Kuan-Yu Hung Executive Vice President, Taipei Medical University
12:00-12:20	Discussion 鄭子豪副校長 國立陽明交通大學 Tzu-Hao Cheng, Vice President, National Yang Ming Chiao Tung University		
12:20-13:30	**Lunch Break**		
	Poster 海報觀摩及評選 & 活動中心展覽區瀏覽 A: 陳守正總經理 台灣微軟公司公共業務事業群 Danny Chen, General Manager of Public Sector, Microsoft Taiwan B: 潘明憲總監 中華電信智慧醫療 Ming-Hsien Pan, Director, Smart Healthcare Team, Chunghwa Telecom C: 李家茵資深業務經理 研華科技 Anita Lee, Senior Business Manager, Intelligent Healthcare, Advantech D: 楊盈盈主任/李重賓主任 臺北榮民總醫院教學部醫療創新團隊 Ying-Ying Yang, Department Director / Chung-Pin Li, Director, Department of Medical Education and Clinical Innovation Center, Taipei Veterans General Hospital E: 黃育綸副教務長/許豐益博士 國立陽明交通大學創創工坊 Yu-Lun Huang, Deputy Dean / Dr. Feng-Yi Hsu, Innovative Creative Technology, National Yang Ming Chiao Tung University		

Session 3：法政及政策面 Legal and Policy Aspects			
Time	**Topic**	**Speaker**	**Moderator**
13:30-14:00	臨床實務中遠距醫療的法律和道德挑戰 Legal & Ethical Challenges for Telemedicine in Clinical Practice	Barry Solaiman Assistant Professor, College of Law, Hamad Bin Khalifa University, Qatar	陳錡雄院長 國立陽明交通大學科技法律學院 Chih-Hsiung Chen Dean, School of Law, National Yang Ming Chiao Tung University
14:00-14:30	智慧醫療與遠距醫療規劃與發展 Smart Healthcare and Telehealth Planning and Development	劉越萍司長 衛生福利部醫事司 Yueh-Ping Liu Director-General, Department of Medical Affairs, Ministry of Health and Welfare	張仲明副總召集人 國家衛生研究院論壇 Chung-Ming Chang Vice Chairman, Forum, National Health Research Institutes
14:30-15:00	資源匱乏地區醫療衛生改善策略：資訊通信技術與服務創新的「安心雲林」數位健康網絡 The Amelioration Strategies for the Healthcare in Low-resourced Areas: The “Safe-Yunlin” Digital Health Network with Information Communication Technology and Service Innovation	馬惠明院長 國立臺灣大學醫學院附設醫院雲林分院 Huei-Ming Ma Superintendent, National Taiwan University Hospital Yunlin Branch	Moderator 1：洪德仁理事長 台北市醫師公會 Te-Jen Hung Chairman, Taipei Medical Association Moderator 2：陳錡雄院長 國立陽明交通大學科技法律學院 Chih-Hsiung Chen Dean, School of Law, National Yang Ming Chiao Tung University
15:00-15:20	Discussion 洪德仁理事長 台北市醫師公會 Te-Jen Hung, Chairman, Taipei Medical Association		
15:20-15:40	**Coffee Break**		

<table>
<tr><th colspan="4">Session 4：新時代醫學教育的契機與挑戰
Opportunities and Challenges in Medical Education for the New Era</th></tr>
<tr><th>Time</th><th>Topic</th><th>Speaker</th><th>Moderator</th></tr>
<tr><td>15:40-16:00</td><td rowspan="2">科技輔助醫療時代下的醫學教育
Medical Education in the Era of Technologies Assisted Healthcare</td><td>楊志偉秘書長 台灣醫學教育學會暨國立臺灣大學醫學院附設醫院教學部副主任
Chih-Wei Yang
Secretary General, TAME ; Vice Director, Department of Medical Education, National Taiwan University Hospital</td><td rowspan="2">Moderator 1：張仲明副總召集人
國家衛生研究院論壇
Chung-Ming Chang
Vice Chairman, Forum, National Health Research Institutes

Moderator 2：許惠恒副總召集人
國家衛生研究院論壇
Huey-Herng Sheu
Vice Chairman, Forum, National Health Research Institutes

Moderator 3：呂正華署長
數位發展部數位產業署
Jang-Hwa Leu
Director General, Administration for Digital Industries, Ministry of Digital Affairs</td></tr>
<tr><td>16:00-16:30</td><td>與談者 1：楊志偉秘書長 台灣醫學教育學會暨國立臺灣大學醫學院附設醫院教學部副主任
Chih-Wei Yang
Secretary General, TAME ; Vice Director, Department of Medical Education, National Taiwan University Hospital

與談者 2：倪衍玄院長 國立臺灣大學醫學院
Yen-Hsuan Ni
Dean, College of Medicine, National Taiwan University

與談者 3：蔡明哲院長 中山醫學大學附設醫院
Ming-Che Tsai
Superintendent, Chung Shan Medical University Hospital

與談者 4：沈延盛院長 國立成功大學醫學院
Yan-Shen Shan
Dean, College of Medicine National Cheng Kung University</td></tr>
<tr><td>16:30-16:50</td><td colspan="3">Discussion
張仲明副總召集人 國家衛生研究院論壇
Chung-Ming Chang, Vice Chairman, Forum, National Health Research Institutes</td></tr>
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16:50-17:20	論文獲獎人頒獎典禮暨閉幕致詞 Poster Award Ceremony & Closing Remarks	● 許惠恒副總召集人 國家衛生研究院論壇 Huey-Herng Sheu Vice Chairman, Forum, National Health Research Institutes ● 呂正華署長 數位發展部數位產業署 Jang-Hwa Leu Director General, Administration for Digital Industries, Ministry of Digital Affairs ● 林奇宏校長 國立陽明交通大學 Chi-Hung Lin President, National Yang Ming Chiao Tung University

晚宴 Banquet		
Time	**Topic**	**Location**
18:30~	晚宴 Banquet (受邀者 By Invitation)	**布查花園餐廳** L'escargots French Cuisine
聯絡人：楊盈盈副系主任 / 國立陽明交通大學醫學院醫學系 Ying-Ying Yang Associate Director, School of Medicine, College of Medicine, National Yang Ming Chiao Tung University phone:0938-651-288		

遠距醫療國際研討會

International Conference on Telehealth

遠距醫療的未來：醫學教育

The Future of Telehealth: Medical Education

日期：2024 年 9 月 29 日 (星期日) 14:30-16:30

地點：國立陽明交通大學陽明校區活動中心-會議室

【工作坊節目表 Workshop Program】

Time		Topic	Speaker	Moderator
14:30-16:30 陽明交通大學守仁樓 膺才廳	120 分鐘	Workshop 1 生成式 AI 在通訊醫療與醫學教育的運用 The Application of Generative AI in Telehealth and Medical Education	張庭榕總監 HTC 醫學 VR Lewis Chang Head, Medical VR, HTC 曾馨瑩專家 HTC 醫學 VR Hsin-Ying Tseng Pr. Specialist, Medical VR, HTC 陳俊宇工程師 HTC 醫學 VR Jimmy Chen Pr. Engineer, Medical VR, HTC	Moderator 1：陳芸副院長 亞東紀念醫院（暨財團法人醫療品質策進會董事） Yun Chen Vice President, Far Eastern Memorial Hospital Moderator 2：陳建宇副教務長 臺北醫學大學 Chien-Yu Chen Vice Dean, Office of Academic Affairs, Taipei Medical University Moderator 3：謝祖怡主任 臺中榮民總醫院教學部臨床訓練科 Tsu-Yi Hsieh Director, Division of Clinical Training, Department of Medical Education, Taichung Veterans General Hospital

Time		Topic	Speaker	Moderator
14:30-16:30 陽明交通大學守仁樓 103 教室	120 分鐘	Workshop 2 如何進行國際醫學人文研究？ How to Conduct International Medical Humanities Research?	Kirsten Ostherr, Director, Medical Humanities Research Institute and Medical Futures Lab, Rice University	Moderator 1：陳永昇教務長 國立陽明交通大學教務處 Yong-Sheng Chen Dean, Office of Academic Affairs, National Yang Ming Chiao Tung University Moderator 2：楊令瑀副教務長 國立陽明交通大學教務處 Ling-Yu Yang Deputy Dean, Office of Academic Affairs, National Yang Ming Chiao Tung University Moderator 3：黃育綸副教務長 國立陽明交通大學教務處 Yu-Lun Huang Deputy Dean, Office of Academic Affairs, National Yang Ming Chiao Tung University

Time		Topic	Speaker	Moderator
14:30-16:00 陽明交通大學守仁樓 104 教室	90 分鐘	論文徵稿海報決選	李重賓主任 臺北榮民總醫院 教學部臨床技術訓練科 Chung-Pin Li Director, Division of Clinical Skills Training, Department of Medical Education, Taipei Veterans General Hospital **Poster Presenter:** Presentation: 7 mins Q&A: 3 mins	Moderator 1：唐逸文副院長 高雄榮民總醫院 Yih-Wen Tarng Deputy Superintendent, Kaohsiung Veterans General Hospital Moderator 2：劉文山主任 高雄榮民總醫院教學研究部 Wen-Shan Liu Director, Department of Medical Education and Research, Kaohsiung Veterans General Hospital Moderator 3：阮琪昌副院長 國立陽明交通大學醫學院 Chi-Chang Juan Vice Dean, College of Medicine, National Yang Ming Chiao Tung University

OPENING REMARKS

DISTINGUISHED GUEST

Cheng-Wen Wu 吳成文

Chairman, Forum, National Health Research Institutes
Honorary Investigator, National Health Research Institutes
Lifetime Chair Professor, National Yang Ming Chiao Tung University
Academician, Academia Sinica
E-mail: ken@nhri.edu.tw
Website: https://forum.nhri.edu.tw/introduction/chairman/

Education

1969	Ph.D. (Biochemistry)	Case Western Reserve University
1964	M.D.	National Taiwan University

Professional Experience

2014-present	Chairman, Forum, National Health Research Institutes
2008-present	Distinguished Investigator Emeritus, National Health Research Institutes
1996-2005	Founding President, National Health Research Institutes
2022-present	Lifetime Chair Professor, National Yang Ming Chiao Tung University
2008-2021	Distinguished Chair Professor, National Yang-Ming University
2008-present	Corresponding Investigator, Institute of Biomedical Sciences Academia Sinica
1992-1995	Founding Director, Institute of Biomedical Sciences, Academia Sinica
2001-present	Professor, Bert L & N Kuggie Vallee Foundation

Honors/Awards

2021	Honorary Degree of Doctor of Philosophy, Kaohsiung Medical University
2019	MOST Scientific Innovation Research Award
2016	CSMOT Prize for Management of Technology
2011	Presidential Science Prize
2011	FAOBMB Award for Research Excellence
2010	K.T. Li Chair Professor Award
2009	TWAS Regional Prize for Building Scientific Institutions

Research Interests

Translational Studies of Lung Cancer

Cancer Stemness

Gene Regulation and Cancer

Cancer Metastasis

Molecular Biology and Epidemiology of Viral Infection

Molecular Mechanism of Gene Transcription

Nucleic Acid-Protein Interactions

Structure and Function of Nuclear Proteins

Fast Reactions of Biological Systems

Spectroscopic Studies of Macromolecules

Major Publications

1. E.-H. Lin, J.-W. Hsu, T.-F. Lee, C.-F. Hsu, T.- H. Lin, Y.-H. Jan, H.-Y. Chang, C.-M. Cheng, H.- J. Hsu, W.-W. Chen, B.-H. Chen, H.-F. Tsai, J.-J. Li, C.- Y. Huang, S.-H. Chuang, J.-M. Chang, M. Hsiao, **C.- W. Wu**(2022) "Targeting cancer stemness mediated by BMI1 and MCL1 for non-small cell lung cancer treatment" ***J Cell Mol Med*** 2022 Aug;26(15):4305-4321. doi: 10.1111/jcmm.17453.
2. S.-Y. Hong, Y.-C. Lu, S.-H. Hsiao, Y.-R. Kao, M.-H. Lee, Y.-P. Lin, C.-Y. Wang, **C.-W. Wu**(2022) "Stabilization of AURKA by the E3 ubiquitin ligase CBLC in lung adenocarcinoma" ***Oncogene.*** 2022 Mar;41(13):1907-1917. doi: 10.1038/s41388-022-02180-6. Epub 2022 Feb 12.
3. C.-Y. Wang, M.-H. Lee, Y.-R. Kao, S.-H. Hsiao, S.-Y. Hong, **C.-W. Wu**(2021) "Alisertib inhibits migration and invasion of EGFR-TKI resistant cells by partially reversing the epithelial-mesenchymal transition" ***Biochim Biophys Acta Mol Cell Res.*** 2021 May;1868(6):119016. doi: 10.1016/j.bbamcr.2021.119016. Epub 2021 Mar 17.
4. T.-F. Lee, Y.-P. Liu, Y.-F. Lin, C.-F. Hsu, H. Lin, W.-C. Chang, C.-M. Pan, T.-Y. Chou, **C.-W. Wu**(2021) "TAZ negatively regulates the novel tumor suppressor ANKRD52 and promotes PAK1 dephosphorylation in lung adenocarcinomas" ***Biochim Biophys Acta Mol Cell Res.*** 2021 Feb;1868(2):118891. doi: 10.1016/j.bbamcr.2020.118891. Epub 2020 Oct 20.
5. M.-L. Wang, Y.-F. Hsu, C.-H. Liu, Y.-L. Kuo, Y.-C. Chen, Y.-C. Yeh, H.-L. Ho, Y.-C. Wu, T.-Y. Chou, **C.-W. Wu**(2020) "Low-Dose Nicotine Activates EGFR Signaling via α5-nAChR and Promotes Lung Adenocarcinoma Progression" ***Int J Mol Sci.*** 2020 Sep 17;21(18):E6829. doi: 10.3390/ijms21186829.
6. T.H. Huang, A.-T.-H. Wu, T.-S. Cheng, K.-T. Lin, C.-J. Lai, H.-W. Hsieh, P.-M. Chang , **C.-W. Wu**, C.-F.Huang, K.-Y. Chen.(2019) "In silico identification of thiostrepton as an inhibitor of cancer stem cell growth and an enhancer for chemotherapy in non-small-cell lung cancer." ***J Cell Mol Med.*** 2019 Dec;23(12):8184-8195. doi: 10.1111/jcmm.14689. Epub 2019 Oct 22.
7. N.-W. Fan, T.-C. Ho, **C.-W. Wu,** H.-Y. Chien, Y.-P. Tsao (2019) "Pigment epithelium-derived factor peptide reverses mouse age-related meibomian gland atrophy." ***Exp Eye Res.*** 2019 Aug;185:107678. doi: 10.1016/j.exer.2019.05.018. Epub 2019 May 23.
8. N.-W. Fan, T.-C. Ho, **C.-W. Wu,** Y.-P. Tsao (2019) "Pigment epithelium-derived factor peptide promotes limbal stem cell proliferation through hedgehog pathway." ***J Cell Mol Med***. 2019 Jul;23(7):4759-4769. doi: 10.1111/jcmm.14364. Epub 2019 May 8.
9. S.-C. Lin, C.-H. Chung, C.-H. Chung, M.-H. Kuo, C.-H. Hsieh, Y.-F. Chiu, Y.-S. Shieh, Y.-T. Chou, **C.-W. Wu**(2019) "OCT4B mediates hypoxia-induced cancer dissemination."***Oncogene.***2019 Feb;38(7):1093-1105. doi: 10.1038/s41388-018-0487-6. Epub 2018 Sep 12.

DISTINGUISHED GUEST/SPEAKER

Yueh-Ping Liu 劉越萍

Position Title: Director-General, Department of Medical Affairs
Affiliated Organization: Ministry of Health and Welfare, Taiwan (R.O.C.)
E-mail: MDDTEMER14@MOHW.GOV.TW

Education

2014/7–2016/7	Graduated LLM, Law School, Ming Chuan University, Taipei, Taiwan(R.O.C.)
1992/7–1999/7	Graduated MD, the Medical College of National Taiwan University, Taipei, Taiwan(R.O.C.)

Professional Experience

2017/11–2020/11	November 2020 Senior Special Technician, Department of Medical Affairs, Ministry of Health and Welfare, Taiwan (R.O.C.)
2011/10–2014/10	Division Chief at Division of Medical Affairs, Department of health, Taipei City Government, Taiwan (R.O.C.)
2005/9–present	Attending Physician at Department of Emergency Medicine, National Taiwan University Hospital, Taiwan (R.O.C.)

Research Interests

- Emergency medicine
- Pediatric critical care
- Health policy and medical regulation
- Disaster Medicine

DISTINGUISHED GUEST MODERATOR/SPEAKER

Chi-Hung Lin 林奇宏

President, National Yang Ming Chiao Tung University, Taiwan
E-mail: linch@nycu.edu.tw
Website: https://ssur.cc/mGKbMr9f

Education

1989-1994	Ph.D., Department of Biology, Yale University, USA
1979-1986	M.D., School of Medicine, National Yang-Ming University, Taipei, Taiwan.

Professional Experience

2021-present	President, National Yang Ming Chiao Tung University, Taiwan
2020-present	Professor, Department of Biological Science & Technology National Yang Ming Chiao Tung University, Taiwan
1995-present	Professor, Institute of Microbiology & Immunology National Yang Ming Chiao Tung University, Taiwan
2020-2021	Vice Chancellor, University System of Taiwan National Chiao Tung University, Hsinchu, Taiwan
2020-2021	University Chair Professor, Department of Biological Science & Technology National Chiao Tung University, Hsinchu, Taiwan
2014-2018	Commissioner, Department of Health, New Taipei City Government
2010-2014	Commissioner, Department of Health, Taipei City Government
2002-2012	Director, Molecular Cell Biology Center National Yang-Ming University, Taipei, Taiwan
2010-2010	Dean, Office of International Affairs National Yang-Ming University, Taipei, Taiwan
2006-2010	Director, Medical Research & Education Division Taipei City Hospital, Taipei
2007-2010	Director, Institute of Microbiology & Immunology National Yang-Ming University, Taipei, Taiwan
2005-2010	Director, Equipment Center National Yang-Ming University, Taipei, Taiwan

Honors/Awards

2009	The 2009 Award for Outstanding Contributions in Science and Technology, The Exective Yuan, Taiwan
2004	Outstanding Cancer Award National Science Council, Taiwan
2002	Outstanding Cancer Research Award Chien-Tien Cancer Research Foundation, Taiwan

Research Interests

Cell Biology, Cancer Biology, Biophotonics, Genomics

Major Publications

1. Lee JH, Hsieh CF, Liu HW, Chen CY, Wu SC, Chen TW, Hsu CS, Liao YH, Yang CY, Shyu JF, Fischer WB, **Lin CH***. (2017) Lipid raft-associated stomatin enhances cell fusion. FASEB J. 2017 Jan;31(1):47-59.
2. Wei-Ju Lin, Chien-Yi Tung, Muh-Yong Yen, Yu-Jiun Chan, **Chi-Hung Lin*** & Po-Ren Hsueh. (2018) A Novel Target Pathogen Identification and Tracking System Using Capillary Electrophoresis-Random Amplified Polymorphic DNA. Scientific Reports 2018 Oct 18;8(1):15365
3. Hsu Ma, Kwang-Yi Tung, Shu-Ling Tsai, David L. Neil, Yun-Yi Lin, Hung-Tsang Yen, Kao-Li Lin, Yi-Ting Cheng, Shu-Chen Kao, Mei-Na Lin, Niann-Tzyy Dai, Cherng-Kang Perng, Tyng-Guey Wang, Hao-Chih Tai, Li-Ru Chen, Yung-Chang Tuan, **Chi-Hung Lin***. (2020) Assessment and determinants of global outcomes among 445 mass-casualty burn survivors: A 2-year retrospective cohort study in Taiwan. BURNS, 2020 Sep;46(6):1444-1457
4. Jun-Yi Chien , Yong-Chun Gu, Hsin-Mei Tsai, Chun-Hao Liu, Chia-Yuan Yen, Yuh-Lin Wang, Juen-Kai Wang, **Chi-Hung Lin***. (2020) Rapid identifification of nicotine in electronic cigarette liquids based on surface-enhanced Raman scattering. Journal of Food and Drug Ananlysis 2020 27 June; 28:302-308
5. Shao-Chin Wu, Yuan-Ming Lo, Jui-Hao Lee, Chin-Yau Chen, Tung-Wei Chen, Hong-Wen Liu, Wei-Nan Lian, Kate Hua, Chen-Chung Liao, Wei-Ju Lin, Chih-Yung Yang, Chien-Yi Tung, **Chi-Hung Lin***.(2022) Stomatin modulates adipogenesis through the ERK pathway and regulates fatty acid uptake and lipid droplet growth. Nat Commun. 2022 Jul 19;13(1):4174.
6. Shao-Chin Wu, **Chi-Hung Lin***. (2023) Direct Adeno-associated Viruses Injection of Murine Adipose Tissue. Bio Protoc. 2023 May 20;13(10):e4674.
7. Chien JY, Gu YC, Liu CH, Tsai HM, Lee CN, Yang AC, Huang J, Wang YL, Wang JK, **Lin CH***. (2023) Rapid detection of nicotine and benzoic acid in e-liquids with surface-enhanced Raman scattering and artificial intelligence-assisted spectrum interpretation. J Pharm Biomed Anal. 2023 Sep 5;233:115456.

DISCUSSION HOST

Shuu-Jiun Wang M.D. 王署君

Dean, College of Medicine, National Yang Ming Chiao Tung University, Taiwan
Vice Superintendent, Taipei Veterans General Hospital, Taiwan
E-mail:sjwang@vghtpe.gov.tw

Education & Training

1981-1988	MD, School of Medicine, National Yang-Ming University, Taiwan
1995-1996	Headache Fellow, Comprehensive Headache Center; Germantown Hospital and Medical Center Temple University Medical School, Philadelphia, PA, USA

Professional Experience

2001-present	Professor of Neurology, College of Medicine, National Yang Ming Chiao Tung University
2018-present	Chair Professor, College of Medicine, National Yang Ming Chiao Tung University
2024-present	Dean, College of Medicine, National Yang Ming Chiao Tung University
2023-present	Vice Superintendent, Taipei Veterans General Hospital
2016-present	Director, Brain Research Center, National Yang Ming Chiao Tung University

Honors/Awards

2024	1st of Best Neuroscience Scientists in Taiwan, The 3rd edition of Research.com ranking of the best scholars in the arena of Neuroscience
2023	26th National Biotechnology and Medical Care Quality Silver Award: Headache Team of Taipei Veterans General Hospital / Sealing the Leak - The Pioneer in Spontaneous Intracranial Hypotension
2023	The Ministry of Education's 67th Annual Academic Awards, Taiwan
2022	32nd Taiwan Medical Dedication Awards, Health, Welfare & Environment Foundation, Taiwan
2021	World's Top 2 Scientist (2021 list) by Stanford University USA
2020	The MacDonald-Critchley Lecture Award: Spontaneous Intracranial Hypotension. The Migraine Trust Virtual Symposium 2020, UK
2017	Outstanding Research Award, Ministry of Science and Technology, Taiwan
2011	Outstanding Research Award, National Science Council, Taiwan

Research Interests

1. Clinical and epidemiological studies of migraine
2. Reversible vasoconstriction syndrome
3. Low-pressure headache

Major Publications

1. Wu CH, Chang FC, Wang YF, Lirng JF, Wu HM, Pan LLH, Wang SJ*, Chen SP*. Impaired glymphatic and meningeal lymphatic functions in patients with chronic migraine. Ann Neurol 2024;95(3):583-95.
2. Chen PY, Yen JC, Liu TT, Chen ST, Wang SJ, Chen SP. Neuronal NLRP3 inflammasome mediates spreading depolarization-evoked trigeminovascular activation. Brain 2023;146(7):2989-3002.
3. Chen SP, Hsu CL, Wang YF, Yang FC, Chen TH, Huang JH, Pan LLH, Fuh JL, Chang HC, Lee YL, Chang HC, Lee KH, Chang YC, Fann CSJ*, Wang SJ*. Genome-wide analyses identify novel risk loci for cluster headache in Han Chinese residing in Taiwan. J Headache Pain 2022;23:147.
4. Yang CP, Liang CS, Chang CM, Yang CC, Shih PH, Yau YC, Tang KT*, Wang SJ*. Comparison of new pharmacologic agents to triptans for migraine treatment: A systemic review and meta-analysis. JAMA Network Open 2021;4(10):e2128544.
5. Ashina S, Mitsikostas D, Lee MJ, Yamani N, Wang SJ, Messina R, Ashina H, Buse D, Pozo-Rosich P, Jensen R, Diener HC, Lipton R. Tension-type headache. Nat Rev Dis Primers 2021;7:24.
6. Wu CH, Lirng JF, Ling YH, Wang YF, Wu HM, Fuh JL, Lin PC, Wang SJ*, Chen SP*. Noninvasive characterization of human glymphatics and meningeal lymphatics in an in vivo model of blood-brain barrier leakage. Ann Neurol 2021; 89(1):111-24.
7. Chen SP, Chang YA, Chou CH, Juan CC, Lee HC, Chen LK, Wu PC, Wang YF, Fuh JL, Lirng JF, Ducros A, Huang HD*, Wang SJ*. Circulating microRNAs associated with Reversible Cerebral Vasoconstriction Syndrome. Ann Neurol 2021;89(3):459-73.
8. Chen SP*, Fuh JL, Chou KH, Huang YH, Huang CC, Lirng JF, Wang YF, Lin CP, Wang SJ*. Dynamic changes in white matter hyperintensities in reversible cerebral vasoconstriction syndrome. JAMA Neurol 2018;75(9):1106-13.
9. May A, Schwedt TJ, Magis D, Pozo-Rosich P, Evers S, Wang SJ. Cluster Headache. Nature Reviews Disease Primers 2018;4:18006.
10. Niddam DM*, Lai KL, Tsai SY, Lin YR, Chen WT, Fuh JL, Wang SJ*. Neurochemical changes in the medial wall of the brain in chronic migraine. Brain 2018;41:377-90.
11. Wang YF, Fuh JL, Lirng JF, Chen SP, Hseu SS, Wu JC, Wang SJ*. Cerebrospinal fluid leakage and headache after lumbar puncture: a prospective non-invasive imaging study. Brain 2015;138(6):1492-8.
12. Yang FC, Chou KH, Fuh JL, Lee PL, Lirng JF, Lin YY, Lin CP*, Wang SJ*. Altered hypothalamic functional connectivity in cluster headache: a longitudinal resting-state functional MRI study. J Neurol Neurosurg Psychiatry 2015;86:437-45.
13. Peng KP, Fuh JL, Wang SJ*. High-pressure headaches: idiopathic intracranial hypertension and its mimics. Nature Rev Neurol 2012;8:700-10

DISTINGUISHED GUEST/MODERATOR

Huey-Kang Sytwu 司徒惠康

President, National Health Research Institutes(NHRI), Taiwan
E-mail: sytwu@nhri.edu.tw
Website: https://www.nhri.edu.tw/

Education

1987	M.D., Medicine, National Defense Medical Center, Taipei, Taiwan, R.O.C.
1997	Ph.D., Microbiology and Immunology, School of Medicine, Stanford University, U.S.A.

Professional Experience

2023-present	Global Faculty Stanford Medicine, Center for Asian Health Research and Education
2023-present	President, The Chinese Society of Cell and Molecular Biology
2022-present	President, National Health Research Institutes, Taiwan
2022-present	Academician, Academia Sinica
2021-present	President, Chinese Society of Immunology, Taiwan
2021-present	Chair Professor, National Yang Ming Chiao Tung University, Taiwan
2019-2021	Chair Professor, National Chiao Tung University, Taiwan
2018-present	Adjunct Professor, Institute of Molecular Medicine, National Tsing Hua University, Taiwan
2018-2022	Vice President, National Health Research Institutes, Taiwan
2018-present	Distinguished Investigator, National Institute of Infectious Diseases and Vaccinology, National Health Research Institutes, Taiwan
2016-present	Hsu-Mu Liang and Chih-Yun Hsu Chair Professor, National Defense Medical Center, Taipei, Taiwan

Honors/Awards

2022、2020	Ministry of Science and Technology, R.O.C.
2018	The Health and Welfare Professional Medal (2018), Ministry of Health and Welfare, R.O.C.
2016-2019	Outstanding Research Award (2016-2019), Ministry of Science and Technology, R.O.C.
2015	The 59th Academic Award (2015), Ministry of Education, R.O.C.
2014	Outstanding Contribution Award (2014), The Chinese-Taipei Society of

	Laboratory Animal Sciences, R.O.C.
2011-2014	Outstanding Research Award (2011-2014), National Science Council, R.O.C.
2009	Outstanding Research Award (2009), Chinese Society of Immunology, R.O.C.

Research Interests

Medicine, Immunology

Major Publications

(*correspondence; selected from 225 publications)

1. Ciou, J.-J., Chien, M.-W., Hsu, C.-Y., Liu, Y.-W., Dong, J.-L., Tsai, S.-Y., Yang, S.-S, Lin, S.-H., Yen, B. L.-J., * Fu, S.-H., ***Sytwu, H.-K.** (2024) Excess Salt Intake Activates IL-21-dominant Autoimmune Diabetogenesis via A Salt-regulated Ste20-related Proline/alanine-rich Kinase in CD4 T Cells. ***Diabetes*** 73:592–603
2. Tsou, H.-H., Lee, F.-J., Wu, S.-I., Fan, B., Wu, H.-Y., Lin, Y.-H., Hsu, Y.-T., Cheng, C., Cheng, Y.-C., Jiang, W.-M., Chiou, H.-Y., Chen, W.-J., Hsiung, C. A., Chen, P.-C., ***Sytwu, H.-K.** (2024) Suppression of the alpha, delta, and omicron variants of SARS-Cov-2 in Taiwan. ***PLoS One*** 19(3):e0300303
3. Wu, I.-W., Tsai, T.-H., Lo, C.-J., Chou, Y.-J., Yeh, C.-H., Chan, Y.-H., Chen, J.-H., Hsu, P.-W., Pan, H.-C., Hsu, H.-J., Chen, C.-Y., Lee, C.-C., Shyu, Y.-C., Lin, C.-L., Cheng, M.-L., *Lai, C.-C., ***Sytwu, H.-K.**, *Tsai, T.-F. (2022) Discovering a trans-omics biomarker signature that predisposes high risk diabetic patients to diabetic kidney disease. ***NPJ Digital Medicine*** 5(1):166
4. Liu, Y.-W., Fu, S.-H., Chien, M.-W., Hsu, C.-Y., Lin, M.-H., Dong, J.-L., Lu, Rita J.-H., Lee, Y.-J., Chen, P.-Y., Wang, C.-H., ***Sytwu, H.-K.** (2022) Blimp-1 moulds the epigenetic architecture of IL-21-mediated autoimmune diseases through an autoregulatory circuit. ***JCI Insight*** 7(11):e151614
5. Wu, I.-W., Tsai, T.-H., Lo, C.-J., Chou, Y.-J., Yeh, C.-H., Cheng, M.-L., *Lai, C.-C., ***Sytwu, H.-K.**, *Tsai, T.-F. (2022) Discovery of a Biomarker Signature That Reveals a Molecular Mechanism Underlying Diabetic Kidney Disease via Organ Cross Talk. ***Diabetes Care*** 45(6):e102-e104
6. Yeh, C.-H., Chou, Y.-J., Tsai, T.-H., Hsu, P.-W., Li, C.-H., Chan, Y.-H., Tsai, S.-F., Ng, S.-C., Chou, K.-M., Lin, Y.-C., Juan, Y.-H., Fu, T.-C., *Lai, C.-C., ***Sytwu, H.-K.**, *Tsai, T.-F. (2022) Artificial-Intelligence-Assisted Discovery of Genetic Factors for Precision Medicine of Antiplatelet Therapy in Diabetic Peripheral Artery Disease. ***Biomedicines*** 10(1):116.
7. Yang, N.-I., Yeh, C.-H., Tsai, T.-H., Chou, Y.-J., Hsu, P.-W., Li, C.-H., Chan, Y.-H., Kuo, L.-T., Mao, C.-T., Shyu, Y.-C., Hung, M.-J., *Lai, C.-C., ***Sytwu, H.-K.**, *Tsai, T.-F. (2021) Artificial Intelligence-Assisted Identification of Genetic Factors Predisposing High-Risk Individuals to Asymptomatic Heart Failure. ***Cells*** 10(9):2430
8. Tsai, Y.-W., Dong, J.-L., Jian, Y.-J., Fu, S.-H., Chien, M.-W., Liu, Y.-W., *Hsu, C.-Y., ***Sytwu, H.-K.** (2021) Gut Microbiota-Modulated Metabolomic Profiling Shapes the Etiology and Pathogenesis of Autoimmune Diseases. ***Microorganisms*** 9 (9):1930
9. Hsu, P.-C., Chen, Y.-H., Cheng, C.-F., *Kuo, C.-Y., ***Sytwu, H.-K.** (2021) Interleukin-6 and Interleukin-8 Regulate STAT3 Activation Migration/Invasion and EMT in Chrysophanol-Treated Oral Cancer Cell Lines. ***Life (Basel)*** 11(5):423

SESSION 1

創新人才培育：跨域攜手

Innovative Talent Development: Interdisciplinary Collaboration

MODERATOR

Mai-Szu Wu 吳麥斯

President, Taipei Medical University
E-mail: maiszuwu@tmu.edu.tw
Website: https://reurl.cc/ZVroAQ

Education

1978-1985	Bachelor of Medicine, School of Medicine, Taipei Medical University, Taipei, Taiwan.

Professional Experience

2023-present	President,Taipei Medical University
2020-present	Director, Urology and Kidney Research Center, Taipei Medical University
2017-present	Resident Physician, Department of Nephrology, Taipei Medical University-Buli Shuanghe Hospital
2012-present	Professor, Taipei Medical University
2022-2023	Vice President,Taipei Medical University
2020/1-2020/7	Superintendent, Taipei Medical University -HSIN KUO MIN HOSPITAL
2017-2021	Superintendent, Shuang Ho Hospital
2015-2017	Director, Center for Management and Development
2013-2014	Vice Dean, College of Medicine, Taipei Medical University
2012-2014	Vice Superintendent, Taipei Medical University Hospital

Honors/Awards

2019	Taipei Medical University Hospital Research Project Award
2008	Selected on Business Weekly's Good Physician Recommendation List
2004	Award for best article Taiwan Society of Transplantation
2004	Award for best research Taiwan Society of Nephrology
2003-2011	Best teaching attending physician
2002	Best medical chart attending physician
2001	Award for best article Taiwan Society of Transplantation
2000	Taiwan National Science Council Research Award

Research Interests

1. Renal Physiology
2. Cell Biology and Cell Physiology
3. Humoral and electrolyte diseases
4. Clinical Nephrology
5. Renal replacement therapy

Major Publications

Dysregulation of Na^+, K^+-ATPase in renal failure
Principal investigator, NMRP, NSC 95-2314-B-182A-180

Community Medicine research in CKD – An integrate study (I)
Principal investigator, **CMRP**

The effect of TLR signaling on regulation of renal epithelial ionic transport
Principal investigator, NMRP, NSC 96-2314-B-182A-060-MY3

Epigenetic modification of klotho gene in uremic milieu – from initial insults, progression to ion transport in renal epithelial cells
Principal investigator, NMRP, 99-2314-B-182-004-MY3

Community Medicine research in CKD – An integrate study (II)
Principal investigator, **CMRP**

Cohort study in Northern Taiwan – An integrate study
Principal investigator, **CMRP**

Role of organic anion transporter in renal tubular injury - a gateway to hurt
Principal investigator, NMRP, NSC 102-2314-B-038-008-MY3

Make a portable/wearable kidney possible – Development of Microtube Array Membrane (MTAM) dialyzer – Study on uremic toxins removal
Principal investigator, NMRP, NSC 102-2314-B-038-008-MY3

Implantable Artificial Kidney Utilizing Nano-Porous Micro Tube Array Membrane Proof of Concept Study
Principal investigator, NMRP, NSC 108-2314-B-038-04

Education & Training for Future Medicine

Chi-Hung Lin, M. D., Ph. D.
President, National Yang Ming Chiao Tung University, Taiwan

Healthcare 2030- Trends & Challenges

-The superaged community posts new challenges to the healthcare system.

-New technologies change the content of healthcare services.

-Public outcry for accountability, sustainability and value/outcome-based healthcare services.

-Focuses on self-care and consumer consciousness.

-Integration of public health with personal care for evidence-based practices.

-Financial and environmental sustainability in healthcare.

The advent of Industry 4.0 and Health 4.0 in the twenty-first century signifies that the world is about to undergo a dramatic change, brought forth by the high-functioning artificial intelligence (AI) and big data analytics, coupled with the ubiquitous 5G/6G wireless communication and the groundbreaking revolution of biomedical devices, treatments, and medications. According to statistics, new knowledge is generated once every five years, and 85% of jobs that will exist in the future have not yet been realized. Amid frequent rises and falls in the corporate world, people of the new generation might have three vocations and change six jobs in their lifetime. Such an ever-changing future will inevitably influence the education people receive, the research they conduct, and the way they learn things.

The COVID-19 pandemic has swept across the world, wreaking havoc worldwide. Its severity and impact have far exceeded expectations, and have also significantly increased the pace and magnitude of the changes described above. In the near future, world history will be divided into pre-pandemic and post-pandemic eras, wherein the lifestyles and social models at the individual and global levels will all have changed drastically in the post-pandemic period. As a new world awaits us, we must not only tackle the challenges ahead but also lead the change to shape our future.

The world-sweeping pandemic has entrapped humans in a dark tunnel; perhaps, we are already seeing light at the end of this tunnel, which also brings a ray of hope. In the face of a catastrophic disaster, we must unite within the entire structure of society, and also contribute to the power of the university and fulfill our social responsibility. This Cultivation Plan is NYCU's first step to the future.

MODERATOR

Ray-Jade Chen M.D., M.Sc. 陳瑞杰

Chairman, Board of Trustees
Chair Professor,
Taipei Medical University, Taiwan
Consultant Surgeon,
Taipei Medical University Hospital, Taiwan
E-mail: rayjchen@tmu.edu.tw

Education

2001/9-2003/6	Graduate Institute of Medical Informatics, Taipei Medical University, Taiwan
1974/9-1981/6	School of Medicine, Taipei Medical University, Taiwan

Professional Experience

2015-2020	Superintendent, Taipei Medical University Hospital, Taiwan
2010-2014	CEO, Center for Management and Development Taipei Medical University, Taiwan
2004-2008	President, Formosa Association for the Surgery of Trauma
1999-present	Academician, American Association for the Surgery of Trauma, AAST

Honors/Awards

2019	**TED-ICU AI Platform** Symbol of National Quality Award National Innovation Award in the Academic Research Category Breakthrough Future Technology Award Best Popular Tech Award
2020	National Innovation Award Renewal - Excelsior Award Healthcare Quality Improvement Campaign Smart Healthcare category - Smart Solution Group Certification
2020	**Contactless Biometric Platform** National Innovation Award in the Academic Research Category
2020	National Innovation Award Renewal - Excelsior Award
2020	SNQ, Silver Award, Community Service Section, Hospital Category, “An Over-all HealthcareEnhancement in the Kingdom of Eswatini”, Taipei Medical University Hospital.
2021	Friend of Foreign Service Medal Award, Ministry of Foreign Affairs
2021	**Medical Service Smart Locker** National Innovation Award in the Startup Company Category

Research Interests

Hepato-Biliary-Pancreatic Surgery
Acute Care Surgery
Trauma Epidemiology
Medical Informatics

Major Publications

1. Chan TC, Pai CW Wu CC, Hsu JC, Chen RJ, Chiu WT, Lam C. Association of Air Pollution and Weather Factors with Traffic Injury Severity: A Study in Taiwan. Int J Environ Res Public Health 2022 Jun 17;19(12):7442.
2. Tseng CH, Chen RJ, Tsai SY, Wu TR, Tsaur WJ, Chiu HW, Yang CY, Lo YS. Exploring the COVID-19 Pandemic as a Catalyst for Behavior Change Among Patient Health Record App Users in Taiwan: Development and Usability Study. J Med Internet Res 2022 Jan 6;24(1):e33399
3. Shih TL, Lin KH, Chen RJ , Chen TY, Kao WT, Liu JW, Wang HH, Peng HY, Sun YY, Lu WJ . A novel naphthalimide derivative reduces platelet activation and thrombus formation via suppressing GPVI. J Cell Mol Med 2021 Oct;25(19):9434-9446.
4. Lin YJ, Chen RJ, Tang JH, Yu CS, Wu JL, Chen LC, Chang SS. Machine-Learning Monitoring System for Predicting Mortality Among Patients With Noncancer End-Stage Liver Disease: Retrospective Study. JMIR Med Inform 2020 Oct 30;8(10):e24305
5. Lin BC, Chen RJ, Hwang TL. Lessons learned from isolated blunt major pancreatic injury: Surgical experience in one trauma centre. Injury. 2019 Sep;50(9):1522-1528.
6. Yang CY[#], Chen RJ[#], Chou WL, Lee YJ, Lo YS. An Integrated Influenza Surveillance Framework Based on National Influenza-Like Illness Incidence and Multiple Hospital Electronic Medical Records for Early Prediction of Influenza Epidemics: Design and Evaluation. J Med Internet Res. 2019 Mar 12;21(3):e13699.
7. Lu WJ, Chung CL, Chen RJ, Huang LT, Lien LM, Chang CC, Lin KH, Sheu JR. An Antithrombotic Strategy by Targeting Phospholipase D in Human Platelets. J Clin Med. 2018 Nov 14;7(11).
8. Chen RJ, Chu H, Tsai LW. Impact of Beta-Blocker Initiation Timing on Mortality Risk in Patients With Diabetes Mellitus Undergoing Noncardiac Surgery: A Nationwide Population-Based Cohort Study. J Am Heart Assoc. 2017 Jan 10;6(1). pii: e004392.

SPEAKER

Tsai-Yen Li 李蔡彥

President, National Chengchi University, Taiwan
E-mail: li@nccu.edu.tw
Website: http://www3.nccu.edu.tw/~tyli

Education

1992-1995	PhD., Mechanical Engineering Department, Stanford University
1989-1992	M.S., Computer Science Department, Stanford University
1982-1986	B.S., Agricultural Machinery Engineering Department, National Taiwan University

Professional Experience

2022-present	President, National Chengchi University (NCCU)
2006-present	Professor, Computer Science Department, NCCU
2019-2022	Director, Center for Creativity and Innovation Studies, NCCU
2017-2019	Director, X-College, NCCU
2014-2016	Director, Department of Information and Technology Education, Ministry of Education
2012-2014	Secretary General, Office of Secretariat, NCCU
2011-2012	Dean, Center for Teaching and Learning, NCCU
2008-2011	Chair, Computer Science Department, NCCU
2000-2006	Director, Computer Center, NCCU

Honors/Awards

2024-2024	Chairman, The Phi-Tau-Phi Scholastic Honor Society of the Republic of China
2019-2021	Chairman, Taipei ACM SIGGRAPH
2018-2022	Chairman, Chinese Association of Computer and Educational Technology (CACET)
2002-2016	Best Paper Award: TAAI2002, TAAI2005, NCS2013, ICIM2014, CGW2014, CGW2016, EL2016, ICEET2016
2008-2008	NSC Science 50 Award: 2008
2005-2010	Best Thesis Advisory Award: IICM2005, IICM2010, TAAI2010 NSC Undergraduate Student Project Advisory Award: 2010

Research Interests

Robotics

Computer Animation

Artificial Intelligence

Motion Planning

Data Analysis and Visualization

Interactive Storytelling

Major Publications

1 Y.-L. Chu, T.-Y. Li*, and C.-C. Chen, 2008.09, “User Pluggable Animation Components in Multi-user Virtual Environment,” The International Journal of Virtual Reality, 7(3):31-36.

2 H.-C. Wang*, C.-Y. Chang*, T.-Y. Li, 2008.12, “Assessing creative problem-solving with automated text grading,” Computer and Education, 51, pp.1450-1466.

3 C. C. Huang, T. K. Yeh, T.-Y. Li*, C. Y. Chang*, 2010.10, “The Idea Storming Cube: Evaluating the effects of using game and computer agent to support divergent thinking,” Journal of Educational Technology and Society, 13(4), pp.180-191.

4 W.M. Chao and T.Y. Li, 2011.09, “Simulating Riot for Virtual Crowds with a Social Communication Model,” in Proceedings of ICCCI 2011, Part I, LNCS 6922, pp. 419–427.

5 T. Lopez, F. Lamarche and T.-Y. Li, 2012.03, “Space-time planning in changing environments: using dynamic objects for accessibility," Computer Animation and Virtual Worlds, 23(2):87-99.

6 H.Y. Wu, M. Christie, T.Y. Li, 2013.05, “Stories Animated: A Framework for Personalized Interactive Narratives using Filtering of Story Characteristics,” Proc. of Intl. Conf. on Computer Animation and Social Agents (CASA2013), Istanbul.

7 C. Sanokho, C. Desoche, B. Merabti; T-Y Li and M. Christie, 2014.07, “Camera Motion Graphs,” Proceedings of International Symposium on Computer Animation, Copenhagen.

8 C.-H Wu, T.-Y. Li, 2016.05, “Social Sensor: an Analysis Tool for Social Media,” International Journal of Electronic Commerce Studies, 7(1):77-94.

Developing an Experimental Platform for a Liberal Art University – Taking NCCU as an Example

Tsai-Yen Li, Ph.D.
National Chengchi University

In this era of rapid technological advancement and volatile changes, often referred to as VUCA, the core competencies required for future talents have been discussed in higher education in recent years. For a university that values humanistic ideals and liberal arts education, the challenge is even greater. National Chengchi University (NCCU) is one of the few comprehensive universities in the country that focuses on humanities and social sciences. Faced with this challenge, NCCU has begun to contemplate how to identify core values and create opportunities for advancement. This report will share how NCCU encourages faculty and students across various disciplines to embrace information technology, particularly AI technology, and to find human-centered AI collaboration models to fully realize the core value of humanity. On the other hand, we are attempting to create a higher education environment that is more inclusive of experimental innovation. Through the transformation of organizations, systems, people, and spaces, we explore innovative development models for universities to highlight the contemporary significance of university education.

SPEAKER

Kirsten Ostherr, PhD, MPH

Gladys Louise Fox Professor of English, Director of Medical Humanities Research Institute, Rice University, USA
E-mail: kostherr@rice.edu
Website: mhri.rice.edu

Education

2012-2014	MPH, University of Texas School of Public Health, Houston, Texas
1995-2001	PhD, Brown University, Providence, Rhode Island

Professional Experience

2023-present	Director, Medical Humanities Research Institute, Rice University
2013-present	Gladys Louise Fox Professor of English, Rice University
2016-present	Director, Medical Humanities Program, Rice University
2012-present	Director, Medical Futures Lab, Rice University

Honors/Awards

2024	Health Humanities Visionary Award, International Health Humanities Consortium
2022	Inductee, *Sigma Xi,* The Scientific Research Honor Society
2016	John P. McGovern Award for Excellence in Biomedical Communication, conveyed by the American Medical Writers Association. *"Recognize[s] a preeminent contribution to any of the various modes of medical communication."*
2014	Inductee, *Delta Omega* Honorary Society in Public Health, University of Texas School of Public Health
1993	Inductee, *Phi Beta Kappa* Honor Society, Reed College, Portland, OR

Research Interests

Medical Humanities; Digital Health Technologies; Artificial Intelligence; Visual Culture & Comparative Media; Science & Culture Studies

Major Publications

BOOKS

Ostherr K. *Medical Visions: Producing the Patient Through Film, Television, and Imaging Technologies.* NY: Oxford University Press, 2013.

Ostherr K. *Cinematic Prophylaxis: Globalization and Contagion in the Discourse of World Health*. Durham, NC: Duke University Press, 2005. *Selected for open access inclusion in Duke UP's Navigating the Threat of Pandemic Syllabus (March 2020).

EDITED BOOK

Ostherr K. *Applied Media Studies*. (editor & contributor) NY: Routledge, 2018.

ARTICLES AND BOOK CHAPTERS

Picht T, Roethe AL, Kersting K, Burzlaff M, Le Calvé M, Schenk R, Chakkalakal D, Vajkoczy P, **Ostherr K.** Conceptualization and Implementation of a Multidisciplinary Course for Medical Students on Competency-Based Learning in Neurosurgery. *Advances in Medical Education and Practice.* 2024;15:1-9.

Ostherr K. The Afterlife of Data. *Literature and Medicine.* 2024;42:1.

Ostherr K. "Medical Transmedia." In *Imagining Transmedia*. Edited by Ed Finn, Joey Eschrich, Ruth Wylie, and Bob Beard. MIT Press, 2024.

Ostherr K. The Future of Translational Medical Humanities: Bridging the Data/Narrative Divide. *BMJ Medical Humanities.* 2023;49:529-536. doi.org/10.1136/medhum-2023-012627

Ostherr K. "Data." In *Keywords for Health Humanities*. Edited by Sari Altschuler, Priscilla Wald, and Jonathan Metzl. NYU Press. 2023: 47-50.

Ostherr K. "The Visual Language of Covid-19: Narrative, Data, and Emotion in Online Health Communications." In *The Languages of Covid-19: Implications for Global Healthcare*. Edited by Steven Wilson and Piotr Blumcyzinski. Routledge/ Open Access, 2023.

Ostherr K. Artificial Intelligence and Medical Humanities. *Journal of Medical Humanities.* 2022;43:211–232. doi.org/10.1007/s10912-020-09636-4.

Telehealth and Healthcare Humanities

Kirsten Ostherr, PhD, MPH
Gladys Louise Fox Professor of English,
Director of Medical Humanities Research Institute and Medical Futures Lab, Rice University, USA

The field of virtual health began to emerge with smartphones and the mobile web, starting around 2007 with the launch of the Apple iPhone, but virtual health has been a dream of technologists in healthcare for decades. This talk will discuss telehealth as a modality of virtual health, and will consider the technological, social and cultural dimensions of the growth of this field of healthcare. Virtual health is now a trend in most high- and middle-income countries and is often presented as: 1) a site of cutting-edge technological innovation; 2) a cost-saving measure; 3) a strategy for extending the reach of limited healthcare resources (whether providers or hospital beds); and 4) a technique for potentially increasing health equity by democratizing access to technologically-advanced care. Most conference attendees will experience and/or provide virtual health care, if they have not already, and the quality of their care may rise or fall as they do. The increasing automation of healthcare that virtual health represents raises concerns about dehumanization, discrimination, and inaccuracy, as well as privacy, security, and liability. At the same time, virtual health offers the possibility of improved care, better quality of life, and breakthrough discoveries for widespread afflictions such as cancer, degenerative brain diseases (Parkinson's, Alzheimer's), diabetes, and mental health. Audience members will likely offer their patients access to virtual health care tools as alternatives to in-person care, and their patients will have to choose their preferences. As healthcare professionals and adopters of emerging technologies, conference attendees may soon be offered opportunities to invest in, develop, or interact with virtual health tools, and they will have to decide whether and why they find value in these offerings. The general public will also encounter hyperbolic and alarmist tales of the consequences of turning our health over to robots, and health care professionals will need to be able to provide a clear explanation of what is and is not possible and desirable within the realm of virtual health. As emerging AI tools attract growing media attention, including in the domain of healthcare applications, clinicians and patients will benefit from guidance on how to think about the role of high-tech tools in healthcare, from virtual health to telehealth to AI.

MODERATOR

Chiung-Tong Chen 陳炯東

Former Executive Director, Forum, National Health Research Institutes
Investigator, Institute of Biotechnology and Pharmaceutical Research, National Health Research Institutes
E-mail: ctchen@nhri.edu.tw
Website: https://forum.nhri.edu.tw/introduction/director/
https://ibpr.nhri.edu.tw/en/index.php/chiung-tong-chen/

Education

1992-1997	Ph.D., Division of Pharmaceutics and Pharmaceutical Chemistry, College of Pharmacy, Ohio State University, Columbus, Ohio, U.S.A.
1986-1988	M.S., Institute of Pharmacology, National Yang Ming Chiao Tung University, Taiwan, R.O.C.
1981-1986	B.S., Department of Pharmacy, China Medical University, Taichung, Taiwan, R.O.C.

Professional Experience

2022-2024/8/31	Executive Director, Forum, National Health Research Institutes
2017-2020/ 2012-2017	Director/Associate Director, Institute of Biotechnology and Pharmaceutical Research, National Health Research Institutes, Miaoli, Taiwan.
2010-present	Investigator, Institute of Biotechnology and Pharmaceutical Research, National Health Research Institutes, Miaoli, Taiwan
2011	Interim Secretary General, National Health Research Institutes, Miaoli, Taiwan.
2016-2019/ 2012-2015/ 2004-present	President (理事長)/Vice President (副理事長)/Board of Executive Directors (理事-常務理事), The Chinese-Taipei Society of Laboratory Animal Sciences (中華實驗動物學會), Taipei, Taiwan.
2018	Federal Executive Institute, USA (美國聯邦文官學院) 受訓結業
2003-2005	Member, Board of Directors, Bio 21 Venture Capital (千禧生技創業投資股份有限公司), Taipei, Taiwan.

Honors/Awards

Co-Recipient	National Innovation Awards DBPR22998 (2023), DBPR112 (2022); 台北生技獎技轉合作獎 金獎 DBPR115 (2017), 銀獎 DBPR110 (2016), 金獎 DBPR108 (2015); Outstanding Contribution Award, Wang Ming-Ning Memorial Foundation, DBPR114 (2016); 技術成就獎, Ministry of Economic Affairs, DBPR115 (2016); TienTe Lee Excellent Medicine Technology Award, DBPR108 (2014).
Recipient	Outstanding Contribution Award, The Chinese-Taipei Society for Laboratory Animal Sciences, (2020)
Recipient	Outstanding Alumni, School of Pharmacy, China Medical University (2018)
Recipient	Jack L. Beal Post-Baccalaureate Alumni Award, OSU College of Pharmacy and OSU Pharmacy Alumni Society (2013)
Listed	Stanford University's Top 2% Scientists (Career Impact; 1960-2022) (2022)

Research Interests

Dr. Chen considers "Translational Research" a broad research field covering from basic to clinical researches that ultimately benefit patients in all aspects and, therefore, his research interests have covered a broad spectrum from basic research to drug discovery and development such as the identification of tumor metastasis-associated molecules, establishment of animal models of cancer, diabetic, and infectious diseases. Dr. Chen is a licensed pharmacist equipped with a broad professional disciplinary scope covering pharmacology, pharmacokinetics, cancer biology, pharmaceutics, neuroscience, and drug discovery/development. All activities leading to the discovery and development of clinical therapeutics and advancement of clinical treatments are his major research interests.

Major Publications

Paper, selective from 167 papers (* Corresponding Author)

1. Chun-Ping Chang, T.-K. Yeh, Chiung-Tong Chen, … Ya-Hui Chi. Discovery of a long half-life AURKA inhibitor to treat MYC-amplified solid tumors as a monotherapy and in combination with everolimus. *Mol Cancer Ther.*, 23:766-779, 2024.
2. Teng-Kuang Yeh, … Low-Tone Ho*, Chiung-Tong Chen*. DBPR108, A Dipeptidyl Peptidase-4 Inhibitor for Treatment of Type 2 Diabetes Mellitus: A Phase I, Randomized, Double-Blind, Placebo-Controlled Trial of Single and Multiple Doses in Healthy Subjects. *Japanese J Gastroenterol. Hepatol.*, 9:1-17, 2022.
3. Yi-Yu Ke*, … Huey-Kang Sytwu, Chiung-Tong Chen*. Artificial intelligence approach fighting COVID-19 with repurposing drugs. *Biomed J*, 43:355-362, August 2020. (**Top-Cited** paper, **225** citations as of August 5th, 2024)

Patent : 32 US, TW, WO, CN, ... patents filed/granted.

SPEAKER

Tien-Yao Tsai 蔡天堯

Director, Telehealth center ; Director, Division of Cardiology
Fu Jen Catholic University Hospital
Taiwan, Republic of China
E-mail: tienyao1@gmail.com
Website:
https://www.hospital.fju.edu.tw/Doctor/QueryOneDoctor?SelectID=CV%20%20&STAMPID=00167#gsc.tab=0

Education

1989-1996	Department of Medicine, National Taiwan University
2010-2014	Institute of Medical Engineering, Chung Yuan University

Professional Experience

2022-2024	Director, Division of Cardiology; Fu Jen Catholic University Hospital
2018-2021	Director, Cardiac Cath Lab; Fu Jen Catholic University Hospital
2013-2017	Director, Division of Cardiology; Lotung Poh-Ai Hospital
2007-2012	Director, Division of Cardiology; Camillian St. Mary's Hospital

Honors/Awards

2016	Outstanding Paper Award / Taiwan Society of Cardiology

Research Interests

Telehealth Program,
Telemedicine,
Cardiac interventional therapy

Major Publications

* Synthesis of composite magnetic nanoparticles Fe3O4 with alendronate for osteoporosis treatment; Materials Science, Medicine, International Journal of Nanomedicine, 12 September 2016

* Characterization of Ca2+-Sensing Receptor-Mediated Ca2+ Influx in Microvascular bEND.3 Endothelial Cells; Medicine, Biology, Chinese journal of physiology, 1 March 2021

* Dextran-g-lauric acid as IKK complex inhibitor carrier; Materials Science, Medicine, 12 December 2017

* Suppression of Ca(2+) influx in endotoxin-treated mouse cerebral cortex endothelial bEND.3 cells.; Biology, Medicine, European Journal of Pharmacology, 15 May 2015

* Tannic acid, a vasodilator present in wines and beverages, stimulates Ca2+ influx via TRP channels in bEND.3 endothelial cells.; Medicine, Environmental Science, Biochemical and Biophysical Research,17 March 2020

* Afatinib triggers a Ni2+-resistant Ca2+ influx pathway in A549 non-small cell lung cancer cells; Medicine Fundamental & Clinical Pharmacology, 3 October 2022

* Parthenolide-Induced Cytotoxicity in H9c2 Cardiomyoblasts Involves Oxidative Stress.; Chemistry, Environmental Science Acta Cardiologica Sinica, 2015

* Repressed Ca(2+) clearance in parthenolide-treated murine brain bEND.3 endothelial cells.; Biology, Medicine European Journal of Pharmacology, 15 December 2015

* Valproic acid inhibits ATP-triggered Ca2+ release via a p38-dependent mechanism in bEND.3 endothelial cells; Medicinef Fundamental & Clinical Pharmacology, 1 June 2018

* Lysophosphatidylcholine-induced cytotoxicity and protection by heparin in mouse brain bEND.3 endothelial cells; Fundamental & Clinical Pharmacology, 5 August 2018

Facing New Trends in Telehealth: Sharing Experiences in Innovative Talent Development

Tien-Yao Tsai, PhD
Director, Telehealth center / Fu Jen Catholic University Hospital

Telehealth has experienced an unprecedented surge in recent years, driven by technological advancements, shifting patient preferences, and the COVID-19 pandemic. This shift has opened up a world of opportunities for healthcare providers, offering increased accessibility, convenience, and cost-effectiveness. However, the rise of telehealth also presents unique challenges. These include addressing regulatory frameworks, ensuring data privacy and security, maintaining patient trust, and overcoming technical limitations. Healthcare providers must adhere to strict guidelines regarding data security, patient consent, and the sharing of confidential information. Ethical considerations also extend to the quality of care, access to services, and ensuring equitable outcomes for all patients.

The field of telehealth is constantly evolving, requiring healthcare professionals to continuously update their skills and knowledge. Investing in ongoing professional development ensures that individuals stay at the forefront of innovation and effectively deliver high-quality virtual care. Therefore, the expansion of telehealth necessitates a skilled workforce that can effectively deliver high-quality virtual care. This requires investing in training and education, equipping healthcare professionals with the technical skills, clinical knowledge, and communication expertise necessary for success in a telehealth environment.

Training programs should address the unique aspects of virtual care, including the use of telemedicine platforms, communication techniques, and ethical considerations. Developing a robust telehealth workforce ensures that patients receive competent and compassionate care, regardless of the mode of delivery. Besides, collaboration and knowledge sharing are essential for advancing the field of telehealth. By connecting with other healthcare professionals, researchers, and industry experts, individuals and organizations can gain valuable insights, share best practices, and collectively overcome challenges. Key takeaways include the importance of patient-centered care, leveraging technology for improved outcomes, addressing ethical considerations, and fostering a collaborative ecosystem for innovation. By embracing these lessons and staying adaptable, we can ensure that telehealth continues to enhance patient experiences, improve access to care, and ultimately, shape a healthier future for all.

SESSION 2

工具創新應用：未來發展
Tool Innovation and Application: Future Development

SPEAKER

Professor Ying-Ying Yang 楊盈盈

Associate Director, School of Medicine, College of Medicine, National Yang Ming Chiao Tung University, Taiwan
E-mail: yangyy@vghtpe.gov.tw; crystalyyyang@gmail.com

Education

2004-2007	Yang-Ming Medical school, Taipei, Taiwan, Ph.D of Physiology
2008-2011	MPH of and Public Health
2009	Liver Unit, Department of Medicine, University of Calgary, Calgray, Rm 1721, 3330 Hospital Dr NW, Calgary, Alberta, Canada, T2N 4N1; post Ph.D.; 2009, cirrhotic cardiomyopathy
2023	Certificated Senior faculty of, training to teach in medicine program of Harvard medical school, 2023, June

Professional Experience

2021-present	Chief, Department of Medical Education, Clinical Innovation Center, Taipei Veterans General Hospital;
2021-present	Attending physician, Division of Gastroenterology and Hepatology, department of internal medicine, Taipei Veterans General Hospital
2021-present	Associate Chair of school of medicine, college of medicine, National Yang-Ming Chiao Tung University
2021-present	Executive Secretary of clinical innovation center of Taipei Veterans General Hospital
2014-present	Professor, School of Medicine, National Yang-Ming Chiao Tung University

Research Interests

NAFLD/NASH/MAFLD/MASH, cirrhosis, portal hypertension, immunology, microcirculation

Major Publications

1. Shiau-Shian Huang#, Chao-Chung Ho, Yeong-Ruey Chu, Jr-Wei Wu & Ying-Ying Yang. The quantified analysis of the correlation between medical humanities curriculums and medical students' performance. BMC Medical Education , 2023 Aug 11;23(1):571.
2. Shiau-Shian Huang, Anna YuQing Huang, Yu-Fan Lin, Sheng-Min Lin, Craig S. Webster, Ji-Yang Lin, Ying-Ying Yang,* Stephen J.H. Yang,*, Jiing-Feng Lirng, Chen-Huan Chen, Albert

ChihChieh Yang, Chi-Hung Lin. Learning pathways composed of core subjects with features of reducing cognitive load have better learning outcomes. JCMA, accepted 2023, July, online published 2024 Jun 3. doi: 10.1097/JCMA.0000000000001116. Online ahead of print.

3. Shiau-Shian Huang, Yu-Fan Lin, Anna YuQing Huang, Ji-Yang Lin, Ying-Ying Yang,* Sheng-Min Lin, Wen-Yu Lin, Pin-Hsiang Huang, Tzu-Yao Chen, Stephen J.H. Yang,* Jiing-Feng Lirng, and Chen-Huan Chen. Using machine learning to identify key subject categories predicting the pre-clerkship and clerkship performance: 8-year cohort study. 2024 Jun 1;87(6):609-614.
4. Chia-Chang Huang, Ching-Jung Chung, Yi-Ting, Wu, Po-Ting Hsu, Jen-Feng Liang, Ying-Ying Yang*, Jie Chi Yang*. A five-year department-based electronic usage data analysis on electronic journal access, library training courses, and scholarly publications. Electronic Library 42 No. 1, 2024, pp. 23-36.
5. Ching-Jung Chung, Yen-Hsun Huang, Jie Chi Yang*, Ying-Ying Yang, Shiau-Shian Huang, Sheng-Min Lin, Jiing-Feng Lirng, Tzu-Hao Li, Chen-Huan Chen, and Yung-Yang Lin. The dissemination of holistic health care and evidence-based medicine courses from institution-based to department-based via a course management system. Interactive Learning Environments2023, March, accepted (IF:4.965). DOI: 10.1080/10494820.2023.2194932.
6. Pin-Hsuan Wang, Anna YuQing Huang, Yen-Hsun, Huang, Ying-Ying Yang*, Jiing-Feng Lirng, Tzu-Hao Li, Ming-Chih Hou, Chen-Huan Chen, Albert ChihChieh Yang, Chi-Hung Lin, Wayne Huey-Herng Sheu. Feasibility and Accessibility of Human-centered AI-based Simulation System for Improving the Occupational Safety of Clinical Workplace. Educational Technology & Society, 2023; 26 (1).
7. JF Liang, HM Cheng, CC Huang, YY Yang and CH Chen. Lessons Learned from a Novel Three-year Longitudinal Stepwise “Residents-as-Teachers” Program.”. JCMA 2023;86(6):577-583.
8. Yu-Fan Lin, Chen-Huan Chen,* Ying-Ying Yang,* Nai-Rong Kuo, Tzu-Hao Li, Jiing-Feng Lirng, Ming-Chih Hou, Wayne Huey-Herng Sheu.. A single-center cross-sectional study of cross-professional faculty’s perception of virtual classes under different scenarios: A stepwise approach. JCMA 2022;85(7):759-766.
9. Yen-Po Tsao, Wan-Yu Yeh, Teh-Fu Hsu, Lok-Hi Chow, Wei-Chih Chen, Ying-Ying Yang, Boaz Shulruf, Chen-Huan Chen & Hao-Min Cheng. Implementing a fipped classroom model in an evidence-based medicine curriculum for pre-clinical medical students: evaluating learning efectiveness through prospective propensity score-matched cohorts. BMC Medical Education 2022;22(1):185.
10. Jen-Feng Liang, Teh-Fu Hsu, Chien-Yu Chen, Chih-Wei Yang, Wei-Horng Jean, Liang-Shiou Ou, Hao-Min Cheng, Chia-Chang Huang, Ying-Ying Yang, Chen-Huan Chen. Developing a competency-based framework for resident-as-teacher. J Formos Med Assoc 2022;S0929-6646(22)00047-X.
11. Dung-Hung Chiang, Chia-Chang Huang, Shu-Chuan Cheng, Jui-Chun Cheng, Cheng-Hsien Wu, Shiau-Shian Huang, Ying-Ying Yang*, Ling-Yu Yang, Shou-Yen Kao, Chen-Huan Chen, Boaz Shulruf, Fa-Yauh Lee. Immersive virtual reality (VR) trainings increase the self-efficacy of in-hospital healthcare providers and patient families about tracheostomy-related knowledge and care skills: a prospective pre-post study. Medicine 2022;101(2):e28570.

Advantages and Challenges of Multi-Medical Education Technologies

多元醫學教育科技的優勢與挑戰

Ying-Ying Yang
Associate Director, School of Medicine, College of Medicine,
National Yang Ming Chiao Tung University

The future of communications medicine is an important issue in contemporary medical education and cross-domain talent cultivation planning, and it also has huge development needs and potential in the medical field. Traditional medical education -> memorization and lectures. Knowledge was hard-won through study and experience. New medical education -> integrating knowledge, analysis, and interpretation. Student's should focus more on Human skills-> AI can't capture nuances of a patient's history or lived experience. Facing the AI era, experts had suggested educator to 1. leverage social media platforms for engaging learners. 2. Utilize virtual reality (VR) and augmented reality (AR) to offer training opportunities.3. Create simulations for experiential learning.4. Understand the value of blockchain technology. 5. Use generative AI (such as ChatGPT) wisely. Overall, these technolgics can break down content into bite-sized chunks easier to interact with peers easy-to-access links to resources host virtual classrooms, real-time chats, and polls. VR: special headset or glasses for computer-generated environment. AR: enhances real-world setting by superimposing virtual elements-> virtual operating room (OR)/-> virtual technique settings. Simulated exam room and "patient""Low fidelity," low-cost simulation scenarios are also a trend. Decentralized storage & multiple validation-> Formal medical exams security-> Medical student information security. Combine the usage of generative AI into everyday work and study. Educators must teach students to recognize AI's limitations and verify the accuracy of AI-generated content. Twelve tips for addressing ethical concerns in the implementation of artificial intelligence in medical education including 1. Ensure Transparency; 2.Address Bias;3. Validate AI Output;4.Prioritize Privacy ;5.Obtain Informed Consent;6.Foster Collaboration;7.Conduct Faculty Training ;8.Educate Students ;9.Maintain AI Systems ;10.Establish Accountability ;11.Enhance Regulatory Awareness;12.Form Ethics Committees. Pre-clerkship: AI aiding in studying, previewing materials, and self-tutoring; Clinical clerkship: AI generating differential diagnoses and refining clinical skills; Post-Clerkship: AI support advanced clinical reasoning and decision-making. It is important for faculties and students to familiar with the advantages and challenges of multi-medical education technologies.

MODERATOR

Jiing-Feng Lirng 凌憬峯

Professor of School of Medicine, National Yang Ming Chiao Tung University, Taiwan
E-mail: jflirng@vghtpe.gvo.tw

Education

M.D., National Yang-Ming Medical College, 1986

Professional Experience

2022/8-present	Vice Dean, College of Medicine, National Yang Ming Chiao Tung University
2018/1-present	Attending Radiologist, Division of MRI, Dept of Radiology, Taipei Veterans General Hospital
2015/8-present	Professor of School of Medicine, National Yang Ming Chiao Tung University
2018/8-2024/7	Professor and Chair of School of Medicine, National Yang Ming Chiao Tung University
2009/7-2018	Vice Chair, Faculty of Medicine, National Yang-Ming University School of Medicine
2006/2-2018/1	Associate Professor in Radiology, National Yang-Ming University School of Medicine
1991/8- 2006/1	Aug 1991 ~ Jan 2006 Instructor in Radiology, National Yang-Ming University School of Medicine
1986/6-1991/7	Clinical Assistant in Radiology, National Yang-Ming University School of Medicine

Honors/Awards

2015	The Best Mentor of Yang-Ming University
2012	The Best Honor for Dedication to Medical Education in Taipei VGH
2010、2015	The Best Teacher of Yang-Ming University
2011、2012、2013	The Best Clinical Teacher in Taipei VGH

Research Interests

Neuroradiology、seizure imaging、headache imaging、magnetic resonance spectroscopy、magnetic resonance imaging、head and neck tumor imaging

Major Publications

2024

1. Huang SS, Lin YF, Huang AY, Lin JY, Yang YY, Lin SM, Lin WY, Huang PH, Chen TY, Yang SJH, **Lirng JF**, Chen CH. Using machine learning to identify key subject categories predicting the pre-clerkship and clerkship performance: 8-year cohort study. J Chin Med Assoc. 2024 Apr 18. [PMID: 38648194]
2. Chen HC, Lee LH, **Lirng JF***, Soong BW. MRl and MRS hints for the differentiation of cerebellar multiple system atrophy from spinocerebellar ataxia type II. Heliyon. 2024 Apr 4;10(7):e29265. [PMID: 38601670]
3. Lee TL, Fang WC, Lee IC, **Lirng JF**, Chang CF, Hsu YB, Chu PY, Wang YF, Yang MH, Chang PM, Wang LW, Tai SK. Enhancing regional control in p16-negative oropharyngeal cancer: A propensity score-matched analysis of upfront neck dissection and definitive chemoradiotherapy. J Chin Med Assoc. 2024 Mar 19. Online ahead of print. [PMID: 38501795]
4. Wu CH, Chang FC, Wang YF, **Lirng JF**, Wu HM, Pan LH, Wang SJ, Chen SP. Impaired glymphatic and meningeal lymphatic functions in patients with chronic migraine. Ann Neurol. 2024 Mar;95(3):583-595. Epub 2024 Jan 27. [PMID: 38055324]
5. Wu CH, Kuo Y, Ling YH, Wang YF, Fuh JL, **Lirng JF**, Wu HM, Wang SJ, Chen SP. Dynamic changes in glymphatic function in reversible cerebral vasoconstriction syndrome. J Headache Pain. 2024 Feb 5;25(1):17. [PMID: 38317074]
6. Chiang YK, Lin YS, Chen CY, **Lirng JF**, Yang YH, Lee WJ, Fuh JL. Different Splice Isoforms of Peripheral Triggering Receptor Expressed on Myeloid Cells 2 mRNA Expressions are Associated With Cognitive Decline in Mild Dementia Due to Alzheimer's Disease and Reflect Central Neuroinflammation. Am J Alzheimers Dis Other Demen. 2024 Jan-Dec;39:15333175241243183. [PMID: 38592304]

2023

7. Wu CH, Kuo Y, Chang FC, **Lirng JF**, Ling YH, Wang YF, Wu HM, Fuh JL, Lin CJ, Wang SJ, Chen SP. Noninvasive investigations of human glymphatic dynamics in a diseased model. Eur Radiol. 2023 Dec;33(12):9087-9098. Epub 2023 Jul 4. [PMID:37402004]
8. Yuan EJ, Huang SS, Hsu CA, **Lirng JF**, Li TH, Huang CC, Yang YY, Li CP, Chen CH. Negative effects on medical students' scores for clinical performance during the COVID-19 pandemic in Taiwan: a comparative study. J Educ Eval Health Prof. 2023;20:37. Epub 2023 Dec 26. [PMID: 38148494]
9. Wu CH, Lin TM, Chung CP, Yu KW, Tai WA, Luo CB, **Lirng JF**, Chang FC. Prevention of in-stent restenosis with drug-eluting balloons in patients with postirradiated carotid stenosis accepting percutaneous angioplasty and stenting. J Neurointerv Surg. 2023 Dec 19;16(1):73-80. [PMID:36914246]
10. Ling YH, Chi NF, Pan LH, Wang YF, Wu CH, **Lirng JF**, Fuh JL, Wang SJ, Chen SP. Association between impaired dynamic cerebral autoregulation and BBB disruption in reversible cerebral vasoconstriction syndrome. J Headache Pain. 2023 Dec 19;24(1):170. [PMID: 38114891]
11. Wu CH, Hsu TW, Lai KL, Wang YF, Fuh JL, Wu HM, **Lirng JF***, Wang SJ, Chen SP. Disrupted Brain Functional Status in Patients with Reversible Cerebral Vasoconstriction Syndrome. Ann Neurol. 2023 Oct;94(4):772-784. Epub 2023 Jul 6. [PMID:37345341]
12. Yang CH, Wu CH, Lin TM, Chen ST, Tai WA, Yu KW, Luo CB, **Lirng JF**, Chang FC. Clinical and imaging findings for the evaluation of large Rathke's cleft cysts and cystic craniopharyngiomas. Pituitary. 2023 Aug;26(4):393-401. [PMID:37227614]
13. Lin PT, Wang YF, Hseu SS, Fuh JL, **Lirng JF**, Wu JW, Chen ST, Chen SP, Chen WT, Wang SJ. The SIH-EBP Score: A grading scale to predict the response to the first epidural blood patch in spontaneous intracranial hypotension. Cephalalgia. 2023 Mar;43(3):3331024221147488. [PMID:36786320]

SPEAKER

Albert Chih-Chieh Yang 楊智傑

Director, School of Medicine, College of Medicine, National Yang Ming Chiao Tung University, Taiwan
E-mail: accyang@nycu.edu.tw

Education

2002	MD, School of Medicine, National Yang-Ming University, Taipei, Taiwan
2011	PhD, Institute of Clinical Medicine (PhD Advisor: Prof. Norden E. Huang 黃鍔院士), National Yang-Ming University, Taipei, Taiwan

Professional Experience

2021/7-present	Attending Physician, Department of Medical Research, Taipei Veterans General Hospital, Taiwan
2021/7-present	Adjunct Attending Physician, Department of Psychiatry, Taipei Veterans General Hospital, Taiwan
2021/7-present	Deputy Director, Medical AI Development Center, Taipei Veterans General Hospital, Taiwan
2020/12-2021/6	Contracted Attending Physician, Psychiatry, Taipei Veterans General Hospital, Taiwan
2020/10-2021/6	Director, Brain Medicine Center, Taoyuan Psychiatric Center, Taiwan
2016/12-2019/7	Research Faculty, Interdisciplinary Medicine and Biotechnology, Beth Israel Deaconess Medical Center, Boston, USA

Honors/Awards

2024	Mt. Jade Young Scholar Award (Second Term),Minister of Education, Taiwan
2023	National Health Quality Award – Outstanding Clinical Service: Gold Medal, Joint Commission of Taiwan
2022	National Health Quality Award: Honorable Mention, Joint Commission of Taiwan
2022	10th Technology Invention Award, Far Eastern Y.Z. Hsu Foundation, Technology
2021	National Innovation Award (AI Sleep Platform and Silent Hypoxemia Monitoring Platform),Institute for Biotechnology and Medicine Industry
2020	National Innovation Award (Smart Brain Imaging Assessment Platform), Institute for Biotechnology and Medicine Industry
2019	Futext Most Popular Technique Award, Minister of Science and Technology, Taiwan

Research Interests

Sleep Disorders, Autonomic Nervous System Dysregulation, Schizophrenia, Depression, Bipolar Disorder, Anxiety Disorder

Major Publications

1. Chen TY, Zhu JD, Tsai SJ, **Yang AC***. Exploring morphological similarity and randomness in Alzheimer's disease using adjacent grey matter voxel-based structural analysis. **Alzheimer's Research & Therapy.** 2024;16(1):88.
2. Chuang BBS, **Yang AC***. Optimization of Using Multiple Machine Learning Approaches in Atrial Fibrillation Detection Based on a Large-Scale Data Set of 12-Lead Electrocardiograms: Cross-Sectional Study. **JMIR Formative Research.** 2024;8:e47803.
3. Tsai WX, Tsai SJ, Lin CP, Huang NE, **Yang AC***. Exploring timescale-specific functional brain networks and their associations with aging and cognitive performance in a healthy cohort without dementia. **NeuroImage**. 2024;289:120540.
4. Chan YLE, Tsai SJ, Chern Y, **Yang AC***. Exploring the role of hub and network dysfunction in brain connectomes of schizophrenia using functional magnetic resonance imaging. **Frontiers in Psychiatry**. 2024;14:1305359.
5. Chih HY, Ahmed T, Chiu AP, Liu YT, Kuo HF, **Yang AC**. Multitask Learning for Automated Sleep Staging and Wearable Technology Integration. **Advanced Intelligent System.** 2024 Jan;6(1):2300270.
6. Zhu JD, Wu YF, Tsai SJ, Lin CP, **Yang AC***. Investigating brain aging trajectory deviations in different brain regions of individuals with schizophrenia using multimodal magnetic resonance imaging and brain-age prediction: a multicenter study. **Translational Psychiatry**. 2023;13(1):82.
7. Zhu JD, Tsai SJ, Lin CP, Lee YJ, **Yang AC***. Predicting aging trajectories of decline in brain volume, cortical thickness and fractional anisotropy in schizophrenia. **Schizophrenia** (Heidelb). 2023;9(1):1.
8. Shen CL, Tsai SJ, Lin CP, **Yang AC***. Progressive brain abnormalities in schizophrenia across different illness periods: a structural and functional MRI study. **Schizophrenia** (Heidelb). 2023;9(1):2.
9. Tsai HJ, Yang WC, Tsai SJ, Lin CH, **Yang AC***. Right-side frontal-central cortical hyperactivation before the treatment predicts outcomes of antidepressant and electroconvulsive therapy responsivity in major depressive disorder. **Journal of Psychiatric Research.** 2023;161:377-385.
10. Sun J, Yuan K, Chen C, Xu H, Wang H, Zhi Y, Peng, S, Peng CK, Huang NE, Huang G, **Yang AC***. Causality Network of Infectious Disease Revealed With Causal Decomposition. **IEEE Journal Biomedical Health Informatics** 2023; 27(7): 3657–3665.
11. Zhu, JD, Huang CW, Chang HI, Tsai SJ, Huang SH, Hsu SW, Lee CC, Chen HJ, Chang CC, **Yang AC***. Functional MRI and ApoE4 Genotype for Predicting Cognitive Decline in Amyloid-Positive Individuals. **Therapeutic Advances in Neurological Disorders.** 2022; 15: 17562864221138154.
12. Chen YC, Chu YC, Huang CY, Lee YT, Lee WY, Hsu CY, **Yang AC***, Liao WH*, Cheng YF*. Smartphone-based artificial intelligence using a transfer learning algorithm for the detection and diagnosis of middle ear diseases: A retrospective deep learning study. **eClinicalMedicine**. 2022;51:101543.

The Future of Telemedicine in Medical Education: Insights from the NYCU Physician-Engineer Program

Chih-Chieh Yang, PhD
Director / School of Medicine, College of Medicine,
National Yang Ming Chiao Tung University, Taiwan

The COVID-19 pandemic has driven the rapid development of telemedicine technology, quickly integrating it into clinical practice. After the pandemic, the scope of telemedicine has further expanded, playing a crucial role not only in clinical practice but also having a profound impact on medical education. National Yang Ming Chiao Tung University established a Physician-Engineer Program within the School of Medicine, aiming to cultivate medical professionals with diverse knowledge and skills to address this transformation. The rapid advancement of telemedicine technology has presented unprecedented opportunities and challenges for medical education. Through technologies such as video consultations, remote monitoring, and digital medical records, telemedicine has enabled a healthcare delivery model that transcends spatial boundaries, which not only changes traditional medical practices but also prompts medical educators to rethink how to train future physicians. Traditional medical education has primarily relied on face-to-face clinical teaching. However, with the widespread adoption of telemedicine, medical students need to learn how to diagnose and treat patients in virtual environments and understand the role of data analysis in medical decision-making. Before the university merger in 2021, the School of Medicine at National Yang-Ming University foresaw the significant impact of technology on medical education. By establishing the Physician-Engineer Program, the university successfully integrated medical education with engineering technology, equipping students with professional skills in fields such as digital medicine, artificial intelligence, and the Internet of Things. We can anticipate that the continuous development of telemedicine technology will have a profound impact on the future of medical education. Medical education will place greater emphasis on the cultivation of digital skills, including the application of data analysis and telemedicine techniques. Telemedicine will also make medical education more flexible, allowing students to learn clinical skills at any time and place through virtual reality and other means.

MODERATOR

Tzu-Hao Cheng 鄭子豪

Vice president, National Yang Ming Chiao Tung University, Taiwan
E-mail: thcheng@nycu.edu.tw
Website: https://biochem.nycu.edu.tw/faculty/full-time/cheng-tzu-hao/

Education

1994-2000	Ph.D. Cellular and Molecular Pharmacology, Rutgers University, USA
1988-1991	M.S. Biochemistry, National Yang-Ming University, Taipei, Taiwan
1985-1988	B.S. Chemical Engineering, National Tsing-Hua University, Taiwan

Professional Experience

2021-present	Vice President, National Yang Ming Chiao Tung University (NYCU)
2021-present	Director, Institute of Biochemistry and Molecular Biology, NYCU
2017-present	Distinguished Professor, Institute of Biochemistry and Molecular Biology, NYCU
2018-2019	Visiting Professor, Genetics Department, Stanford University, USA
2017-2019	Head of Research, Nuredis Inc., USA
2012-2017	Professor, Institute of Biochemistry and Molecular Biology, NYMU

Honors/Awards

2020	Distinguished Alumni Award, College of Engineering, National Tsing-Hua University, Taiwan.
2018	Distinguished Alumni Award, National Yang-Ming University, Taiwan.
2017	Outstanding Research Award, Ministry of Science and Technology, Taiwan
2013-2017	National Institutes of Health (NIH) research grant award (R01NS085812), USA,
2013-2014	CHDI foundation research grant award (RecID A-8244), USA,

Research Interests

Gene Regulation, Repeat expansion disorder, Neurodegenerative disorder,
Huntington's disease, Drug development

Major Publications

1. N Deng, YY Wu, Y Feng, WC Hsieh, JS Song, YS Lin, YH Tseng, WJ Liao, YF Chu, YC Liu, EC Chang, CR Liu, SY Sheu, MT Su, HC Kuo, SN Cohen*, **TH Cheng***. (2022). Chemical interference with DSIF complex formation lowers synthesis of mutant huntingtin gene products and curtails mutant phenotypes**.** *Proc Natl Acad Sci U S A* 119 (32): e2204779119.
2. YH Lee, YS Tsai, CC Chang, CC Ho, HM Shih, HM Chen, HL Lai, CW Lee, YC Lee, YC Liao, UC Yang*, **TH Cheng***, YJ Chern*, BW Soong*. (2022). A PIAS1 protective variant S510G delays polyQ disease onset by modifying protein homeostasis. *Movement Disorders* 37 (4), 767-777.
3. NJ Kramer, Y Carlomagno, YJ Zhang, S Almeida, CN Cook, TF Gendron, M Prudencio, MV Blitterswijk, V Belzil, J Couthouis, JW Paul III, LD Goodman, L Daughrity, J Chew, A Garrett, L Pregent, K Jansen-West, LJ Tabassian, R Rademakers, K Boylan, NR Graff-Radford, KA Josephs, JE Parisi, DS Knopman, RC Petersen, BF Boeve, N Deng, Y Feng, **TH Cheng**, DW Dickson, SN Cohen, NM Bonini, CD Link, FB Gao, L Petrucelli*, AD Gitler*. (2016). Spt4 selectively regulates the expression of C9orf72 sense and antisense mutant transcripts. *Science* 353, 708-712.
4. HM Cheng, Y Chern, IH Chen, CR Liu, SH Li, S Chun, F Rigo, CF Bennett, N Deng, Y Feng, CS Lin, YT Yan*, SN Cohen*, and **TH Cheng***. (2015). Effects on Murine Behavior and Lifespan by Selectively Decreasing Expression of Mutant Huntingtin Allele by Supt4h knockdown. *PLoS Genetics* 11, e1005043.
5. CR Liu, CR Chang, Y Chern, TH Wang, WC Hsieh, WC Shen, CY Chang, IC Chu, N Deng, SN Cohen*, and **TH Cheng***. (2012). Spt4 is Selectively Required for Transcription of Extended Trinucleotide Repeats. *Cell* 148, 690-701.

MODERATOR

Kuan-Yu Hung 洪冠予

Executive Vice President, Taipei Medical University

Education

2011-2013	EMBA, College of Management, National Taiwan University
1996-2002	Ph. D., Graduate Institute of Clinical Medicine, National Taiwan University
1981-1988	M.D., School of Medicine, College of Medicine, National Taiwan University

Professional Experience

2023/8-present	Executive Vice President, Taipei Medical University
2021/1-2023/7	Deputy Director, Healthcare System Administration Center, NTU
2015/8-2020/12	Superintendent, Hsin-Chu Branch, NTUH
2010/8-2015/7	Deputy Superintendent, NTUH
2008/8-2015/7	Director, Center for Quality Management, NTUH

Major Publications

- Cheng HT, Xu X, Lim PS, Hung KY (corresponding). Worldwide Epidemiology of Diabetes-Related End-Stage Renal Disease, 2000-2015. Diabetes Care 2021 Jan;44(1):89-97
- Chao CT, Lee SY, Wang J, Chien KL, Hung KY (corresponding). The risk trajectory of different cardiovascular morbidities associated with chronic kidney disease among patients with newly diagnosed diabetes mellitus: a propensity score-matched cohort analysis. Cardiovasc Diabetol 2021 Apr 24;20(1):86
- Chao CT, Chang CI, Wang PC, Chiang CF, Chen CP, Hsu HS, Hung KY (corresponding). Impact of a kidney-specific disease-specific care certification program on the institutional performance indicators of hospitals caring for patients with chronic kidney disease: a national data analysis. Nephrology (Carlton) 2021 May 15. doi: 10.1111/nep.13901. Online ahead of print.
- Yen PW, Chen YA, Wang W, Mao FS, Chao CT, Chiang CK, Lin SH, Tarng DC, Chiu YW, Wu MJ, Chen YC, Kao JT, Wu MS, Lin CL, Huang JW, Hung KY (corresponding). The screening, diagnosis, and management of patients with autosomal dominant polycystic kidney disease: a national consensus statement from Taiwan. Nephrology (Carlton) 2024 May; 29(5): 245-25

DISCUSSANT

Yih-Jer Wu 吳懿哲

High Commissioner, Superintendent Office, and Director and Senior Consultant Cardiologist, Division of Preventive Cardiology & Pulmonary Circulation Medicine, MacKay Memorial Hospital, Taiwan
E-mail: jacobyjwu@gmail.com
Website: https://medicine.mmc.edu.tw/

Education

1985-1992	School of Chinese Medicine (Double major in Medicine), China Medical University (M.D.)
1992-1994	Institute of Traditional Medicine, National Yang-Ming University (M.Sc)
2014-2015	Alma Mater Studiorum University of Bologna, Itay (M.PVD)
2003-2006	Bristol Heart Institute, University of Bristol, U.K. (Ph.D.)

Professional Experience

2016-2023	Chair, Department of Medicine, MacKay Medical College
2016-2023	Director, Department of Medical Education, MacKay Memorial Hospital
2011-present	Associate Professor of Medicine, Department of Medicine, MacKay Medical College
2009-2011	Assistant Professor of Medicine, Department of Medicine, MacKay Medical College
2007-2012	Adjunct Assistant Professor, Institute of Traditional Medicine, National Yang-Ming University

Honors/Awards

2006	Young Research Worker's Prize (YRWP), British Cardiac Society
2019	The 27th Medical Contribution Award – Xinglin Award, Taipei Medical Association
2016-Present	Fellow of European Society of Cardiology (FESC)
2024-Present	Member of the Ninth Taiwan Medical Accreditation (TMAC) Committee

Research Interests

1. Pulmonary hypertension
2. Atherosclerosis and vascular biology
3. Traditional Medicine
4. Medical Education

Major Publications

(Recent 5 years)

1. Chou YH, Lee YN, Su CH, Lee HI, Hsieh CL, Tien TY, Lin CF, Yeh HI, **Wu YJ***. Senescence induces miR-409 to down-regulate CCL5 and impairs angiogenesis in endothelial progenitor cells. ***J Cell Mol Med*** 2024;24(12):e18489.
2. Wu TW, Chou CL, Cheng CF, Lu SX, **Wu YJ**,* Wang LY.* Associations of genetic markers of diabetes mellitus with carotid atherosclerosis: a community-based case-control study. ***Cardiovasc Diabetol*** 2023;22:51.
3. Wu SH, **Wu YJ.*** Regular risk assessment in pulmonary arterial hypertension – a whistleblower for hidden disease progression. ***Acta Cardiol Sin*** 2022;38(2):113-123.
4. Lee YN, Wang HH, Su CH, Lee HI, Chou YH, Hsieh CL, Liu WT, Shu KT, Chang KT, Yeh HI, **Wu YJ***. Deferoxamine accelerates endothelial progenitor cell senescence to compromise angiogenic activity. ***Aging*** 2021;13(17):21364-21384.
5. Wang HH, Lee YN, Su CH, Shu KT, Liu WT, Hsieh CL, Yeh HI, **Wu YJ***. S-phase kinase-associated protein-2 rejuvenates senescent endothelial progenitor cells and induces angiogenesis *in vivo*. ***Sci Rep*** 2020;10(1):6646.
6. **Wu YJ**, Lee YN, Wu TW, Chou CL, Wang LY. Common genetic variants on bone morphogenetic protein receptor type IB (BMPR1B) gene are predictive for carotid intima-media thickness. ***Circ J*** 2019;83(4):749-56.
7. Chou CL*, **Wu YJ***, Hung CL, Liu CC, Wang SD, Wu TW, Wang LY, Yeh HI. Segment-specific prevalence of carotid artery plaque and stenosis in middle-aged adults and elders in Taiwan: A community-based study. ***J Formo Med Assoc*** 2019;118(1 pt 1):64-71.

The potential limitation of telehealth in the future: risks and opportunities

Yih-Jer Wu, MD, MSc, MPVD, PhD
Department of Medicine, MacKay Medical College
Department of Cardiovascular Medicine, MacKay Memorial Hospital

Telehealth has revolutionized the delivery of healthcare by making it more accessible and convenient. However, its future potential is not without limitations and risks. This speech will explore the evolving landscape of telehealth, addressing key limitations such as technological barriers, cybersecurity threats, and the digital divide that affects access for underserved populations. We will also discuss the risks associated with telehealth, including data privacy concerns and the potential for reduced quality of care due to the absence of "doctor's touch" and physical examinations. Telehealth may also potentially exacerbate physician burnout due to increased patient engagement related increase of workflows. Despite these challenges, telehealth presents numerous opportunities for the future, such as enhancing patient engagement, improving healthcare outcomes through remote monitoring, and expanding access to specialized care. By understanding both the risks and opportunities, we can better navigate the integration of telehealth into mainstream healthcare and ensure its benefits are maximized while mitigating potential downsides.

DISCUSSANT

Tai-Lung Cha 查岱龍

CEO, Taiwan Medical Accreditation Council (TMAC)
Distinguished Researcher and Director of National Institute of Cancer Research (NICR), National Health Research Institute (NHRI), Taiwan, R.O.C.
E-mail: tailungcha@gmail.com

Education

1983/7-1990/8	Bachelor of Medicine, National Defense Medical Center School of Medicine
2000/8-2005/8	Ph.D., Molecular and Cellular Oncology Department, University of Texas MD Anderson Cancer Center

Professional Experience

2016/2/-2016/7	Colonel Professor and Director of Department of Surgery, National Defense Medical Center
2017/8-2018/3	Vice President of the National Defense Medical Center and Executive Officer of Tri-Service General Hospital
2019/6- 2023/9	Major General and President of the National Defense Medical Center
2024/8-present	Distinguished Researcher, Director of NICR, NHRI
2024/8-present	CEO, Taiwan Medical Accreditation Council

Honors/Awards

2016	Received the 2016 National Innovation Award in the Biotechnology and Pharmaceutics Division of the Academic Research and Innovation Category
2017	Received the 2017 Residential Kyorin Award by Taipei Medical Association
2021	Received the 2021 National Excellent Teacher Award of the Ministry of Education
2022	Listed in the World's Top 2% Scientists 2021

Research Interests

Cancer metastasis, an intricate evolutionary process, poses a formidable challenge in unraveling the most devastating clinical situations. The involvement of a general mediator in cancer metastasis remains enigmatic. Utilizing genome-wide gene expression databases, clinical outcomes, multiple animal models, and cancer cell lines, we have identified a previously uncharacterized G-protein coupled receptor (GPCR) that mediate the tumor growth and metastasis.

Major Publications

1. Chien-Chang Kao, Ching-Liang Ho, Ming-Hsin Yang, Yi-Ta Tsai , Shu-Yu Liu, Ping-Ying Chang, Yi-Ying Wu, Jia-Hong Chen, Tzu-Chuan Huang, Ren-Hua Yehn, Ming-Shen Dai, Yeu-Chin Chen, Guang-Huan Sun, **Tai-Lung Cha. Phase I Targeted Combination Trial of Sorafenib and GW5074 in Patients with Advanced Refractory Solid Tumors. Journal of Clinical Medicine**, 14;11(8):2183.
2. Hou TY, Chen MR, Chou YC, Kan PC, Tsai YT, **Cha TL**. (2017, Jul). **Impact of Enhancer of Zeste Homolog 2 on T Helper Cell-Mediated Allergic Rhinitis. Frontiers in Immunology**, Front Immunol. 2017 Jul 10;8:790.
3. Lai XM, Liu SY, Tsai YT, Sun GH, Chang SY, Huang SM, **Cha TL**. (2017, Jun). **HAF mediates the evasive resistance of anti-angiogenesis TKI through disrupting HIF-1α and HIF-2α balance in renal cell carcinoma.** Oncotarget, Oncotarget. 2017 Jul 25;8(30):49713-49724.
4. Yi-Ta Tsai, Mei-Jen Chuang, Shou-Hung Tang, Sheng-Tang Wu, Yu-Chi Chen, Guang-Huan Sun1, Pei-Wen Hsia, Shih-Ming Huang, Hwei-Jen Lee,Cheng-Ping Yu, Jar-Yi Ho, Hui-Kuan Lin, Ming-Rong Chen, Chung-Chih, Lin, Sun-Yran Chang, Victor C. Lin, Dah-Shyong Yu and **Tai-Lung Cha**. **Novel Cancer Therapeutics with Allosteric Modulation of The Mitochondrial C-Raf/DAPK Complex by Raf Inhibitor Combination Therapy.** Cancer Research 2015, Sep 1;75(17):3568-82.
5. Shou-Hung Tang, Hsu-Shan Huang, Hong-Ui Wu, Yi-Ta Tsai, Mei-Jen Chuang, Cheng-Ping Yu, Shih-Ming Huang, Guang-Huan Sun, Sun-Yran Chang, Pei-Wen Hsiao, Dah-Shyong Yu, and **Tai-Lung Cha**. ***Pharmacologic Down-regulation of EZH2 Suppresses Bladder Cancer in vitro and in vivo***. Oncotarget 2014 Nov; 5(21): 10342–10355.
6. Ting-Yi Juan steve R Roffler, Hisien San Hou, Shih-Ming Huang, Kai-Chuan Chen, Yu-Lin Leu, Zelijko M. Prijovich, Cheng-Ping Yu, Chang-Chieh Wu, Guang-Huan Sun and **Tai-Lung Cha**, **Antiangiogenesis Targeting Tumor Microenvironment Synergizes Glucuronide Prodrug Antitumor Activity**, Clinical Cancer Research, 2009,15(14):4600-4611.
7. **Tai-Lung Cha**, Mei-Jen Chuang, Sheng-Tang Wu, Guang-Huan Sun, Sun-Yran Chang, Dah-ShyongYu, Shih-Ming Huang, Steven Kuan-Hua Huan, Tse-Chou Cheng,Tzu-Ting Chen, Pao-Luo Fan, and Pei-Wen Hsiao, **Dual Degradation of Aurora A and B Kinases by the Histone Deacetylase Inhibitor LBH589 Infuvrd G2-M Arrest and Apoptosis of Renal Cancer Cells**; Clin Cancer Res, 2009 Feb 1;15(3):840-50.
8. Feng-Ming Lin, Chin-Hsien Tsai, Yu-Chih Yang, Wei-Chun Tu, Li-Ru Chen, Yun-Sa Liang, Sheng-Yran Wang, Lie-Fen Shyur, Shih-Chan Chien, **Tai-Lung Cha**, and Pei Wen Hsiao. **A Novel Diterpene Suppresses CWR22Rv1 Tumor Growth In vivo through Antiproliferation and Proapoptosis**. Cancer Res 2008; 68: 16, 6634-6642.
9. **Tai-Lung Cha**, Binhua P. Zhou, Weiya Xia, Yadi Wu, Cheng-Chieh Yang, Chun-Te Chen, Bo Ping, Arie P. Otte, Mien-Chie Hung. **Akt-mediated phosphorylation of EZH2 suppresses methylation of lysine 27 in histone H3**. **Science**, 301, 306-310, Oct 14, 2005.
10. **Tai-Lung Cha**, Lin Qiu, Chun-Te Chen, Yong Wen, Mien-Chie Hung. **Emodin down-regulates androgen receptor and inhibits prostate cancer cell growth.** Cancer Res. 2005 Mar 15;65(6):2287-95.

SESSION 3

法政及政策面

Legal and Policy Aspects

MODERATOR

Chih-Hsiung Chen (Thomas)陳錡雄

Dean, National Yang Ming Chiao Tung University School of Law, Taiwan
E-mail: chen@nycu.edu.tw
Website: https://law.nycu.edu.tw/en/faculty/thomas-chen/

Education

2002-2007	J.S.D., Washington University in Saint Louis, Missouri, USA
2001-2002	LL.M., Washington University in Saint Louis, Missouri, USA
1993-1996	Master of Laws, National Taiwan University Graduate Institute of Law, Taipei, Taiwan
1988-1993	B.A. of Philosophy and minor in law, National Taiwan University, Taipei, Taiwan.

Professional Experience

2024-2025	Member, the Reproductive Health Advisory Committee, the Ministry of Health and Welfare, Taiwan
2023-2025	Co-Chair, Chapter on Law and Technology, Asian Law Schools Association
2018-2020	Member, Food Advertising Labeling Council, Ministry of Health and Welfare, Taiwan
2018-2020	Vice Chairman of the Taiwan Medical Law Society Legislative advisor to the following laws and bills: ➢ Management Measures for the Implementation or Use of Specific Medical Technology Testing and Diagnostic Medical Devices (特管辦法) ➢ Food Safety and Health Management Act ➢ Eugenic Health Act; Assisted Reproduction Act; Surrogacy legislation ➢ Personal Data Protection Act; Health and Welfare Data Management Act（衛生福利資料管理條例草案） ➢ Cybersecurity Management Act ➢ Telemedicine legislative policy

Honors/Awards

2013- present	Flexible Faculty Merit Pay Award, National Yang-Ming Chiao Tung University
2012	Excellent Teaching Award, National Chiao Tung University
2010	Outstanding Researcher Award, National Chiao Tung University

Research Interests

Health Care Law, Biotechnology Law, Artificial Intelligence and Law, Information Privacy, Legal Ethics

Major Publications

1. Chih-hsiung CHEN, **SMART MEDICINE AND THE LAW ,** HanLu Publising, Jan. 2021, Taipei (ISBN：9789869974851). (in Chinese)
2. Chih-hsiung CHEN, Helpers for Helpers: Ethical and Legal Considerations For Long-Term Care Robots, included in THE CAMBRIDGE HANDBOOK OF THE LAW, POLICY, AND REGULATION FOR HUMAN-ROBOT INTERACTION, 2024, Cambridge University Press, United Kingdom, (ISBN: 9781009386708)
3. Chih-hsiung CHEN, Legal Issues in Artificial Intelligence Medical Decision Systems, included in ARTIFICIAL INTELLIGENCE AND RELATED LEGAL ISSUES, 2019, Angle Publishing, Taipei, (ISBN: 9789575112066). (in Chinese)
4. Chih-hsiung CHEN, The Legal Issues of Medical Decision-Making Systems Based on Artificial Intelligence, in ARTIFICIAL INTELLIGENCE AND RELATED LEGAL ISSUES, Dec. 2019, Angle Publishing, pp. 1-61（ISBN：9789575112066）. (in Chinese)
5. Chih-hsiung Chen, Medical Tourism and Telemedicine - Preliminary Discussion Medical-Legal System in Southeast Asia, Taiwan Bar Journal, pp. 6-18, Dec. 2017, Taipei (in Chinese)
6. Chih-Hsiung Chen* & Ting-yu Liu, The Standards of Malpractice in Telemedicine, Soochow Law Journal, Vol. 22: 1, pp. 61-99, July 2010, Taiwan (TSSCI) (in Chinese) (National Science Council Project NSC 98-2410-H-009-041).
7. Chih-hsiung Chen, Telemedicine and Doctor's Duty of Diagnosing in Person, Chung Yuan Financial Law Review, Vol. 22, pp. 47-93, June 2009, Taiwan (TSSCI)(in Chinese).
8. Chih-hsiung Chen, The Impacts of Telemedicine on Law, Taiwan bar journal, pp. 41-51, January 2007, Taiwan (in Chinese).

SPEAKER

Barry Solaiman

Position Assistant Dean of Students & Assistant Professor of Law, HBKU Law Qatar; Adjunct Assistant Professor of Ethics in Clinical Medicine, Well Cornell Medicine - Qatar
E-mail: bsolaiman@hbku.edu.qa
Website: www.barrysolaiman.com

Education

2014/17	PhD in Law, University of Cambridge
2011/12	LLM in Commercial Law, Durham University
2010/11	Barrister, BPTC, London, Middle Temple
2007/10	LLB, Newcastle University

Professional Experience

2017-onging	Assistant Dean of Students and Assistant Professor of Law, HBKU Law, Qatar
2021-onging	Lead Principal Investigator (LPI), HBKU Signature Research Grant developing guidelines for the use of AI in healthcare research
2023-onging	Governor, World Association for Medical Law (WAML)
2020	Editor in Chief, Medicine and Law Journal
2016-17	Editor in Chief, Cambridge International Law Journal

Honors/Awards

2023/24	Fellowship in Bioethics, Harvard Medical School

Research Interests

1. Healthcare Law (with a focus on AI)
2. Constitutional Law (with a focus on the lobbying of government & parliament)
3. Mediation

Major Publications

Book:

Barry Solaiman and I. Glenn Cohen, *Research Handbook on Health, AI and the Law* (Edward Elgar 2024)

https://www.e-elgar.com/shop/gbp/research-handbook-on-health-ai-and-the-law-9781802205640.html

Articles and chapters in print:

	Author	Title	Publisher	Date
1	Barry Solaiman (article)	Monitoring Mental Health: Legal and Ethical Considerations of Using Artificial Intelligence on Psychiatric Wards	***American Journal of Law & Medicine (Cambridge University Press) 250-66*** *Link*	2024
2	Barry Solaiman (chapter)	Health Data, Privacy and Confidentiality in Qatar	*In Thierry Vansweevelt and Nicola Glover Thomas, Privacy and Health: A Comparative Analysis (**Edward Elgar**) **114-139** Link*	2023
3	Barry Solaiman (article)	Telehealth in the Metaverse: Legal & Ethical Challenges for Cross-Border Care in Virtual Worlds	***Journal of Law, Medicine & Ethics (Cambridge University Press) 287-300*** *Link*	2023
4	Barry Solaiman (article)	From 'AI to Law' in Healthcare: The Proliferation of Global Guidelines in a Void of Legal Uncertainty	***Medicine and Law Journal (Hein) 391-405*** *Link*	2023
5	Arfan Ahmed et al (article)	Wearable devices for anxiety & depression: A scoping review	***Computer Methods and Programs in Biomedicine Update 1-8*** *Link*	2023
6	Barry Solaiman (article)	Lobbying in the UK: Towards Robust Regulation	***Parliamentary Affairs (Oxford University Press) 270-297*** *Link*	2023
7	A Al-Hwsali and others (article)	Scoping Review: Legal and Ethical Principles of Artificial Intelligence in Public Health	***Studies in Health Technology and Informatics*** *Link* ***640-643***	2023
8	Barry Solaiman (chapter)	Assessing Healthcare Rights and Responsibilities under the Constitutional Orders of Mainland China and the Special Administrative Regions	*in Ngoc Son Bui, Stuart Hargreaves and Ryan Mitchell, The Handbook of Constitutional Law in Greater China (**Routledge**) Link **266-285***	2022
9	Barry Solaiman and Mark Bloom (chapter)	AI, Explainability, and Safeguarding Patient Safety in Europe: Towards a Science-Focused Regulatory Model	*in I. Glenn Cohen, Timo Minssen, W. Nicholson Price II, Christopher Robertson, and Carmel Shachar, The Future of Medical Device Regulation: Innovation and Protection (**Cambridge University Press**) Link **91-102***	2022
10	Zachary Calo & Barry Solaiman (article)	Alternative Dispute Revolution: Technology and ADR in the Middle East Following the COVID-19 Pandemic	*(John Marshall Law Journal) Link* **58-73**	2022
11	Barry Solaiman (chapter)	'Electoral Commission'	*in Rainer Grote, Frauke Lachenmann and Rüdiger Wolfrum, Max Planck Encyclopedia of Comparative Constitutional Law (**Oxford University Press**, 2021) Link **1-14***	2021
12	Barry Solaiman (chapter)	'Medical Liability in Qatar'	*Vera Lúcia Raposo & Roy G. Beran, Medical Liability in Asia and Australasia (**Springer**) Link **207-224***	2021

13	Barry Solaiman & Suhaila Ghuloum (article)	Towards Community Care: Qatar's Rapidly Evolving Mental Health Landscape	*BJPsych International; (**Cambridge University Press**)* Link ***15-18***	2021
14	Barry Solaiman (article)	Addressing Access with Artificial Intelligence: Overcoming the Limitations of Deep Learning to Broaden Remote Care Today	***University of Memphis Law Review*** Link ***1103-1141***	2021
15	Barry Solaiman (article)	COVID-19 and the Shift Towards Telemedicine: Developing a Regulatory Foundation in a Post-Pandemic World	***Lexis Nexis*** Link ***7-15***	2020

Legal & Ethical Challenges for Telemedicine in Clinical Practice

Barry Solaiman, PhD Cantab
Assistant Dean & Assistant Professor
HBKU Law, Qatar
Weill Cornell Medicine – Qatar.

This presentation examines the legal and ethical challenges for the use of telemedicine in clinical practice. There has been a significant rise in remote consultations between doctors and patients following the COVID-19 Pandemic. However, most countries have yet to develop bespoke regulations and licensing requirements, which raises challenges for clinicians seeking to understand their responsibilities. Future international collaboration will be required to regulate this space as it develops but there are best practices that the clinicians of today and tomorrow should consider.

Four key areas are examined that healthcare professionals should consider. First, clinicians must ensure they have the appropriate licensing to practice telemedicine and have considered jurisdictional issues. Second, an assessment should be conducted of whether telemedicine is the appropriate method of consultation for the patient. Third, the use of telemedicine should be done in accordance with the appropriate standard of care and norms of informed consent. Fourth, the clinician and their employer (the healthcare institution) must ensure that data protection and confidentiality requirements are complied with when using telemedicine.

An additional consideration for the clinician may be conducting telemedicine for patients located abroad. This presentation also explores the potential solutions for providing such care while not undermining legal protections for patients. Preparing for the use of telemedicine by considering these areas will provide greater certainty to all parties while developing a foundation for telemedicine's continued use.

MODERATOR

Chung-Ming Chang 張仲明

Vice Chairman, Forum, National Health Research Institutes, Taiwan (R.O.C)
E-mail: tonychang@nhri.edu.tw

Education

1974	Department of Microbiology and Immunology, Temple University, USA	Ph.D.
1969	Department of Biology, Tunghai University, Taiwan	B.S.

Current Position

2019-present	Forum, National Health Research Institutes	Vice Chairman
2016-present	National Health Research Institutes	Research Fellow Emeritus
2016-present	National Yang-Ming University	Professor Emeritus
2016-present	Feng Chia University	Distinguished advisor

Professional Experience

2002-2016	Board of Trustees, Fung Chia University	Chairman
2001-2003	National Science and Technology Priority, Program in Pharmaceutical and Biotechnology	Director
1999-2003	Chinese Society of Cell and Molecular Biology	President
1997-2016	National Health Research Institutes	Distinguished Investigator
1997-2006	Department of Intramural Research Affairs	Director
1991-1996	National Yang-Ming University	Dean of Academic Affairs
1991-1994	The Chinese Society of Immunology	President
1982-2016	Institute of Microbiology and Immunology, National Yang-Ming University	Professor
1981-1988	Graduate Institute of Microbiology and Immunology, National Yang-Ming Medical College	Director
1978-1997	Laboratory of Tumor Biology, Dept. of Medical	Investigator

	Research, Veterans General Hospital, Taipei	
1977-1978	National Cancer Institute, NIH	Visiting Associate
1974-1977	Laboratory of Cell Biology, NCI, NIH	Fogarty Visiting Fellow

Honors/Awards

1994	Academic award, Ministry of Education
1986-1996	Outstanding research award, National Science Council, R.O.C.

Research Interests

- Regulation of HBV replication and hepatocyte differentiation
- Diagnosis, pathogenesis and therapy of the novel swine-origin influenza A H1N1 virus
- Discovery of novel anti-cancer compounds

Major Publications

*** denotes Corresponding Author**

1. Hong MH, Chou YC, Wu YC, Tsai KN, Hu C, Jeng KS, Chen ML, **Chang CM*** (2011) Transforming growth factor-β1 suppresses hepatitis B virus replication by the reduction of hepatocyte nuclear factor-4α expression. PLoS ONE 7:e30360, 2011.
2. Chong CL, Chou YC, Wu YC, Tsai KN, Huang CC, Hu C, Jeng KS, Chen ML, **Chang CM***; Dynamics of HBV cccDNA expression and transcription in different cell growth phase. Journal of Biomedical Science 2011;18:96..

Smart Healthcare and Telehealth Planning and Development

Yueh-Ping Liu Director
Dept. of Medical Affairs, Ministry of Health and Welfare

As a result of the phenomenon of a rapidly aging population in Taiwan, the demand for home healthcare is rapidly increasing. With advancements of Information and communications technology, smart healthcare and telehealth become the developing trend.

To improve accessibility to medical services, safeguard the security of patients' health data, and respond to the new normal in healthcare development post COVID-19, the government in Taiwan has revised relevant telemedicine laws and implemented related strategy to enhance healthcare efficiency and accessibility.

To maximize the these benefits, the government is trying to promote telehealth assissted-clinical medical training. This training should be able to equip healthcare professionals with the necessary telehealth skills, ensuring they can effectively utilize digital technologies to deliver quality care. Additionally, clinical training should cover the ethical considerations and risks associated with telehealth, such as maintaining patient privacy and data security.

By doing so, healthcare providers will be better prepared to uphold patient rights, ensuring safe and ethical telehealth practices that protect and serve the patient population effectively.

MODERATOR

Te-jen Hung MD 洪德仁

Chairman, Taipei Medical Association ,Taiwan (R.O.C)
E mail: ptcfmail@ms56.hinet.net hungtj66@ms31.hinet.net
Website:https://www.ptcf.org.tw/

Education

1973-1980	MD., School of Medicine, Taipei Medical University
2003-2006	MAM., Taipei National University of the Arts

Professional Experience

2023-present	President , Taipei Medical Association
2022-present	Chief Supervisor, Taiwan Medical Association
2016-present	Vice President, Alliance for Healthy Cities, Taiwan
2018-2022	Immediate Past President, Taiwan Community Empowering Society
2022-present	President , Taipei Healthy City Promotion Association
2022-present	President , International Academy of Intergrated Care
2004-present	Chairman, Beitou Community Group Practice
2000-present	Founder, Beitou Cultural Foundation
2018-present	Associate Professor, Department of Medicine, Taipei Medical University
1986-present	Otolaryngologist, Dr. Hung ENT Clinic
2024-2025	Advisor, the Ministry of Health and Welfare
2018-2024	Member , Steering Committee , AFHC, WHO
2022-present	Member , Academic Committee , AFHC, WHO

Research Interests

Community health promotion, Covid-19 Prevention, Healthy city, Age-friendly city, Home care, Community empowerment, Civil participation, Sustainable development.

Major Publications

1. Hung Te-jen (2018). *Home Care in Taiwan.*Taipei: Open Learning Culture.
2. Hung Te-jen (2016). *Community Building and Civil Societyin Taiwan.*Taipei: Open Learning Culture.
3. Hung Te-jen (2015).*Life Moments of a Community Doctor.* Taipei: Open Learning Culture.
4. Hung Te-jen(2015). The Plight and Solution of Community Supported*Agriculture in Beitou Urban Area. In2015 MIT-Meeting Taipei: The Cultural and Creative Industries* Conference 9th Asian Design Cultural Society, (pp.583-588). Taipei:Asian Design Cultural Society.
5. Hung Te-jen, & Liu Jorn Hon (2012).*Study of community voluntaryexercise team of the Taiwan elderly.*Clinical Health Promotion, 2 Supplement, 282.
6. Chen Jin Jong, & Hung Te-jen(2012).A pilot study of the short-term effects of an interdisciplinary intervention program on community-dwelling elderly.Clinical Health Promotion, 2 Supplement,279.
7. Te-jen Hung (2011).*Community Aged Health Care.*Taipei:Beitou Cultural Foundation.
8. Te-jen Hung,&Yubin Bai (2008).*Medical Education in the Community.* Taipei:Tangshan Press.
9. Te-jen Hung (2007).*Relationship of Physicians and Community.* Taipei:Tangshan Press.
10. Chu Yu-Roo,Hung Te-Jen (2007). *Stories of Beitou.* Taipei: Department of Health, Taipei City Government.
11. Chu Yu-Roo,Hung Te-Jen (2007). *2004-2007 Taipei Beitou Health Promotion Report.* Taipei: Department of Health, Taipei City Government.
12. Chu Yu-Roo,Hung Te-Jen (2007). *Taipei Beitou Healthy City Plan.* Taipei: Department of Health, Taipei City Government.
13. Hung Te-jen.*Community-Building Movement in Taiwan, 2001-2005.* The East Asian Journal for Adult Education and Community Studies, 2005, 10: 51-77(in Japanese)
14. Hung Te-jen, *Button Batteries As Foreign Bodies In The Nasal Cavities,*Int. J. Pediatr. Otolaryngol., 1987, 14: 15-19.（SCI）

SPEAKER

Matthew Huei-Ming Ma , M.D., Ph.D.,MBA 馬惠明

National Taiwan University Hospital Yunlin Branch Yunlin, Taiwan
E-mail: matthew@ntu.edu.tw
Website: https://www.ylh.gov.tw/YL/index.php

Education

2022/6	Executive MBA (International Business Management), National Taiwan University, Taipei, Taiwan
1998/3	PhD (Health Policy and Management), School of Hygiene and Public Health, The Johns Hopkins University, Baltimore MD, USA
1989/6	M.D. June, College of Medicine, National Taiwan University, Taipei, Taiwan

Professional Experience

2022/8-	**Superintendent**, National Taiwan University Hospital Yunlin Branch, Taiwan
2022/8-	**Convener,** National Taiwan University **,** Office of Yunlin Branch Campus
2023/1-	**Associate Director**, National Center for Geriatrics and Welfare Research, National Health Research Institutes
2023/1-	**Research Fellow (joint appointment),** National Center for Geriatrics and Welfare Research, National Health Research Institutes**,** National Taiwan University
2022/8-2022/12	**Associate Executive Officer,** National Center for Geriatrics and Welfare Research, National Health Research Institutes
2012/8-	**Professor,** Department of Emergency Medicine,School of Medicine, National Taiwan University,Taipei, Taiwan
2012/8-	**Professor,** Institute of Epidemiology and Preventive Medicine, College of Public Health, National Taiwan University, Taipei, Taiwan
2021-	**Adjunct Professor,** Department of Biomedical Sciences and Engineering**,** College of Health Sciences & Technology**,** National Central University, Taoyuan, Taiwan

Honors/Awards

2024/6	Taiwan Society of Emergency Medicine, Lifetime EMS Contribution Award
2023/7	The Excellence Award of National Hepatitis B and C, Screening of Health Promotion Administration, Ministry of Health and Welfare
2022/11	TOP 100 MVP Managers of TAIWAN
2022/7	Yunlin County Certificate of Honorable Citizen
2022/7	Yunlin Country Medical Contribution Award for Excellence in Acute Care Services

2021/12	Taiwan National Innovation Award
2021/12	Chinese Association of Human Rights: Medical Human Rights Contribution Award
2021/11	2021 Yunlin County Medical Contribution Award for Excellence in Medical Innovations
2021/11	Outstanding Publication Award, National Taiwan University Hospital Yunlin Branch
2021/11	Taiwan Medical Association (TMA): Taiwan Medical Paragon Award
2021/10	Taiwan Corporate Sustainability Award (TCSA) : Taiwan Sustainability Action Awards (TSAA) Gold Medal
2021/10	International Salon of Inventions and New Technologies: Gold Medal
2020/11	Taiwan Corporate Sustainability Award (TCSA) : Hospital Social Responsibility (HSR) Award Bronze Medal
2020/9	Ministry of Science and Technology (MOST) Future Tech Award
2016/12	The 19th National Biotechnology & Medical Care Quality Silver Award [Hospital Community Service Group] Golden Community Chain-of-Survival: The World's Leading OHCA EMS Team
2016/8	Asian Association of EMS: Asian EMS Award For Lifetime Achievement

Research Interests

Emergency Medicine, Cardiology, Resuscitation,
Emergency Medical Services, Public Health, Digital Health

Major Publications

馬惠明等。PAD 教材小兒版。(衛生福利部)
馬惠明等。PAD 教材教師手冊。(衛生福利部)
馬惠明等。高級救護技術員訓練教科書 Paramedic Textbook (版次：二版)。
(衛生福利部 ISBN 978-986-54-3927-9。)

The Amelioration Strategies for the Healthcare in Low-resourced Areas:The “Safe-Yunlin” Digital Health Network with Information Communication Technology and Service Innovation

Matthew Huei-Ming Ma, MD, PhD, MBA
Professor or Emergency Medicine, National Taiwan University
Superintendent, National Taiwan University Hospital Yunlin Branch

Despite the implementation of National Health Insurance in the 1990s, there are still significant urban-rural disparities among equality, access and quality of health care in Chinese Taipei. Recognizing the unique environment and opportunities of developing digital and tele-health in Yunlin County, National Taiwan University Hospital Yunlin Branch established its ‘Center of Telemedicine’ in April 2017 to achieve the goal of developing Yunlin into the model city of telemedicine implementation in Chinese Taipei. Since 2018, the ‘Safe-Yunlin’ Digital Health Network has been initiated that successfully connected dozens of hospitals, clinics, and long-term care facilities. Novel pilot projects that combined information communication technology (ICT) and service innovation were proposed and implemented to address the unmet healthcare needs from the low-resourced areas. The revolutionary ‘Twin-Star Regional Collaboration’ program broke the silos between different under-staffed hospitals, and created joint acute care digital services via telemedicine. The ‘Smart Tele-wound’ program combined onsite visits by trained wound nursing specialists with plastic surgeon telemedicine, and was able to treat those patients with difficult wounds. The ‘High-Risk Neonatal Retrieval’ Program reassured local obstetric clinics experiencing unforeseen high risk neonate delivery by streaming real-time videos and vital signs to the retrieval team. The ‘School Children Heart Screening through Crowd-sourced Telemedicine’ utilized digital acquisition of heart sounds and 12-lead electrocardiograms, and crowd-sourced pediatric cardiologists to interpret these digital signals on a cloud-based platform to enable heart diseases screening in a county with no access to pediatric cardiologists. The ‘Safe-Yunlin’ Digital Health Network addressed the unmet health needs, and liaised with key policy, industry and healthcare stakeholders. The innovative approaches implemented by the ‘Safe-Yunlin’ Digital Health Network have made Yunlin the model city that deployed ICT to address health inequality and to improve universal health coverage. The model of Telemedicine-facilitated regional collaborating scheme have been replicated in 14 other low-resourced areas in Chinese Taipei.

The fact that ‘Safe-Yunlin’ Digital Health Network originated from a low-resourced, aging and poor community is in fact encouraging to communities with similar daunting challenges. If one entity is not limited by difficulties and status-quo, is able to see through the internal and external environment, and to seize the strength and uniqueness of oneself, it is always possible to transform a seeming weakness into

strength, and to lead policy and industry innovations. The key value to ‘Safe-Yunlin’ Digital Health Network is ‘CONNETION’. The goal is not merely connecting stuff and things, (Internet of Things- IoT), but more aggressively, connecting resources (Internet of Resources- IoR), connecting services (Internet of Services- IoS), and most importantly, connecting all the passion and love for the needed (Internet of Love- IoL).

The case study of ‘Safe-Yunlin’ Digital Health Network identifies several areas for future contemplations. First, innovative digital health services need to create values to key stakeholders to be truly sustainable. Second, the policymakers should spare no efforts in making multiple digital health services and platforms ‘interoperable’. Third, digital divide among low-resourced areas and underserved population could be damaging, so a digital inclusion policy should be formulated. Fourth, similar to the last mile delivery in e-commerce, the last-mile of digital health delivery should be designed. Finally, despite the pandemic could wean, we should continue leverage and capitalize the digital health momentum brought by COVID-19.

Keywords ： Yunlin, Digital Health, Telemedicine, Universal Health Coverage, Information Communication Technology, Service Innovation, Low-resourced Areas, Strategy

SESSION 4

新時代醫學教育的契機與挑戰
Opportunities and Challenges in Medical Education for the New Era

MODERATOR

Wayne H-H Sheu MD, PhD 許惠恒

Vice President
National Health Research Institutes (NHRI), Taiwan
E-mail: whhsheu@nhri.edu.tw

Education

1976-1983	School of Medicine, National Defense Medical Center (NDMC), Taipei, Taiwan (MD)
1985-1989	Institute of Medical Sciences, NDMC, Taipei, Taiwan (PhD)
2001-2003	Graduate Institute of Health Care Organization, National Taiwan University, Taipei, Taiwan

Professional Experience

2023-present	Vice President, National Health Research Institutes (NHRI), Taiwan.
2023-present	Distinguished Investigator, Institute of Molecular and Genomic Medicine, NHRI, Taiwan.
2021-2022	Superintendent, Taipei Veterans General Hospital, Taipei, Taiwan
2015-2021	Superintendent, Taichung Veterans General Hospital, Taichung, Taiwan.
2019-present	Executive Audit of Board, Diabetes Association of the Republic of China (Taiwan).
2017-present	Executive Audit of Board, Taiwanese Association of Diabetes Educators (TADE).
2018-present	Executive committee, International Diabetes Federation Western Pacific Region (IDF WPR).
2006-present	Adjunct Professor of Medicine, National Yang-Ming Chiao Tung University, Taipei, Taiwan.
2000-present	Adjunct Professor of Medicine, National Defense Medical Center, Taipei, Taiwan.
2016-2017	Chair, International Diabetes Federation Western Pacific Region (IDF WPR).
2013-2019	President, Diabetes Association of the Republic of China (Taiwan).
2012-2015	Deputy Superintendent, Taichung Veterans General Hospital, Taichung, Taiwan.
2006-2012	Chairman, Department of Internal Medicine, Taichung Veterans General Hospital, Taichung, Taiwan.
2005-2011	President, Taiwanese Association of Diabetes Educators (TADE).

2001-2005	Chairman, Department of Medical Education and Research, Taichung Veterans General Hospital, Taichung, Taiwan.
1996-2001	Director, Division of Endocrinology and Metabolism, Taichung Veterans General Hospital, Taichung, Taiwan.
1987-1989	Postdoctoral Clinical Research Fellow, Gerontology and Endocrinology, Stanford University Medical Center, Stanford, California, USA.

Honors/Awards

2022	Distinguished Leadership Award of AASD (Asia Association Study of Diabetes)
2019	Award for Diabetes in Society and Culture of IDF (International Diabetes Federation)
2021	Outstanding Personal Award of National Medical Quality of Joint Commission of Taiwan

Research Interests

Diabetes and its complications, Obesity, Quality of Care, Hospital Administrations

Major Publications

SCI papers up to 508 mainly in pathophysiology and managements of diabetes and its complications, hospital administrations, etc…
(https://pubmed.ncbi.nlm.nih.gov/?term=sheu+WH%2C)

MODERATOR

Jang-Hwa Leu 呂正華

Director General, Administration for Digital Industries, Ministry of Digital Affairs, Taipei/ Taiwan
E-mail: jhleu@adi.gov.tw
Website: www.adi.gov.tw

Education

2002-2004	National Taipei University EMBA
1990-1992	National Taiwan University M.S. Electronic Engineering
1986-1990	National Taiwan University B.S. Physics

Professional Experience

2022-present	Director General, Administration for Digital Industries, moda
2007-2022	Director, IT Industries Division,Secretary General, Deputy Director General, Director General,Industrial Development Bureau, MOEA
2000-2007	Senior Engineer, Section Chief, Senior Technical Specialist, Department of Industrial Technology, MOEA
1997-2000	Executive Officer, Inspector, Department of Aviation and Navigation, MOTC
1994-1997	Assistant Engineer, Associate Engineer, Civil Aeronautics Administration, MOTC

Honors/Awards

2021	APO National Award 2021
2020	K.T. Lee Management Medal
2017	National Taipei University Outstanding Alumni
2015	The Excellent Public Civil Servants Award-Sun, Yun-Suan
2010	Model Civil Servants of MOEA

SPEAKER/DISCUSSANT

Chih-Wei Yang, MD, PhD. 楊志偉

Associate Professor, Department of Medical Education and Bioethics, National Taiwan University College of Medicine, Taipei, Taiwan
Vice Director, Department of Medical Education, National Taiwan University Hospital, Taipei, Taiwan
E-mail: cwyang0413@gmail.com

Education

2011-2018	Ph.D., Institute of Epidemiology & Preventive Medicine, National Taiwan University, Taipei, Taiwan
1995-2001	M.D., National Taiwan University College of Medicine, Taipei, Taiwan

Professional Experience

2023- present	Vice Director, Department of Medical Education, National Taiwan University Hospital, Taipei, Taiwan
2023- present	Director, Health Resources Center, National Taiwan University Hospital, Taipei, Taiwan
2022-present	Associate Professor, Department of Medical Education and Bioethics, National Taiwan University College of Medicine, Taipei, Taiwan
2006-present	Attending Physician, Department of Emergency Medicine, National Taiwan University Hospital, Taipei, Taiwan
2021- present	Secretary General, Taiwan Association of Medical Education, Taipei, Taiwan
2018- present	Chairman, Educational Committee, Taiwan Society of Emergency Medical, Taipei, Taiwan
2011	Co-Chair, 2011 Asia-Pacific Meeting on Simulation for Healthcare
2009-2010	Visiting Scholar, University of California San Francisco, California, USA

Honors/Awards

2015	National Taiwan University Hospital Outstanding Service Award
2021	Ching-Hsing Medical Award, Ching-Hsing Medical Education Foundation
2021	Excellent Teaching Faculty, National Taiwan University
2022	Senior Quality Award, 23rd National Healthcare Quality Award
2022	Excellent Teaching Faculty, National Taiwan University
2023	Best Clinical Teacher Award, National Taiwan University Medical College Alumni Association of North American

2023	Outstanding Attending Physician Award, National Taiwan University Hospital
2023	Excellent Teaching Faculty, National Taiwan University

Research Interests

Medical Education, Competency-based Medical Education, Simulation-based Training, Resuscitation Training, Educational Theory, Emergency Medicine

Major Publications

1. Cheng-Heng Liu, **Chih-Wei Yang**, Andrew Lockey, Robert Greif, Adam Cheng, on behalf of the Education, Implementation, Teams (EIT) Task Force of the International Liaison Committee on Resuscitation (ILCOR). Factors influencing workload and stress during resuscitation – A scoping review. Resuscitation Plus 2024;18:100630. **(Corresponding Author)**
2. Chun-Yuan Tu, Kuo-Ming Huang, Ching-Hsueh Cheng, Wei-Jou Lin, Cheng-Heng Liu, **Chih-Wei Yang**. Development, implementation, and evaluation of entrustable professional activities (EPAs) for medical radiation technologists in Taiwan: a nationwide experience. BMC Medical Education 2024;24:95. https://doi.org/10.1186/s12909-024-05088-9 **(Corresponding Author)**
3. Chiao-Ling Tsai, Yen-Lin Chiu, Chia-Ter Chao, Mong-Wei Lin, Chao-Chi Ho, Huey-Ling Chen, Bor-Ching Sheu, Chiun Hsu, **Chih-Wei Yang**. Effectiveness of tutor shadowing on faculty development in problem-based learning. BMC Medical Education 2022;22:564. https://doi.org/10.1186/s12909-022-03615-0 **(Corresponding Author)**
4. Cheng-Heng Liu, Fremen Chihchen Chou, Cheng-Ting Hsiao, **Chih-Wei Yang**. Old theory, new application: A novel debriefing framework. Med Educ 2021;55:632-632. **(Corresponding Author)**
5. Ying-Chih Ko*, **Chih-Wei Yang***, Hao-Yang Lin, Wen-Chu Chiang, Ming-Ju Hsieh, Matthew Huei-Ming Ma. A Non-inferiority Randomised Controlled Trial Comparing Self-instruction with Instructor-led Method in Training of Layperson Cardiopulmonary Resuscitation. Scientific Reports 2021;11:991. **(Co-First Author)**
6. Hsieh MJ, Chiang WC, Jan CF, Lin HY, **Yang CW**, Ma MH: The effect of different retraining intervals on the skill performance of cardiopulmonary resuscitation in laypeople - a three-armed randomized control study. Resuscitation 2018;128:151–157. **(Co-Corresponding Author)**

Medical Education in the Era of Technological Assisted Healthcare

Chih-Wei Yang, M.D., Ph.D.
National Taiwan University College of Medicine, Taipei, Taiwan
National Taiwan University Hospital, Taipei, Taiwan

In the rapidly evolving landscape of healthcare with technology advances, medical education is undergoing a significant transformation. While the core principles of medical professionalism remain paramount, there is an increasing need to integrate these with new technological advancements. The primary objective of medical education continues to be the cultivation of highly skilled professionals who can deliver quality care. However, in the era of technology-assisted healthcare, it is essential to adapt traditional practices to incorporate innovative tools and methodologies that enhance the effectiveness and efficiency of medical practice.

The second key element is the development of technological literacy alongside professional expertise. The goal is not merely to familiarize students with new technologies but to empower them to master these tools, ensuring they enhance, rather than overshadow, clinical practice. By fostering a critical understanding of these tools, medical education must ensure that future healthcare professionals can navigate the complexities of modern technology while maintaining the human-centric approach that lies at the heart of medical practice.

Finally, the integration of educational science into medical training is crucial for optimizing the learning experience. Educational science and theory provide evidence-based strategies that can be applied to enhance knowledge retention, critical thinking, and practical skills. By leveraging these strategies, medical education can be tailored to meet the diverse needs of learners, ensuring that they are not only proficient in their technical and professional knowledge but also adept at applying this knowledge in clinical settings.

In conclusion, the evolution of medical education in the era of technological assisted healthcare necessitates a delicate balance. While the foundation of medical expertise remains the cornerstone of education, the incorporation of technology must be done thoughtfully and strategically. It is essential that medical professionals are equipped with the necessary technological literacy to control and effectively utilize these tools, ensuring that they serve as assets rather than distractions. Simultaneously, the integration of educational science theories into medical curricula will optimize the learning process, ultimately producing well-rounded professionals who are prepared to meet the demands of modern healthcare. The future of medical education lies in the harmonious integration of these three elements, creating a system that is both innovative and true to the ensuring quality of medical practice.

DISCUSSANT

Yen-Hsuan Ni 倪衍玄

Distinguished Professor of Pediatrics,
Dean, College of Medicine
National Taiwan University
E-mail: yhni@ntu.edu.tw

Education

1979-1986	M.D., College of Medicine, National Taiwan University.
1992-1997	Ph.D., Medical Science, Graduate Institute of Clinical Medicine, National Taiwan University.
1995-1997	Postdoc Research Fellow, GI division, Department of Internal Medicine, University of Connecticut Health Center, Connecticut, USA

Professional Experience

2012	Congress President, 4th World Congress of Pediatric Gastroenterology, Hepatology, and Nutrition
2012-2013	President, Asian Pan Pacific Society of Pediatric Gastroenterology, Hepatology and Nutrition
2010-2013	President, Taiwan Society of Pediatric Gastroenterology, Hepatology, and Nutrition
2019-2023	President, Taiwan Society of Parenteral and Enteral Nutrition
2018-2019	Chairman, School of Medicine
2023-2026	President, Taiwan Pediatrics Association
2013-2019	Associate Dean, College of Medicine
2015-2019	Director, Hepatitis Research Center

Honors/Awards

2006,2010	Award for Excellence in Medical Service by National Taiwan University Hospital.
2007, 2019	Outstanding Research Award by National Taiwan University Hospital
2011, 2019	Outstanding Research Award by Ministry of Science and Technology, Taiwan
2014	Taiwan Pediatrics Association Award
2015, 2020	Outstanding Teaching Award by National Taiwan University
2020	Taiwan Pediatrics Association Medical Education Award

Research Interests

1. Pediatric Liver Diseases: Viral Hepatitis, metabolic/genetic liver diseases, liver transplantation
2. Gut Microbiota
3. Pediatric Inflammatory Bowel Disease

Major Publications

1. Wu SH, Chang MH, Chen YH, Wu HL, Chua HH, Chien CS, Ni YH, Chen HL, Chen HL. The ESCRT-III molecules regulate the apical targeting of bile salt export pump. J Biomed Sci 2021; 28(1):19.
2. Wu JF, Chang KC, Ni YH, Hsu HY, Chang MH.Impacts of the percentage of basal core promoter mutation on the progression of liver fibrosis after HBeAg-seroconversion. J Infect Dis 2021; 223(8):1381-9.
3. Liao FM, Chang KC, Wu JF, Chen HL, Ni YH, Chang MH. Direct bilirubin and risk of biliary atresia. Pediatrics. 2022; 149(6):e2021053073..
4. Chen YC, Lin HY, Chien Y, Tung YH, Ni YH, Gau SS. Altered gut microbiota correlates with behavioral problems but not gastrointestinal symptoms in individuals with autism. Brain Behav Immun. 2022; 106(11):161-78.
5. Yu LCH, Wei SC, Li YH, Lin PY, Chang XY, Weng JP, Shue YW, Lai LC, Wang JT, Jeng YM, Ni YH*. Invasive pathobionts contribute to colon cancer initiation by counterbalancing epithelial antimicrobial responses. Cell Mol Gastroenterol Hepatol 2022;13(1):57-79.
6. Wu JF, Tai CS, Chang KC, Chen HL, Ni YH, Hsu HY, Chang MH. Baseline hepatitis B virus surface antigen titers in childhood predict the risk of advanced liver fibrosis in adulthood. Clin Gastroenterol Hepatol 2023; 21(3):663-9.
7. Hsu HY, Chen HL, Chiang CL, Lai MW, Mu SC, Wen WH, Cheng SW, Hu JJ, Chang KC, Lee CN, Liu CJ, Wu JF, Ni YH, Chang MH; Taiwan Study Group for the Prevention of Mother-to-Infant Transmission of HBV (PreMIT study). Characterization of hepatitis B virus in tenofovir-treated and untreated chronically infected mothers and their immunoprophylaxis failure infants. Clin Infect Dis 2023; 76(3):e783-90.

DISCUSSANT

Ming-Che Tsai 蔡明哲

Superintendent of Chung Shan Medical University Hospital, Taichung, TAIWAN
E-mail: terence48@gmail.com

Education

1985	Chung Shan Medical University Taichung, ROC School of Medicine M.D.,
1999	Harvard University Boston, USA School of Public Health M.P.H.
2015	Chung Shan Medical University Taichung, ROC Institute of Medicine Ph.D.

Professional Experience

2012-2016	Director of International Medical Center, CSMUH
2012-2019	Vice Superintendent of Department of Medical Education, CSMUH
2019-2020	Vice Superintendent of Department of Medical Research, CSMUH
2016-2020	Dean of College of Medicine, CSMU
2013-2020	Chairperson of School of Medicine, CSMU
2015-present	Professor of School of Medicine, Chung Shan Medical University
2020-present	Vice president of Chung Shan Medical University
2020-presnet	Superintendent of Chung Shan Medical University Hospital

Honors/Awards

2022	Taichung City Government awards 2022 Epidemic Prevention Heroes
2022	Won the 2022 Taichung Medical Association Medical Dedication Award.
2023	2023 Outstanding Alumni of Chung Shan Medical University
2023	Member of the Ministry of Health and Welfare's 2023 Emergency Medical Capability Classification Assessment Committee

Research Interests

Emergency Medicine
Traumatology
Public Health
Epidemiology

Major Publications

1. Yung-Yin Cheng, Ming-Che Tsai, James Cheng-Chung Wei. Response to “Increased ACE2 Levels and Mortality Risk of Patients With COVID-19 on Proton Pump Inhibitor Therapy. Am J Gastroenterol,2021;116:2474.
2. Yang C, Yang TT, Tsou YJ, Lin MH, Fan JS, Huang HH, Tsai MC, Yen DH. (2020, May). Initiating palliative care consultation for acute critically ill patients in the emergency department (ED) intensive care unit.. Journal of the Chinese Medical Association, 83(5):500–506, MAY 2020.
3. Weng SJ, Tsai MC, Tsai YT, Gotcher DF, Chen CH, Liu SC, Xu YY, Kim SH. (2019, Nov). Improving the Efficiency of an Emergency Department Based on Activity-Relationship Diagram and Radio Frequency Identification Technology. . International Journal of Environmental Research and Public Health, 2019 Nov; 16(22): 4478..
4. Chao-Bin Yeh MD, PhD,Ming-Che Tsai MD,PhD,Ying-Hock Teng MD,PhD, Min-Sho Ku MD,PhD,Jing-Yang Huang PhD, Bo-Yuan Wang MD,Chia-Ling Tai BSN, Edy Kornelius MD,PhD,Sai-Wai Ho MD, PhD (2019, Jul). Association of alprazolam with major cardiovascular events in patients with hypertension. Journal of Evaluation in Clinical Practice.
5. Yuan-Chih Tsai, Ming-Che Tsai, Chao-Bin Yeh, Sai-Wai Ho Febrile Man with Pneumoperitoneum. J Emerg Med. 2016 Jan;50(1):e37-8. doi: 10.1016/j.jemermed. 2015.06.060. Epub 2015 Aug 15.
6. Li-Jung Lan, Ying-Shuang Lien , Shao-Chuan Wang, Nese Ituaso-Conway, Ming-Che Tsai, Pao-Ying Tseng, Yu-Lin Yeh, Chun-Tzu Chen, Ko-Huang Lue, Jing-Gung Chung, Yu-Ping Hsiao. Dermatological disorders in Tuvalu between 2009 and 2012. Mol Med Rep. 2015 Sep;12(3):3629-3631. doi: 10.3892/mmr. 2015.3806. Epub 2015 May 21..
7. Tsai MC, Chang CP, Peng SW, Jhuang KS, Fang YH, Lin MT, Tsao TC. (2014, Oct). Therapeutic Efficacy of Neuro AiDTM (MLC 601), a Traditional Chinese Medicine, in Experimental Traumatic Brain Injury. Journal of Neuroimmune Pharmacology, 2015 Mar;10(1):45-54.

DISCUSSANT

Yan-Shen Shan MD, PhD 沈延盛

Dean, College of Medicine National Cheng Kung University, Taiwan
E-mail: ysshan@mail.ncku.edu.tw

Education

1998/9-2004/6	PhD, Institute of Clinical Medicine, National Cheng Kung University
1988/9-1993/6	MD, College of Medicine, National Cheng Kung University

Professional Experience

2019/8-present	Dean, College of Medicine National Cheng Kung University
2016/8-present	Distinguished Professor, Institute of Clinical Medicine, National Cheng Kung University
2018	nominated as member council of Asian-Ocean Pancreatic Association (AOPA)
2017/8-2019/7	chief of the Institute of Clinical Medicine, NCKU
2016/8-2019/7	Director of Clinical Medicine Research Center, National Cheng Kung University Hospital
2017/5	support from Ministry of Science and Technology, Taiwan, to be the leader PI,TCTC-UGI group, Ministry of Science and Technology, Taiwan
2011-2016/7	1st director of Division of Trauma, National Cheng Kung University Hospital
2010-2017.12	1st UGI cancer team convener, National Cheng Kung University Hospital

Honors/Awards

2023	Tung Ta-Cheng's Outstanding Basic Cancer Research Award, Taiwan Oncology Society
2021	NCKU Lee Kuo-Ting Honor Researcher
2020	Outstanding Research Award, Ministry of Science and Technology, Executive Yuan, Taiwan
2019	WCGH, invited Keynote Speaker and Moderator, London UK
2019	APHPBA Invited speaker and moderator. Seoul Korea.
2019	IGCC invited moderator, Prague, Czech Republic
2019	Annual conference of American 2019 Academic Surgical Congress (ASC), Invited Representative Speaker of Taiwan Surgery Society (AAS international guest), Houston USA
2018-2019	Organizer of Surgical Oncology Section in Annual Surgical Meeting
2018	Hsu Chien-Tien's Outstanding Clinical Cancer Research Award, Taiwan Oncology Society

Research Interests

1. Gastrointestinal Surgery
2. Surgical Oncology, Molecular Biology, Tumor Biology
   (esp Cancer stem cells, and Tumor microenvironment). Precision Medicine
3. Organ Regeneration,
4. Surgical Infection
5. Surgical Nutrition
6. Cell Therapy

Major Publications

1. J Biomed Sci. 2024 Feb 13;31(1):21.
2. Lab Chip. 2024 Jan 17;24(2):375-382.
3. Mol Cancer Ther. 2024 Jun 22. doi: 10.1158/1535-7163.
4. Biomed Pharmacother. 2024 Jul; 176:116825.
5. Cancer Immunol Immunother. 2024 Jan 4;73(1): 1
6. Advanced Science. 2024 Mar;11(11).
7. Nature Comm 2023 Oct 14:6692.
8. International Journal of Surgery. 2023 Sep 1;109(9):2614-2623.
9. Theranostics. 2023 Jul 3;13(12):3925-3942.
10. Journal of Biomedical Science. 2022 Nov 21;29(1):99

WORKSHOP 1

生成式 AI 在通訊醫療與醫學教育的運用

The Application of Generative AI in Telehealth and Medical Education

MODERATOR

Yun Chen 陳芸

Vice President, Prof., Far Eastern Memorial Hospital, Taiwan
E-mail: ychen@mail.femh.org.tw
Website:
https://www.femh.org.tw/MainPage_en/sectionDetail2.aspx?CID=0289&&DoctorID=81138

Education

1988-1995	College of Medicine, National Taiwan University
2000-2007	PhD., Institute of Clinical Medicine, National Taiwan University

Professional Experience

2015-present	Vice President, Far Eastern Memorial Hospital
2007-2015	Chief, Department of Surgery, Far Eastern Memorial Hospital
2006-2020	Chief, Department of Medical Education, Far Eastern Memorial Hospital
2004-2005	Fellowship, Starzl Transplantation Institute, University of Pittsburgh Medical Center
2001-2004	Attending Surgeon in Pediatric Surgery, National Taiwan University Hospital
2024-	Board member, Pacific Association of Pediatric Surgeons
2009-	Member, Intestinal Transplantation Association

Honors/Awards

2019	Award of Medical Special Contribution, New Taipei City
2017	The 7th Taiwan Medical Contribution Award for Children—Team Award
2016	National Medical Paragon Award
2013	Award of Bronze plate of SNQ of Intestinal Transplantation Team
2012	Award of Yo-Hsian Outstanding Professor, the 10th annual award

Research Interests

Intestinal transplantation, Intestinal failure, Pediatric Surgery, Medical Education

Major Publications

1. Siu Chung Ha, Ya-Hui Tsai, Chee-Chee Koh, Shinn-Gwo Hong, Yun Chen*, Chao-Ling Yao*. Blood biomarkers to distinguish complicated and uncomplicated appendicitis in pediatric patients. Journal of the Formosan Medical Association (in press), 2024.
2. Chee-Chee Koh, Huang-Wen Tsai, Siu-Chung Ha, Ya-Hui Tsai, **Yun Chen*** (2023, May). Efficacy of same venous route Hickman catheter replacement in patients with intestinal failure.

Journal of the Formosan Medical Association, 122(5):419-426.

3. Tzu-Yu Chiu , Chia-Chi Weng , Siu Chung Ha , Huang-Wen Tsai ,Chee-Chee Koh , **Yun Chen*** (2023, May). Management of Coronavirus Disease 2019 Infection in a Small Bowel Transplant Recipient: A Case Report, Transplantation Proceedings 2023, May 22 doi: 10.1016/j.transproceed.2023.05.008 [Epub ahead of print]
4. Siu Chung Ha, Ya-Hui Tsai, Shinn-Gwo Hong, **Yun Chen***, and Chao-Ling Yao* (2023, May). Hyaluronic Acid Stimulated Enterocytic Differentiation of Intestinal Stem Cells and Enhanced Enteroid Grafting on Scaffolds. Biotechnology and Bioprocess Engineering 28:451-8, 2023.
5. **Yun Chen**, Sheng-Hong Tseng, Chih-Yen Chen*, and Ya-Hui Tsai* (2023, Sep). Application of Intestinal Barrier Molecules in the Diagnosis of Acute Cellular Rejection After Intestinal Transplantation. Transplant International. 2023; 36: 11595.
6. You-Sheng Lin, **Yun Chen#**, Ya-Hui Tsai, Sheng-Hong Tseng, Kuen-Song Lin (2021, Jul). In vivo imaging of neuroblastomas using GD2-targeting graphene quantum dots. *Journal of Pediatric Surgery*, 56(7): 1227-1232. #Equal first
7. You-Sheng Lin, Kuen-Song Lin*, **Yun Chen***, Ndumiso Vukile Mdlovu (2022,Feb). Synthesis, characterization, and application of gene conjugated polymerized nitrogen-doped graphene quantum dots carriers for in vivo bio-targeting in neuroblastoma treatment. Journal of the Taiwan Institute of Chemical Engineers 131 (2022) 104167
8. You-Sheng Lin, **Yun Chen**, Ya-Hui Tsai, Sheng-Hong Tseng, Kuen-Song Lin (2021, Jul). In vivo imaging of neuroblastomas using GD2-targeting graphene quantum dots. *Journal of Pediatric Surgery*, 56(7): 1227-1232.
9. **Yun Chen**, Ya-Hui Tsai, Sheng-Hong Tseng (2021, Feb). Regulation of ZMYND8 to Treat Cancer. *Molecules*, 26(4), 1083.
10. Chen-Shuan Chung, Chien-Chen Tsai, Kuan-Chih Chen, Cheng-Kuan Lin, Tzong-Hsi Lee, Huang-Wen Tsai, **Yun Chen** (2020, Dec). Surveillance of Rejection After Intestinal Transplantation Using an Image Enhanced Endoscopy "VENCH" Scoring System. *Transplantation Proceedings*, S0041-1345(20) 32834-7. (SCI, 13/24, TRANSPLANTATION).
11. **Yun Chen**, Huang-Wen Tsai, Ya-Hui Tsai, Sheng-Hong Tseng (2020, Nov). VS-5584, a PI3K/mTOR dual inhibitor, exerts antitumor effects on neuroblastomas in vitro and in vivo. *Journal of Pediatric Surgery*, S0022-3468(20)30786-7.
12. Yi-Shiou Tseng, Wen-Bin Wu, **Yun Chen**, Feili Lo Yang, Ming-Chieh Ma (2020, Oct). Small intestine resection increases oxalate and citrate transporter expression and calcium oxalate crystal formation in rat hyperoxaluric kidneys. *Clinical Science*, 134(19):2565-2580.
13. Taizo Hibi, **Yun Chen**, Ji-Il Kim, Myung Duk Lee, Toshiharu Matsuura, Takehisa Ueno (2020, Apr). Current status of intestinal transplantation in East Asia. *Current Opinion in Organ Transplantation*, 25(2):165-168.
14. Hong-Hsing Liu, Yu-Chen Lin, Chen-Shuan Chung, Kevin Liu, Ya-Hui Chang, Chung-Hsiang Yang, **Yun Chen**, Yen-Hsuan Ni, Pi-Feng Chang (2019, Nov). Integrated Counts of Carbohydrate-Active Protein Domains as Metabolic Readouts to Distinguish Probiotic Biology and Human Fecal Metagenomes. *Scientific Reports*, 9(1):16836.
15. Ndumiso Vukile Mdlovu, Kuen-Song Lin, **Yun Chen***, Ruey-Shin Juang, Tzu-Wei Chang, Ncobile Bagezile Mdlovu (2019, Aug). Formulation and characterization of multifunctional polymer modified-iron oxide magnetic nanocarrier for doxorubicin delivery. *Journal of the Taiwan Institute of Chemical Engineers*.

MODERATOR

Dr. Chien-Yu Jonathan Chen 陳建宇

Vice Dean, Academic Affairs, Taipei Medical University (TMU), Taipei, Taiwan
Email: Jc2jc@tmu.edu.tw

Education

2007-2012	PhD, Centre for Ethics in Medicine, University of Bristol, UK
1992-1999	Doctor of Medicine, Taipei Medical University, Taipei, Taiwan

Professional Experience

2004-present	Consultant Anesthesiologist, TMU Hospital, Taipei, Taiwan
2012-present	Associate Professor, TMU, Taipei, Taiwan
2020-present	Director, Department of Medical Education and Humanities, Scholl of Medicine, TMU, Taipei, Taiwan
2020-2021	Visiting Associate Professor, Stanford University, CA, USA
2017-2023	Director, Department of Education, TMUH, Taipei, Taiwan
1999-2024	Resident Doctor, Department of Anesthesiology, National Taiwan University Hospital, Taipei, Taiwan

Honors/Awards

2019	TMU Best Teacher Award
2018	TMU Teaching Excellence Award
2017	TMUH Teaching Innovation Award-Gold Medal

Research Interests

Interdisciplinary teaching, learning, and assessment of biomedical ethics and humanities, physicians' professionalism and identity development, qualitative methodology and research design, competency-based medical education, clinical training program development, evaluation, and quality assurance, programmatic and workplace-based assessment, peri-operative medicine and clinical anesthesiology, resilience in healthcare

Major Publications

Educational & Social Science Researches

1. Kang YN, Chi KY, Liao F, Liu CC, Lin CP, Chen TL, Tanaka P, Chen CY*. Indigenizing and co-producing the ACGME anesthesiology milestone in Taiwan: a Delphi study and subgroup analysis. BMC Med. Educ. 2024; 24(1)
2. Tanaka P, Park YS, Chen CY, Macario A. Domains influencing faculty decisions on the level of supervision required for anesthesiology EPAs with analysis of feedback comments. J Surg. Educ. 2024; 81(2)
3. Chiu CH, Wei CJ, Sheu ML, Liu YP, Chang CC, Chen CY*. Obligation or getaway? A qualitative inquiry into medical professionalism under COVID-19 among medical students and new physicians in a Taiwan hospital. BMJOpen. 2022; 12(11):e059656
4. Liang JF, Hsu TF, Chen CY, Yang CW, Jean WH, Ou LS, Cheng HM, Huang CC, Yang YY, Chen CH. Developing a competency-based framework for resident-as-teacher. J Formos Med Assoc. 2022; 121(10):1956-1962
5. Liao F, Murphy D, Wu JC, Chen CY, Chang CC, Tsai PF. How technology-enhanced experiential e-learning can facilitate the development of person-centred communication skills online for health-care students: a qualitative study. BMC Med Edu. 2022;22:60
6. Lin KC, Liao F, Cheng MJ, Ho JJ, Chen CY*. The Dilemmas of Dementia Patients' Autonomy under the "Dignified End of Life Bill." Cheng Ching Med J. 2020;12(4):4-10
7. Wu JC, Hou WH, Chen CY, Guo SL, Chang CC. Competency-based assessment for tailored education - promotion for clinical competency committee. J Taiwan Society HealthCare. 2020; 7(2): 35-47
8. Chiu CH, Wu JC, Chen CY. Why do young physicians make a 'detour'to aesthetic clinics? An exploration of professional identity among young physicians who changed career paths. J Med Edu. 2019;23(4):7-17
9. Kang YN, Chang CH, Kao CC, Chen CY, Wu CC. Development of a short and universal learning self-efficacy scale for clinical skills. PLOS ONE. 2019;14:e0209155-e0209155
10. Tang KP, Chen CY, Wu MS, Chen TT, Wu BW, Tsai PF. Correlation between early clinical exposure environment, attitudes toward basic medicine, and medical students' basic science learning performance. BMC Med Educ. 2019;19:183

Clinical Researches

1. Liao YC, Chang CC, Chen CY, Liu CC Liao CC, Shih YR, Lin CS. Preoperative renal insufficiency predicts postoperative adverse outcomes in a mixed surgical population: a retrospective matched cohort study using the NSQIP database. Int. HJ Surg. 2023;109: 752-759
2. Hsiao WJ, Chen CY*, Kang YN, Hu CJ, Chen CH, Lin PL, Lin YC. Apolipoprotein E4 is genetically associated with risk of the short- and medium-term postoperative cognitive dysfunction: a meta-analysis and trial sequential analysis. PLos One. 2023; 18(2):e0282214
3. Chiu HY, Ho YC, Yang PC, Chiang CM, Chung CC, Wu WC, Lin YC, Chen CY, Wu YC. Recommendation for management of patients with their first episode of primary spontaneous pneumothorax, using video-assisted thoracoscopic surgery or conservative treatment. Sci Rep-Uk. 2021;11:10874
4. Cheng C, Liao AHW, Chen CY, Lin YC, Kang YN. A systematic review with network meta-analysis on mono strategy of anaesthesia for preeclampsia in caesarean section. Sci Rep-Uk. 2021;11:5630
5. Chen WA, Liu CC, Mnisi Z, Chen CY*, Kang YN. Warming strategies for preventing hypothermia and shivering duringcesarean section: A systematic review with network meta-analysis ofrandomized clinical trials. Int J Surg. 2019;71(13):21-28
6. Huang IH, Wu PC, Lin EY, Chen CY*, Kang YN. Effects of anti-calcitonin gene-related peptide for migraines: a systematic review with meta-analysis of randomized clinical trials. Int J Mol Sci. 2019;20:e3527
7. Lin CS, Chen CY, Yeh CC, Chung CL, Chen TL, Liao CC. Defining risk of general surgery in patients with chronic obstructive pulmonary diseases. QJM-Int J Med. 2019;112:107-113
8. Liao AHW, Yeoh SR, Lin YC, Lam F, Chen TL, Chen CY*. Lidocaine lubricants for intubation-related complications: a systematic review and meta-analysis. Can J Anesth. 2019;66(10):1221-1239
9. Lin YC, Chen CY, Liao YM, Lin PC, Chang CC. Pain relief by Parecoxib for laparoscopic cholecystectomy: a meta-analysis of randomized controlled trials. Asian J Anesthesiol. 2018;56:92-114
10. Kang YN, Hsiao YW, Chen CY, Wu CC. Testicular sperm is superior to ejaculated sperm for ICSI in cryptozoospermia: An update systematic review and meta-analysis. Sci Rep-Uk. 2018;18;8(1):7874

MODERATOR

Tsu-Yi Hsieh 謝祖怡

Director, Division of Clinical Training, Department of Medical Education, Taichung Veterans General Hospital,Taiwan

Education

2024	Ph.D., Ph.D. Program of Business, College of Business, Feng Chia University, Taichung, Taiwan. 逢甲大學商學博士學程醫療經濟組博士
2011	MBS, Institute of Medical Technology, National Chung Hsing University, Taiwan 國立中興大學醫學科技研究所碩士
1986-1993	M.D., School of Medicine, China Medical University, Taiwa.n 中國醫藥學院醫學系醫學士

Professional Experience

2014/3-present	Director, Center of Clinical Training, Department of Medical Education, Taichung Veterans General Hospital,Taiwan
2005/8-2014/2	Director, Clinical Skills Training Center, Department of Medical Education, Taichung Veterans General Hospital
2003-present	Executive team leader, Evidence-Based Medicine center, Taichung Veterans General Hospital
2002-present	Attending Physician ,Immunology and Rheumatology (AIR) , Taichung Veterans General Hospital

Honors/Awards

2009	Top 100 Best Physicians, Business Weekly, Taiwan.
2014	Award winner, Medical Staff Spirit Award, Joint Commission of Taiwan.
2017-2023	11 trophy winners of Excellent OSCE scenarios & Excellent medical teaching videos of Taiwan Medical Education Association
2017	Award winner, Medical Dedication Award, Taichung Medical Association
2021	Bronze Medal, Smart Medical Category-Smart Solution Group, National Healthcare Quality Award, NHQA.

Research Interests

Systemic autoimmune diseases, Pulmonary arterial hypertension related to connective tissue diseases, Pharmacoeconomic. Effectiveness and risk assessment, Clinical competence training and objective structured assessment.

Major Publications

1. Hsieh TY, Chen MH, Wu CC, Hong WJ, Lu CH, Lu CC, Lu LY, Hsieh SC, Tsai CY, Wu CS; Taiwan Vasculitis Study Group. Rituximab induction and reinduction in granulomatosis with polyangiitis and microscopic polyangiitis: A retrospective multicenter study in Taiwan. Int J Rheum Dis. 2023 Dec;26(12):2441-2449.
2. Huang WC, Hsieh SC, Wu YW, Hsieh TY, Wu YJ, Li KJ, Charng MJ, Chen WS, Sung SH, Tsao YP, Ho WJ, Lai CC, Cheng CC, Tsai HC, Hsu CH, Lu CH, Chiu YW, Shen CY, Wu CH, Liu FC, Lin YH, Yeh FC, Liu WS, Lee HT, Wu SH, Chang CC, Chu CY, Hou CJ, Tsai CY. 2023 Taiwan Society of Cardiology (TSOC) and Taiwan College of Rheumatology (TCR) Joint Consensus on Connective Tissue Disease-Associated Pulmonary Arterial Hypertension. Acta Cardiol Sin. 2023 Mar;39(2):213-241.
3. Huang WC, Hsieh SC, Wu YW, Hsieh TY, Wu YJ, Li KJ, Charng MJ, Chen WS, Sung SH, Tsao YP, Ho WJ, Lai CC, Cheng CC, Tsai HC, Hsu CH, Lu CH, Chiu YW, Shen CY, Wu CH, Liu FC, Lin YH, Yeh FC, Liu WS, Lee HT, Wu SH, Chang CC, Chu CY, Hou CJ, Tsai CY. 2023 Taiwan Society of Cardiology (TSOC) and Taiwan College of Rheumatology (TCR) Joint Consensus on Connective Tissue Disease-Associated Pulmonary Arterial Hypertension. Acta Cardiol Sin. 2023 Mar;39(2):213-241.
4. Tsai TF, Hsieh TY, Chi CC, Chou CT, Hsieh LF, Chen HH, Hui RC, Lee CH, Liu CH, Liu HC, Yeo KJ, Chen CH, Chen HA, Chen YC, Chen YJ, Chiu HY, Ho JC, Huang YH, Lai PJ, Lee WR, Liao HT, Lin SH, Tseng JC, Wang TS, Wu NL, Yang DH, Tsai WC, Wei JC; Taiwan Rheumatology Association (TRA) and the Taiwanese Association for Psoriasis and Skin Immunology (TAPSI). Recommendations for psoriatic arthritis management: A joint position paper of the Taiwan Rheumatology Association and the Taiwanese Association for Psoriasis and Skin Immunology. J Formos Med Assoc. 2021 Mar;120(3):926-938.
5. Hsieh TY, Lin YC, Hung WT, Chen YM, Wen MC, Chen HH, Lin WY, Hsieh CW, Lin CT, Lai KL, Tang KT, Tseng CW, Huang WN, Chen YH, Tsai SC, Wu YD. Change of Renal Gallium Uptake Correlated with Change of Inflammation Activity in Renal Pathology in Lupus Nephritis Patients. J Clin Med. 2021 Oct 11;10(20):4654.

SPEAKER

Lewis Chang 張庭榕

Head of Medical VR, HTC, Taiwan
E-mail: lewis_chang@htc.com
Website: https://lewischang.club/

Education

2012-2014 Healthcare Policy and Management, State University of New York

Professional Experience

2015-present Head of Medical VR, HTC

2014-2014 Marketing intern, Stony Book Medicine

Honors/Awards

Won the HTC Innovation Award twice.

Developed Taiwan's first AI personalized care chatbot "Wan Xiaofang"

Developed he cross-institutional AI+blockchain medical care chatbot "Dr. Lan"

Developed the CDC's "Disease Control Chatbot

Research Interests

Generative AI,

Medical education,

Innovation, and

Business consultation.

The Application of Generative AI in Telehealth and Medical Education

Lewis Chang, Head of Medical VR
HTC

This workshop, hosted by the HTC Medical VR team, explores how generative AI is creating new milestones in medical education! During the workshop, clinical educators will share how they integrate ChatGPT and AI Virtual Patients into innovative teaching, overcoming the limitations of standard patient teaching. HTC revolutionizes teaching by allowing clinical educators to design virtual patient lesson plans without coding knowledge. It provides real-time interactive dialogue to assess student performance, and user feedback helps the AI model continually optimize and evolve. AI Virtual Patients successfully integrate generative AI and support cross-platform applications on desktops, mobile phones, and VR headsets. With extensive teaching experience, the HTC Medical VR team has successfully conducted over 100 workshops in Taiwan, training over 2,500 people using no-code tools. This ensures that every participant gains specific and practical takeaways from this learning experience. We look forward to your participation in exploring the infinite possibilities of virtual medical education!

SPEAKER

Hsin-Ying Tseng 曾馨瑩

Pr. Specialist, Medical VR/ HTC,Taiwan/New Taipei City
E-mail: Nicole.hy_tseng@htc.com

Education

2010-2013 National Taiwan University of Science and Technology

Professional Experience

2023-present HTC Corporation

Research Interests

UI/UX Design, Multimedia Interactive Design

Major Publications

A Study on the Photo Information Representation and Menu Style Designs of Location-Based Service Application Interface of Mobile Devices

SPEAKER

Jimmy Chen 陳俊宇

Pr. Engineer/Medical VR/HTC
E-mail: jimmy.cy_chen@htc.com

Education

2003-2007 Taipei Medical University , Department of Nursing

Professional Experience

2018-present HTC Corporation

WORKSHOP 2

如何進行國際醫學人文研究？
How to Conduct International Medical Humanities Research?

MODERATOR

Yong-Sheng Chen 陳永昇

Professor/Dean of Office of Academic Affairs, National Yang Ming Chiao Tung University, Taiwan
E-mail: yschen@nycu.edu.tw
Website: http:/www.cs.nycu.edu.tw/~yschen

Education

1996-2001	Ph.D., Department of Computer Science and Information Engineering, National Taiwan University
1993-1995	M.S., Department of Computer Science and Information Engineering, National Taiwan University
1989-1993	B.S., Department of Computer and Information Science, National Chiao Tung University

Professional Experience

2022-present	Dean, Office of Academic Affairs, National Yang Ming Chiao Tung University
2021-2022	Acting Director, Center for General Education, National Yang Ming Chiao Tung University
2021-2021	Director, Center of Teaching and Learning Development, Office of Academic Affairs, National Yang Ming Chiao Tung University,
2021-2022	Director, Division of Teaching Resources, Office of Academic Affairs, National Yang Ming Chiao Tung University
2021-2022	Deputy Dean, Office of Academic Affairs, National Yang Ming Chiao Tung University
2020-2021	Director, Center of Teaching and Learning Development, Office of Academic Affairs, National Chiao Tung University
2019-2021	Director, Center of Digital Content Production, Office of Academic Affairs, National Chiao Tung University
2019-2021	Deputy Dean, Office of Academic Affairs, National Chiao Tung University
2017-2019	Chairman, Electrical Engineering and Computer Science Undergraduate Honors Program, National Chiao Tung University
2013-2014	Fulbright Visiting Scholar, Swartz Center for Computational Neuroscience, UCSD

Honors/Awards

2023	Best paper award, Embedded Vision Workshop
2019	Excellent teaching award, College of Computer Science
2014	Best paper award, GCBME

Research Interests

Deep learning, Medical image processing, Biomedical signal analysis, Machine learning, Computer vision

Major Publications

1. Pei-Chun Chang, **Yong-Sheng Chen**, Chang-Hsing Lee*, (2024) "IIOF: Intra- and Inter-feature orthogonal fusion of local and global features for music emotion recognition," *Pattern Recognition*, 148:110200, 2024. [SCI; IF=8; RF=0.11]
2. Hitika Tiwari, Vinod K. Kurmi, Venkatesh K. Subramanian, and **Yong-Sheng Chen** (2023) "Distilling knowledge for occlusion robust monocular 3D face reconstruction," *Image and Vision Computing*, 137:104763, 2023. [SCI; IF=4.7; RF=0.186]
3. I-Sheng Fang, Hsiao-Chieh Wen, Chia-Lun Hsu, Po-Chung Jen, Ping-Yang Chen, and **Yong-Sheng Chen** (2023) "ES^{3}Net: accurate and efficient edge-based self-supervised stereo matching network," *Proceedings of the 19th Embedded Vision Workshop, in Conjunction with CVPR,* Vancouver, Canada, Jun. 19, 2023. [Best Paper Award]
4. Shih-Yen Lin, Pi-Ling Chiang, Meng-Hsiang Chen, Meng-Yang Lee, Wei-Che Lin*, and **Yong-Sheng Chen*** (2023) "DGA3-Net: A parameter-efficient deep learning model for ASPECTS assessment for acute ischemic stroke using non-contrast computed tomography," *NeuroImage-Clinical*, 38:103441. [SCI; IF=4.2; RF=0.286]
5. Hitika Tiwari, Venkatesh K. Subramanian, and **Yong-Sheng Chen** (2023) "Towards reduced dependency and faster unsupervised 3D face reconstruction," *Journal of Real-Time Image Processing*, 20(18), Feb. 2023. [SCI; IF=3; RF=0.455]
6. Ping-Yang Chen, Jun-Wei Hsieh, Munkhjargal Gochoo, and **Yong-Sheng Chen** (2022) "Mixed stage partial network and background data augmentation for surveillance object detection," *IEEE Transactions on Intelligent Transportation Systems*, 23(12): 23533-23547, Dec. 2022. [SCI; IF=8.5; RF=0.029]
7. Hitika Tiwari, Venkatesh K. Subramanian, and **Yong-Sheng Chen** (2022) "Real-time self-supervised achromatic face colorization," *Visual Computer*, Dec. 2022. [SCI; IF=3.5; RF=0.315]
8. Pi-Ling Chiang, Shih-Yen Lin, Meng-Hsiang Chen, Yueh-Sheng Chen, Cheng-Kang Wang, Min-Chen Wu, Yii-Ting Huang, Meng-Yang Lee, **Yong-Sheng Chen***, and Wei-Che Lin* (2022), "Deep learning-based automatic detection of ASPECTS in acute ischemic stroke: improving stroke assessment on CT scans," *Journal of Clinical Medicine*, 11(17), 5159, Aug. 2022. [SCI; IF=3.9]
9. Po-Kang Lin, Yu-Hsien Chiu, Chiu-Jung Huang, Chien-Yao Wang, Mei-Lien Pan, Da-Wei Wang, Hong-Yuan Mark Liao, **Yong-Sheng Chen**, Chieh-Hsiung Kuan, Shih-Yen Lin*, and Li-Fen Chen* (2022) "PADAr: physician-oriented AI-facilitating diagnosis aid for retinal diseases," *Journal of Medical Imaging*, 9(4), Jul. 2022. [SCI; IF=2.4]
10. Pei-Chun Chang, Yan-Yu Tien, Chia-Lin Chen, Li-Fen Chen, **Yong-Sheng Chen**, and Hui-Ling Chan* (2022) "Facial image reconstruction from functional Magnetic Resonance Imaging via GAN inversion with improved attribute consistency," *International Joint Conference on Neural Networks (IJCNN)*, Padova, Italy, Jul. 18-23, 2022.
11. Shih-Yen Lin, Pi-Ling Chiang, Peng-Wen Chen, Li-Hsin Cheng, Meng-Hsiang Chen, Pei-Chun Chang, Wei-Che Lin*, and **Yong-Sheng Chen*** (2022) "Toward automated segmentation for acute ischemic stroke using non-contrast computed tomography," *International Journal of Computer Assisted Radiology and Surgery*, 17: 661-671, Mar. 2022. [SCI; IF=3; RF=0.274]

MODERATOR

Ling-Yu Yang 楊令瑀

Deputy Dean, Office of Academic Affairs, National Yang Ming Chiao Tung University, Taiwan
E-mail: yangly@nycu.edu.tw

Education

June 2000	M.D., Ph.D., Institute of Clinical Medicine, National Yang Ming University
June 1989	M.D., School of Medicine, National Yang Ming University

Professional Experience

2022-present	Associate Dean, Academic Affairs, National Yang Ming Chiao Tung University
2021-2022	Associate Dean, Faculty of Medicine, School of Medicine, National Yang Ming University
2019-present	Professor, Faculty of Medicine, School of Medicine, National Yang Ming Chiao Tung University
2018-present	Committee, Taiwan Medical Accreditation Council, TMAC
2018-2021	Deputy Director, The Center for Faculty Development, National Yang Ming University
2014-2021	Director, Department of Medical Education, Taipei Veterans General Hospital
2011-present	Chief, The Center for Faculty Development, Faculty of Medicine, School of Medicine, National Yang Ming University
2010-2014	Chief, Faculty development center, Department of Medical Research and Education, Taipei Veterans General Hospital
2009-present	Head, Department of Pediatrics/Faculty of Medicine, School of Medicine, National Yang Ming University
2005-2014	Chief, Division of Immunology and Nephrology, Department of Pediatrics, Taipei Veterans General Hospital
2003-2019	Associate professor, Faculty of Medicine, School of Medicine, National Yang Ming
1998-present	Attending Physician, Department of Pediatrics, Taipei Veterans General Hospital
1997-1998	Clinical Researcher, Texas Children Hospital,Baylor College of Medicine in Houston, Texas
1989-1996	Clinical Teaching Assistant, Department of Pediatrics, School of Medicine, National Yang Ming University

Honors/Awards

2022	Contribution Teaching Award, Taiwan Pediatric Association
2021-2023	Excellent Teacher Award, Faculty of Medicine, National Yang Ming Chiao Tung University
2020	Outstanding Teaching Award, National Yang Ming Chiao Tung University
2016	Best Mentor Award, Faculty of Medicine, National Yang Ming University
2015	Physicians of the Year 2015 (Top Doctor Award), Taipei Medical Association
2005-2021	Excellent Teacher Award, Faculty of Medicine, National Yang Ming University
2005	Attending Physician Excellence Award, Taipei Veterans General Hospital Pediatrics Department
1999-2013	Clinical Teaching Award ,Taipei Veterans General Hospital
1999	Academic Papers Award for Schering-Plough, Taiwan Pediatric Allergic Asthma and Immunology Organization
1993	Best Papers Award, Taipei Veterans General Hospital Pediatrics Department

Research Interests

Medical education, Pediatrics, Pediatric Immunology

Major Publications

1. Yang LY, Lin CY - Pediatric Urology: Urinary tract infection in children pp.51-56. 1992/ Hsu TH, Chen MT, Chang LS (Eds), Jiou-Chou Publishing Co., Taipei Taiwan

2. Nursing Physiology: written by Warren R. Guild, Robert E. Fuisz, Samuel Bojar; translated and edited by Yang LY, Chen LQ, Jin-Ming Publishing Co., Taipei Taiwan, 1986

MODERATOR

Yu-Lun Huang 黃育綸

Associate Dean for Academic Affairs
Director for Center of Teaching and Learning Development
Director for Division of Teaching Resources
Associate Professor, Dept. of Electronics & Electrical Engineering,
National Yang Ming Chiao Tung University, Taiwan
E-mail: ylhuang@nycu.edu.tw
Website:
https://dee.nycu.edu.tw/teachers.php?pa=getItem&teacher_id=161&locale=tw

Education

1995-2001	Ph.D., Department of Computer Science & Information Engineering, National Chiao-Tung University, Taiwan
1991-1995	Bachelor, Department of Computer Science & Information Engineering, National Chiao-Tung University, Taiwan

Professional Experience

2021-present	• Associate Professor, Department of Electrical & Control Engineering, National Yang Ming Chiao Tung University, Taiwan • Director, Center for Teaching and Learning Development, National Yang Ming Chiao Tung University • Director, Division of Teaching Resources, National Yang Ming Chiao Tung University • Consultant, Taiwan Open Course and Education Consortium
2020-present	• Independent Director, Phison Electronics Corp. • Principal Investigator, MoE E-Learning Movement Project
2014-2021	• Secretary General, Taiwan Open Course and Education Consortium
2015-2020	• Associate Dean of Academic Affairs, National Chiao Tung University • Director, Center for Teaching and Learning Development, National Chiao Tung University
2012-2015	• Technical Consultant, Mozilla Corp.

Honors/Awards

2022	Distinguishing Teaching Award, National Yang Ming Chiao Tung University
2019	Distinguishing Teaching Award, College of Electrical and Computer Engineering
2019	Fellow, UK Higher Education Academy
2014	Outstanding Teaching Award, National Chiao Tung University
2006	Outstanding Mentor Award, National Chiao Tung University
1995	Fellow, The Phi Tau Phi Scholastic Honor Society of the Republic of China

Research Interests

Yu-Lun Huang received the B.S., and Ph.D. degrees in Computer Science, and Information Engineering from the National Chiao-Tung University, Taiwan in 1995, and 2001, respectively. She has been a member of Phi Tau Phi Society since 1995. She is now an associate professor in the Department of Electrical & Computer Engineering of National Chiao-Tung University (NCTU). She is now the Associate Dean of NCTU Academic Affairs, Director of Center for Continuing Education and Training, and Director of Center for Teaching and Learning Development at NCTU. She has been serving the Secretary General of Taiwan Open Course Consortium since 2014. Her research interests include wireless security, virtualization security, embedded software, embedded operating systems, risk assessment, secure payment systems, VoIP, QoS and critical information infrastructure protection (CIIP), IoT Security, LTE Security, creative and innovative teaching model, etc.

Major Publications

1. Wen-Lin Sun, Yu-Lun Huang, Ying-Han Tang, “HiRAM: A Hierarchical Risk Assessment Model and its Implementation for an Industrial Internet of Things in the Cloud, ” Software Testing, Verification and Reliability, 2023, pp. e1847, https://doi.org/10.1002/stvr.1847.
2. Wen-Lin Sun, Yu-Lun Huang, “Cross: A Generic Framework for System Integration and Its Adaption in Hospitals,” Software: Practice and Experience, vol. 52, no. 7, 2022, pp. 1643-1660, https://doi.org/10.1002/spe.3079.
3. Yu-Lun Huang and Zong-Xian Li, “Applying Genetic Algorithm to Rearrange Cloud Virtual Machines for Balancing Resource Allocation,” IEEE Reliability, November 2016.
4. Chia-Chen Wu, Yu-Lun Huang and Shiuhpyng Shieh, “Investigating Anonymous and Secure Fault-Tolerable Routing Protocols for Overlay Networks, ” IEEE Reliability, August 2016.
5. Borting Chen, Ho-Pang Hsu, Yu-Lun Huang, “Bringing Desktop Applications to the Web,” IEEE IT Professional, January/Febuary 2016.
6. Yu-Lun Huang, Chao-Yang Cheng, Sunny S. J. Lin, “CIM: Capability-Innovation-Motive Teaching Model for System Engineering Education – “Embedded Operating Systems” as an Example,” International Journal of Automation and Smart Technology (AUSMT), Vol. 5, No 3, 2015.

Workshop 2: How to Conduct International Medical Humanities Research?

Kirsten Ostherr, PhD, MPH
Gladys Louise Fox Professor of English,
Director of Medical Humanities Research Institute, Rice University, USA

This workshop will systematically answer the question, “how to conduct international medical humanities research?” I will present a set of methods for engaging in international medical humanities research by focusing on four key components of this question: 1) What are the central themes of medical humanities research that are most critical to bring into clinical research? 2) What research methods can enable transdisciplinary research that bridges biomedical and humanities approaches? 3) How to identify timely and relevant questions that are well-suited to international medical humanities research? And 4) How to highlight the added benefit and insights gained through medical humanities research that would not be possible through biomedical research alone? The workshop will combine brief lectures addressing all of these topics and breakout sessions where workshop participants will address these questions as related to their own research settings, and each subsection of the workshop will include time for interaction between the speaker and the audience, and opportunities for participants to ask questions.

論文徵稿海報決選

MODERATOR

Yih-Wen Tarng 唐逸文

Deputy superintendent, Professor/Kaohsiung Veterans General Hospital, Kaohsiung Taiwan
E-mail: qm1047@ms35.hinet.net, ywtrang@vghks.gov.tw

Education

1987-1994	**M.D.** Department of Medicine, National Defense Medical Center, Taipei, Taiwan
2002-2011	**PhD.** Institute of Biomedical Engineering of National Cheng-Kung University, Tainan, Taiwan

Professional Experience

2024-present	Deputy Superintendent, Kaohsiung Veterans General Hospital
2021-present	Chief, Department of Medical Education and Research, Kaohsiung Veterans General Hospital
2022 -present	Professor, Department of Orthopaedics, College of Medicine, National Yang-Ming Chiao-Tung University
2022 -present	Professor, Department of Post-Baccalaureate Medicine, National Sun Yat-sen University
2013-2020	Director, Orthopaedic trauma Division, Department of Orthopaedic Surgery,
2021-2021	Director, Trauma section of Department of Emergency, Jan. 2021 – May, 2021

Honors/Awards

2022-present	Chairman, Taiwan Orthopaedic Trauma Association (TOTA)
2009 -present	AO Trauma Pan-ASIA Regional faculty, AO Foundation from
2018 -2021	Research officer, Taiwan council of AOTAP, 2018 – 2021
2005-2005	Department of Orthopaedic surgery, Mayo Clinic, Rochester, Minnesota, USA. September 2005 to November 2005.
2004-2005	Research fellow, Cartilage and connective tissue research laboratory, Mayo Clinic, Rochester, Minnesota, USA. September 2004 to August 2005.

Research Interests

1. cartilage culture
2. Tissue engineering
3. Mechanobiology
4. Orthopedics

Major Publications

1. Chen YT, Lee HS, Hsieh DJ, Periasamy Srinivasan, Yeh YC, Lai YP, **Tarng YW***. 3D composite engineered using supercritical CO2 decellularized porcine cartilage scaffold, chondrocytes and PRP: Role in articular cartilage regeneration. J Tissue Engineering and Regenerative Medicine *(J TISSUE ENG. REGEN. M)* (Accept) (IF: 3.078, Rank: 33/87 = 37.93% Engineering, Biomedical) **(* Correspondence author)**
2. Hsieh DJ*, Srinivasan P, Yen KC, Yeh YC, Chen YJ, Wang HC, Tarng YW*. Protocols for the preparation and characterization of decellularized tissue and organ scaffolds for tissue engineering. Biotechniques. 2020 **(* Correspondence author)**
3. Lin KC, Li YS, Tarng YW*. Safety and Efficacy of Prophylactic Closed Incision Negative Pressure Therapy after Acute Fracture Surgery. Injury. 51(2):1805-1811, 2020. (IF: 2.106, Rank: 35/82=42.68 %) (* Correspondence author)
4. Wu TH, Lin HL, Chou YP, Huang FD, Huang WY, Tarng YW*. Facilitating ventilator weaning through rib fixation combined with video-assisted thoracoscopic surgery in severe blunt chest injury with acute respiratory failure. Critical Care. 24(1):49-57, 2020. (IF: 6.959, Rank: 6/33 = 18%) (* Correspondence author)
5. Wang CH, Hsieh DJ, Periasamy S, Chuang CT, Tseng FW, Kuo JC, Tarng YW*. Regenerative porcine dermal collagen matrix developed by supercritical carbon dioxide extraction technology: Role in accelerated wound healing. Materialia. 9, March, 100576, 2020. (* Correspondence author)
6. Tarng YW*, Lin KC. Management of bone defects due to infected non-union or chronic osteomyelitis with autologous non-vascularized free fibular grafts. Injury. 51(2):294-300, 2020. (IF: 2.106, Rank: 35/82=42.68 %) (* Correspondence author)
7. Tarng YW, Lin KC. A combined prone and supine approaches for complex three column tibial plateau fracture with posterolateral articular injury. Injury. 50(10):1756-1763, 2019. (IF: 2.106, Rank: 35/82=42.68 %)
8. Lin HL, Tarng YW, Wu TH, Huang FD, Huang WY, Chou YP. The advantages of adding rib fixations during VATS for retained hemothorax in serious blunt chest trauma - A prospective cohort study. Int. J Surg. 65:13-18, 2019. (IF: 3.357, Rank: 40/210= 19%)
9. Li YS, Chen CY, Lin KC, Tarng YW, Hsu CJ, Chang WN. Open reduction and internal fixation of ankle fracture using wide-awake local anaesthesia no tourniquet technique. Injury. 50(4):990-994, 2019. (IF: 2.106, Rank: 35/82=42.68 %)
10. Huang YC, Chen CY, Lin KC, Yang SW, Tarng YW, Chang WN. Comparison of Wide-Awake Local Anesthesia No Tourniquet With General Anesthesia With Tourniquet for Volar Plating of Distal Radius Fracture. Orthopedics. 42(1): e93-e98, 2019.

MODERATOR

Wen-Shan Liu, Professor 劉文山

Director, MD/PhD, Dept. of Medical Education and Research, Kaohsiung Veterans General Hospital
E-mail: wsliu@vghks.gov.tw

Education

2001-2007	Chung Shan Medical University, Institute of Medicine, PhD
1997-2000	National Cheng Kung Univeristy, Deprt. of Biomedical Enginerring, MS
1980-1987	National Defense Medical Center

Professional Experience

2024-present	Dept. of Medical Education and Research, Kaohsiung VGH
2021-2024	Cancer Center, Kaohsiung VGH
2012-2021	Depart. Radiation Oncology, Kaohsiung VGH
2000-2012	Depart. Radiation Oncology, Chung Shan Medical University
1987-2000	Depart. Radiation Oncology, Kaohsiung VGH

Honors/Awards

2021-2023	Breast cancer, Diseae-specific Care (DSC) Certification, Joint Commission of Taiwan
2022	The improvement of radiotherapy for NPC, SNQ Certification
2019	Radiation oncology information system for whole cancer team, SNQ Certification
2019	New frontier for early breast radiotherapy, SNQ Certification
2018	Excellent Doctor Awards, Veterans Affairs Council
2018	Excellent in Teaching Awards, Kaohsiung VGH

Research Interests

1. The target and organ at risk delineation in nasopharyngeal cancer.
2. The treatment related late complication in nasopharyngeal cancer patients.
3. The adaptive radiotherapy in nasopharyngeal cancer patients.
4. The micro-RNA expression in breast cancer patients.

Major Publications

1. Liu WS, Chien JC, Huang YH, Chen PC, Huang WL, Chiang SW, Lee CC, Kang BH, Hu YC. High Superior-Middle Pharyngeal Constrictor Muscle Mean Dose Correlates with Severe Late Lung Infection and Survival in Nasopharyngeal Cancer Patients. Cancer Manag Res. 2022;14:1063-1073.
2. Lu LS, Wu YW, Chang JT, Chang WT, Chao TH, Chen HH, Chen YJ, Cheng KH, Hsu WL, Hung CL, Kuo SH, Liang JA, Lin HJ, Liu PY, Liu WS, Liu YW, Shueng PW, Wang CY, Hou CJ, Chiou JF. Risk Management for Radiation-Induced Cardiovascular Disease (RICVD): The 2022 Consensus Statement of the Taiwan Society for Therapeutic Radiology and Oncology (TASTRO) and Taiwan Society of Cardiology (TSOC). Acta Cardiol Sin. 2022 Jan;38(1):1-12.
3. *Chien JC, Hu YC, Chang KC, Huang YH, Huang CY, Kang BH, Liu WS*. Contralateral Lymph Node Recurrence Rate and Its Prognostic Factors in Stage IVA-B Well-Lateralized Oral Cavity Cancer.* Auris Nasus Larynx.. 2021;48(5):991-998.
4. Liu WS, Tsai KW,Kang BH et al: Simultaneous reduction of volume and dose in clinical target volume for nasopharyngeal cancer patients. Int J Radiat Oncol Biol Phys 2021 Feb 1;109(2):495-504.
5. Hu YC, Tsai KW, Lee CC, Peng NJ, Chien JC, Tseng HH, Chen PC, Lin JC, Liu WS:Which nasopharyngeal cancer patients need adaptive radiotherapy?BMC Cancer. 2018 Dec 10;18(1):1234.
6. Liu WS, Chan SH, Chang HT, Li GC, Tu YT, Tseng HH, Fu TY, Chang HY, Liou HH, Ger LP and Tsai KW Tsai: Isocitrate dehydrogenase 1–snail axis dysfunction significantly correlates with breast cancer prognosis and regulates cell invasion ability. Breast Cancer Research (2018) 20:25.
7. Tseng HC, Pan LK, Chen HY, Liu WS, Hsu CC, Chen CY. In vivo evaluating skin doses for lung cancer patients undergoing volumetric modulated arc therapy treatment.Biomed Mater Eng 2015;26 Suppl 1:S1677-83.
8. Tseng HC, Liu WS, Tsai HH, Chu HY, Lin JB, Chen CY. Radiation dose for normal organs by helical tomotherapy for lung cancer. Appl Radiat Isot 2015 Aug;102:35-41.
9. Chen PC, Yang CC, Wu CJ, Liu WS, Huang WL, Lee CC. Factors predict prolonged wait time and longer duration of radiotherapy in patients with nasopharyngeal carcinoma: a multilevel analysis.PLoS One 2014 Oct 14;9(10):e109930.
10. Leung CM, Chen TW, Li SC, Ho MR, Hu LY, Liu WS, Wu TT, Hsu PC, Chang HT, Tsai KW. MicroRNA expression profiles in human breast cancer cells after multifraction and single-dose radiation treatment. Oncol Rep 2014 Mar 13.
11. Leung CM, Li SC, Chen TW, Ho MR, Hu LY, Liu WS, Wu TT, Hsu PC, Chang HT, Tsai KW.Comprehensive microRNA profiling of prostate cancer cells after ionizing radiation treatment. Oncol Rep 2014 Mar;31(3):1067-78.
12. Liu W-S, Chang YJ, Lin CL, Liang JA, Sung FC, Hwang IM, Kao C-H. Secondary primary cancer in patients with head and neck carcinoma: the differences among hypopharyngeal, laryngeal, and other sites of head and neck cancer. European Journal of Cancer Care 23, 36–42, 2014.

MODERATOR

Chi-Chang Juan, Ph.D. 阮琪昌

Vice Dean, College of Medicine
Professor, Department and Institute of Physiology
National Yang Ming Chiao Tung University, Taiwan
E-mail: ccjuan@nycu.edu.tw

Education

1994-1998	Ph.D. in Physiology, National Yang-Ming University, Taipei, Taiwan.
1992-1993	M.S. in Physiology, National Yang-Ming University, Taipei, Taiwan.
1988-1991	B.S. in Biology, Tung-hai University, Taichung, Taiwan.

Professional Experience

2008-present	Professor, Department and Institute of Physiology, National Yang-Ming University.
2024-present	Vice Dean, College of Medicine.
2020-present	Associate Chairperson, School of Medicine.
2005-2008	Associate Professor, Institute of Physiology, National Yang-Ming University.
2003-2005	Assistant Professor, Institute of Physiology, National Yang-Ming University.
1998-2003	Postdoctoral Fellow, Department of Medical Research & Education, Veterans General Hospital-Taipei.

Honors/Awards

2021	Excellent Teaching Award Teacher for the 110th Academic Year
2019	9th Federation of the Asian and Oceanian Physiological Societies (FAOPS) 2019, Masao Ito Memorial Award

Research Interests

1. Pathogenic mechanism of metabolic syndrome
2. Metabolic effects of vasoactive hormones
3. Adipocytokines and insulin resistance
4. Adipocytokines and endothelial dysfunction
5. Mechanism of insulin resistance in PCOS

Major Publications

1. Liu SY, Chen LK, Jhong YT, Chen CW, Hsiao LE, Ku HC, Lee PH, Hwang GS, **Juan CC*** (2024, Jun). Endothelin-1 impairs skeletal muscle myogenesis and development via ETB receptors and p38 MAPK signaling pathway. *Clinical science (London, England: 1979)*, 138(12):711-723.
2. Huang IS, Li LH, Chen WJ, **Juan CC***, Huang WJ (2024, Apr). Intratesticular testosterone and its precursors among azoospermic men: A pilot study. *World Journal of Men's Health*, Online ahead of print.
3. Chen CW, Chen LK, Chung YT, Liu SY, Chen SW, Chang YI, Hsieh PS, **Juan CC*** (2023, Dec). Cysteine-cysteine Chemokine Receptor Type 5 Plays a Critical Role in Exercise Performance by Regulating Mitochondrial Content in Skeletal Muscle. *Inflammation*, 46(6):2089-2101.
4. Huang IS, Li LH, Chen WJ, Huang EY, **Juan CC***, Huang WJ (2023, Aug). Proteomic Analysis of Testicular Interstitial Fluid in Men with Azoospermia. *European urology open science*, 54:88-96.
5. Li LH, Hou SK, Chen CT, Chang YI, Kao WF, Chiu YH, **Juan CC***, How CK (2023, Jan). Effect of ultramarathon running on iron metabolism. *Journal of the Chinese Medical Association*, 86(1):80-87.
6. Chen CW, Chen LK, Huang TY, Yang DM, Liu SY, Tsai PJ, Chen TH, Lin HF, **Juan CC*** (2022, May). Nitric oxide mobilizes intracellular Zn2+ via the GC/cGMP/PKG signaling pathway and stimulates adipocyte differentiation. *International Journal of Molecular Sciences*, 23(10):5488.
7. Lien CC, Yin WH, Yang DM, Chen LK, Chen CW, Liu SY, Kwok CF, Ho LT, **Juan CC*** (2022, Feb). Endothelin-1 induces lipolysis through activation of the GC/cGMP/Ca 2+/ERK/CaMKIII pathway in 3T3-L1 adipocytes. *Biochim Biophys Acta Mol Cell Biol Lipids*, 1867(2):159071.
8. Seow KM, Liu PS, Chen KH, Chen CW, Chen LK, Ho CH, Hwang JL, Wang PH, **Juan CC*** (2021, Dec). Cysteine–Cysteine motif chemokine receptor 5 expression in letrozole-induced polycystic ovary syndrome mice. *International Journal of Molecular Sciences*, 23(1):134.
9. **Juan CC**, Chen KH, Chen CW, Ho CH, Wang PH, Chen HS, Hwang JL, Lin YH, Seow KM (2021, Oct). Increased regulated on activation, normal T-cell expressed and secreted levels and cysteine-cysteine chemokine receptor 5 upregulation in omental adipose tissue and peripheral blood mononuclear cells are associated with testosterone level and insulin resistance in polycystic ovary syndrome. *Fertil Steril*, 116(4):1139-1146.
10. **Juan CC**, Li LH, Hou SK, Liu PS, Kao WF, Chiu YH, How CK (2021, Feb). Expression of ABC transporter and scavenger receptor mRNAs in PBMCs in 100-km ultramarathon runners. *European journal of clinical investigation*, 51(2): e13365.
11. Chen CW, Ho CH, Seow KM, **Juan CC** (2021). Polycystic ovarian syndrome and chemokine cysteine-cysteine motif ligand 5. *Adaptive Medicine*, 13: 16-19.
12. Chen CW, Kuo YC, How CK, **Juan CC*** (2020, Dec). Long-term aerobic exercise training-induced anti-inflammatory response and mechanisms: Focusing on the toll-like receptor 4 signaling pathway. *Chinese Journal of Physiology*, 63(6):250-255.
13. Wu LY, Chen CW, Chen LK, Chou HY, Chang CL, **Juan CC*** (2019, Sep). Curcumin attenuates adipogenesis by inducing preadipocyte apoptosis and inhibiting adipocyte differentiation. *Nutrients*, 11(10):2307.
14. Lin YT, Chen LK, Jian DY, Hsu TC, Huang WC, Kuan TT, Wu SY, Kwok CF, Ho LT, **Juan CC*** (2019). Visfatin promotes monocyte adhesion by upregulating ICAM-1 and VCAM-1 expression in endothelial cells via activation of p38-PI3K-Akt signaling and subsequent ROS production and IKK/NF-κB activation. *Cellular physiology and biochemistry*, 52(6):1398-1411.

***Corresponding Author**

Host for Final Selection of Conference Paper Presentations

Chung-Pin Li 李重賓

Director, Division of Clinical Skills Training, Taipei Veterans General Hospital, Taiwan
E-mail: chungpinli@gmail.com
Website:
https://wd.vghtpe.gov.tw/cstc/Fpage.action?muid=14271&fid=13084

Education

1982-1989	School of Medicine, National Yang Ming Chiao Tung University
1997-2004	Institute of Clinical Medicine, National Yang Ming Chiao Tung University

Professional Experience

2021-present	Director, Division of Clinical Skills Training, Taipei Veterans General Hospital
1991-2021	Doctor, Division of Hepatology and Gastroenterology, Taipei Veterans General Hospital
2016-present	Professor, School of Medicine, National Yang Ming Chiao Tung University

Honors/Awards

2022	FutureTech Award (未來科技獎), Taiwan

Research Interests

Medical Education, Pancreatic Cancer

Major Publications

Yuan EJ, Huang SS, Hsu CA, Lirng JF, Li TH, Huang CC, Yang YY, Li CP* (correspondent), Chen CH. Negative effects on medical students' scores for clinical performance during the COVID-19 pandemic in Taiwan: a comparative study. Journal of Educational Evaluation for Health Professions. 2023:20:37. (IF=9.3, R/C= 1/85, EDUCATION, SCIENTIFIC DISCIPLINES)

論文摘要投稿

【壁報 1】

Innovative Applications and Effectiveness Evaluation of Interdisciplinary Team Teaching at a Regional Teaching Hospital

區域教學醫院在跨領域團隊教學中的創新應用與成效評估

Meng-Yen Li, Kuei-Lin Tung, Yu-Ling Huang, Shu-Hua Ko
李孟燕 董圭玲 黃于玲 柯淑華
Weigong Memorial Hospital , Medical Education and Research Section , Taipei, Taiwan, ROC
為恭醫療財團法人為恭紀念醫院 教學研究組

Background: Modern medical education requires diverse teaching models to enhance the skills of healthcare professionals due to rapid advancements in medical technology and knowledge. At a regional teaching hospital, the Medical Education and Research Section restructured interdisciplinary team teaching activities to improve collaboration and clinical skills through innovative practices.

Methods: In 2024, five interdisciplinary team teaching activities were planned for March, May, July, September, and November, with two completed so far as of this writing. Each activity included case presentations, discussions, and practical exercises, involving physicians, nurses, pharmacists, laboratory technicians, radiologists, nutritionists, physical therapists, occupational therapists, and postgraduate trainees. Trainees completed learning worksheets after each activity, which were summarized and evaluated by facilitators and clinical instructors.

Results: Postgraduates trainees showed significant learning outcomes and professional skill enhancement. The "Interdisciplinary Team Collaboration Teaching Learning Worksheets" highlighted their ability to propose constructive healthcare issues and engage in in-depth discussions. Satisfaction rates were 87% in 2022, 88% in 2023, and 93% in 2024, demonstrating a significant increase. These interactions successfully met the expected objectives of the teaching activities.

Conclusion: The innovative interdisciplinary team teaching activities enhanced professional skills and collaboration among healthcare personnel, promoting holistic medical education. Moving forward, the program will leverage technology to implement digital learning platforms, enhance online learning, and use telemedicine for virtual rounds and interdisciplinary meetings. The goal is to optimize and extend the interdisciplinary team teaching model across more medical fields.

Keyword：Interdisciplinary teaching, holistic healthcare, educational innovation

【壁報 2】

Enhancing Emergency Medicine Resident Education: A Visualized 360-Degree Feedback System

強化急診醫學住院醫師教育：視覺化的 360 度反饋系統

洪世文[1,2]、黃琪絜[1]、張志華[1,2]（指導作者）

1.新光醫療財團法人新光吳火獅紀念醫院急診醫學科

2.天主教輔仁大學 醫學系

1. Emergency Department, Shin-Kong Wu Ho-Su Memorial Hospital, Taipei City, Taiwan

2. School of Medicine, Fu Jen Catholic University College of Medicine, New Taipei City, Taiwan

Background:

360-degree feedback, or multisource feedback (MSF), evaluates medical professionals comprehensively through input from peers, supervisors, patients, and self-assessment. While beneficial, its complexity and time-consuming nature pose challenges. This study aims to revolutionize resident education in emergency medicine by introducing a visualized system for 360-degree feedback.

Integrate data from diverse sources and conduct multidimensional analyses in real-time, providing clinical educators with objective insights and aiding resident physicians in comprehension.

Methods:

Leveraging the institution's commitment to smart healthcare, a digital medical information system, powered by Microsoft Power BI, was implemented in the Emergency Medicine Department. Starting from 2022, it will be assessed through Google Forms, Google Drive will collect data, and combine business intelligence with Power BI automated analysis. Semi-annual 360-degree assessments by physicians, peers, and nurses were input and analyzed for big data visualization.

Results:

The visualized system enhances resident education by: (1) Integrating data for quick performance analysis and feedback. (2) Supporting resident self-assessment, visualizing strengths and weaknesses. (3) Enabling peer comparison, motivating skill enhancement. (4) Facilitating real-time updates for prompt issue identification and intervention.

Conclusion:

Implementing 360-degree assessment in resident training improves healthcare team quality, ensuring high-quality patient services. Power BI's visualized system aids quick feedback, peer comparison, and effective teaching management, fostering continuous resident development.

Key words：360-Degree、Emergency Medicine Resident Education Power BI

【壁報 3】

Streamlining Medical Education Meeting: Real-Time Dashboard for ED 72-Hour Revisit Analysis with Power BI

智能化醫學教育會議：使用 Power BI 的急診 72 小時返診分析即時儀表板

林易瑨[1]、黃琪絜[1]、張志華[1,2]（指導作者）
Yi-Chin Lin, Chi-Chieh Huang, Chee-Fah Chong（指導作者）
1.新光醫療財團法人新光吳火獅紀念醫院急診醫學科
2.天主教輔仁大學 醫學系
1. Emergency Department, Shin-Kong Wu Ho-Su Memorial Hospital, Taipei City, Taiwan
2. School of Medicine, Fu Jen Catholic University College of Medicine, New Taipei City, Taiwan

Background:

The rate of revisits to the emergency department (ED) within 72 hours is a multifaceted and dynamic indicator of healthcare quality. Currently, this data is delivered monthly by IT and then manually analyzed by quality control personnel, generating static reports like line graphs or control charts. This approach is cumbersome for addressing specific questions. For instance, investigating factors influencing readmission rates necessitates team discussions and formal IT requests for tailored reports, creating delays and hindering effective decision-making.

Implementing data integration technologies, we propose to automate the current, manual reporting system. Integration with the Hospital Information System (HIS) and real-time ED patient databases will enable us to generate dynamic reports. This approach will not only streamline workflows for quality control staff but also provide more accurate and up-to-date data for informed decision-making. Ultimately, this will translate to improved healthcare delivery and enhanced patient outcomes.

Methods:

Our institution has been at the forefront of healthcare informatics, developing next-generation digital information systems since 2021. In 2022, we implemented Microsoft Power BI to enhance our ability to handle and analyze large datasets. This commitment to technological innovation culminated in July 2023 with the successful integration of the Hospital Information System (HIS) to automate data collection for ED revisit metrics. This has resulted in the transition from static reports to dynamic, real-time visualization dashboards.

Results:

Leveraging advanced data visualization tools, our Emergency Department (ED) has developed a real-time dashboard seamlessly integrated with the Hospital Information System (HIS). This innovative platform automatically ingests and presents 72-hour patient revisit data, empowering the medical team to conduct rapid analysis of potential factors influencing key care quality indicators.

These benefits include:

1. Automated Analysis:

The system automates the analysis of return visit reasons, attending physicians, departments (trauma, non-trauma, pediatrics), age, shifts, and gender. This eliminates manual data crunching, significantly enhancing efficiency.

2. Real-Time Decision-Making:

The platform provides instant feedback, facilitating rapid and informed decision-making. For example, this data can be used to identify areas for improvement in pediatric education, leading to the implementation of QR code scanning for educational materials and videos.

3. Measurable Improvement:

The system has demonstrably improved medical services and patient care. We have observed a significant reduction in return visit rates, dropping from 2.26% in the third quarter of 2023 to 1.98% in the fourth quarter.

4. Long-Term Evaluation:

The platform facilitates long-term tracking of data, enabling ongoing research and evaluation of the effectiveness of implemented improvements in medical care.

Conclusion:

The real-time dashboard has fostered a culture of information sharing across the hospital, improving discussions regarding 72-hour return visit cases during cross-departmental meetings. The platform also facilitates clinical teaching by empowering physicians to review their own return visit cases, promoting self-evaluation and continuous improvement. Additionally, the dashboard offers direct access to electronic medical records (EMRs) for each return visit case, enhancing work efficiency and quality control in the ED.

Key words：education meeting、ED 72-Hour Revisit、Power BI

【壁報 4】

Establishing Interactive Teaching to Optimize Pre-Employment Training and Effectiveness Analysis for New Medical Interns

建立新進實習醫學生互動式教學優化職前訓練及成效分析

Chung-Pin Li, Cheng-Ming Chang, Yu-Ju Hou, Hui-Lan Chang, Ying-Ying Yang
李重賓 張正明 侯俞如 張慧蘭 楊盈盈
Division of Clinical Skills Training, Department of Medical Education, Taipei Veterans General Hospital, Taipei, Taiwan, ROC
臺北榮民總醫院 教學部 臨床技術訓練科

Background: Since the 21st century, rapid technological advancements and generational shifts transformed education. COVID-19, starting in 2020, particularly impacted medical education, reducing clinical internships. Uncertainty exists about interns' overall competency. We propose innovative interactive digital pre-employment training to assess its effectiveness compared to traditional non-interactive learning on interns at Taipei Veterans General Hospital.

Methods: We employed digital assessment and analysis to evaluate the impact of optimizing interactive pre-employment training on the learning effectiveness of new medical interns from August 1, 2022, to June 30, 2024. We assess various factors, including training type, age, gender, university attended, specialty, study time, and test time, that may influence students' learning by using statistical tests and multiple regression analysis.

Results: The interactive learning has a higher sore proportion (≥ 80 scores, 84/116 vs 53/125, $p < 0.001$), a higher examination score (84.85 ± 12.34 vs 79.82 ± 14.83, $p = 0.004$), longer reading time (18.43 ± 6.39 hrs vs 11.10 ± 6.25 hrs, $p < 0.001$), and lesser number of examinations to pass (1.28 ± 0.47 vs 1.60 ± 0.54, $p < 0.001$), than traditional non-interactive learning. Multiple regression analysis showed public medical school ($p = 0.031$), younger age ($p = 0.001$), and interactive digital learning ($p = 0.004$) to have higher examination scores, while interactive digital learning has lesser number of exams to pass ($p < 0.001$).

Conclusion: Interactive learning can effectively improve students' grades and reduce the number of exams students need to pass. Interactive learning can enhance their learning and is an important way to enhance student learning.

Keyword： Interactive Learning, Intern, Medical Education

【壁報 5】

To explore the comparison of the effectiveness of different escape room simulation teachings on new nursing teachers' violence cognition

探討不同密室逃脫模擬教學對新進護理師暴力認知成效比較

吳皇進[1]、周逸婷[1]、林純如[1]、沈俊宏[1]、陳瑞[1]、許瀚仁[2]

Huang-Chin Wu, Yi-Ting Chou, Chun-Ju Lin, Chun-Hong Shen, Ruey-Chen, Han-Jen Hsu

1.衛生福利部雙和醫院〈委託臺北醫學大學興建經營〉護理部

1..Department of Nursing, Taipei Medical University, Shuang Ho Hospital, New Taipei, Taiwan, ROC

2.仁品創課有限公司

2.J-P Maker Ltd, Taipei, Taiwan, ROC

背景(Background)：醫療界日漸盛行創新教學，團隊設計實體密室逃脫教學，但鑒於場地人數受限，推廣較不容易，便發想設計線上版密室逃脫教學，團隊決議運用 Gather town 軟體及虛擬實境技術於教學上，執行教學成效比較。

方法(Method)：製作密室逃脫各種謎題與關卡，讓學員可以依據線索解謎，達到學習暴力溝通及因應技巧等知識，此教案內容分別建置於 Gather town 軟體及 AR2VR 虛擬實境軟體上。研究採用隨機組別進行教學測試，共 22 位新進護理師參與，分為 11 位虛擬實境組與 11 位 Gather town 組，教學前後透過結構化問卷收集資料，並使用 SPSS 進行 Wilcoxon sign rank 比較分析，探討暴力認知及心流分數。

結果(Results)：兩組在暴力認知測驗分數皆顯著提升(虛擬實境組 P=0.014、Gather town 組 P=0.04)，但比較前後測分數並無顯著差異(前測 P=0.209、後測 P=1.000)，證實兩種密室逃脫教學方式皆能提高暴力認知。心流體驗在兩組比較中雖無顯著差異(P=0.499)，但虛擬實境組分數較高，顯示虛擬實境帶給學員的沉浸感較強。

結論(Conclusion)：不論是虛擬實境技術或是 Gather town 於密室逃脫模擬教學上皆有助於提升新進護理師暴力認知提升，虛擬實境技術更能達到良好的心流體驗，讓學員投入於教學中。線上教學富含便利性，可有效節省講師人力，更能迅速地推廣，但此研究目前樣本數過少，建議將來持續收案提高樣本數。

關鍵詞(Keywords)：虛擬實境、Gather town、暴力認知、心流

【壁報 6】

Attending physician virtual ward round with duty resident was associated with improved patient care, outcomes and resident training

主治醫師假日與值班醫師視訊迴診提升病人滿意度、照顧品質、住院醫師訓練

Kuei Ting Tung1,2, Chen-Wei Liu2, Rong Lin2, Po-Wen Cheng, 1,3 Yun Chen1,4
董奎廷 劉正偉 林蓉 鄭博文 陳芸

1. Department of medical education, Far Eastern Memorial Hospital
2. Department of internal medicine, Division of general medicine, Far Eastern Memorial Hospital
3. Department of otolaryngology, Far Eastern Memorial Hospital
4. Department of surgery, Division of pediatric surgery, Far Eastern Memorial Hospital
亞東紀念醫院教學部、內科部一般醫學內科

Background: Hospital ward rounds are conducted routinely, but due to practical considerations, during non-working days, it rests upon duty residents to respond to patient needs. With the advent of telemedicine, particularly following the COVID-19 pandemic, both patients and physicians have become more accustomed to online medical encounters.

Methods: In a tertiary medical center internal medicine ward, we implemented an "virtual" attending physician ward round on Sundays, where an attending physician engaged in an online chart round alongside the duty resident. Using a tablet, we also visited specific patients such a critically ill patients or those that had just been admitted to the ward. We collected basic patient information including Charlson's co-morbidity index (CCI), hospital admission days, mortality during an two year period from a internal medicine ward. After implementation of the virtual attending physician ward round, we collected questionnaires from patient or family and from duty residents. The data was analyzed to observe for impact on patient satisfaction/outcomes and resident teaching outcomes.

Results: During the follow up period from January to December 2023, the average age of patients was 69.7 years old, with CCI of 5.28. The most common etiology for hospitalization were acute infectious disease (Pneumonia, urinary tract infection, soft tissue infection...), renal disease, pulmonary disease and gastrointestinal disease.

Prior to virtual rounds, the average hospital admission days was 9.04, and mortality rate 5.06%. After implementation, hospital admission day decreased to 8.35 (-0.69 days) and mortality rate decreased to 4.37% (-0.69%). Overall patient and family responded favorably, with 96.3% replying that the virtual visit helped them to better understand treatment plan. 91.8% of residents reported that the virtual round helped with patient clinical management, and 100% agreed that the attending physician provided instructions and patient care suggestions.

Conclusion: Hosting a virtual ward round on Sundays helped patients better understand their treatment plan, improved patient satisfaction and shortened hospitalization days. Providing duty residents instructions on patient care was positively received, and most importantly associated with decreased patient mortality.

Keywords:
Virtual ward round, Patient Satisfaction, Resident education, Mortality, Hospital admission days

【壁報 7】

Using 5G Intelligent Healthcare Technology to Improve Rural Health: Assessment of Multifaceted Utilization Model for Remote Healthcare

以 5G 智慧科技改善偏鄉醫療環境：遠距醫療多面向運用模式評估

王品文 喻思慈 葉淑珍 陳胤愷 林峻吉* 邱弘毅*
*為通訊作者
Pin-Wen Wang, Szu-Tzu Yu, Shu-Chen Yeh, Chen Yin-Kai, Chun-Ji Lin, Hung-Yi Chiou
財團法人國家衛生研究院 群體健康科學研究所
Institute of Population Health Sciences, National Health Research Institute, Miaoli, Taiwan.

背景：台灣面臨醫療資源過度集中及城鄉差距逐漸擴大的現象，距離遙遠與醫療資源不足是偏鄉居民健康最大的挑戰，就醫路程耗時長，讓許多患有慢性病的偏鄉民眾無法維持規律回診，追蹤身體健康狀況，沒有及時發現身體的警訊，讓偏鄉民眾生活在相對不健康的環境。

方法：本研究與產官學研多方合作，共同建立 5G 遠距醫療實驗場域，於新北市石碇區、新北市萬里區、苗栗縣南庄鄉及台東縣東河鄉等偏遠地區建置 5G 高速行動網路，藉由 5G 行動通訊基地台設備與傳輸網路增建，整合健康照護資源。透過以「人」為中心的核心理念，建立 5G 遠距多面向應用模式，落實多元應用層面之服務，提供包含眼科、新陳代謝科、心臟內科、神經內科等多專科別會診，並依照場域實際需求，推動不同模式之應用。並進行滿意度問卷調查，了解民眾對於遠距會診服務滿意度與使用服務意願之相關建議。

結果：本研究導入模式如下：模式一以「醫生不動，民眾在地」的概念，民眾可至當地衛生所會診，由在地端醫師與遠距專科醫師共同診療，提供民眾更周全及時的健康照護；模式二以「醫生動，民眾不動」的概念，建立居家遠距醫療服務，讓民眾在家中也能受到良好的醫療照顧。拓寬模式「智能行動醫療多元化服務」，提供巡迴醫療服務；推動「加強健康識能與自我管理」，透過居家血糖監測上傳與衛教師諮詢，定期照護病人血糖狀況及飲食管控，推廣民眾的健康識能認知。以本研究模式執行會診服務共計 1,304 人次。滿意度調查結果在服務利用與滿意度、就醫可近性與就醫可負擔性方面，分別有 98.1%、98.8%、98.1%民眾回復非常滿意或滿意。而在同意利用遠距醫療於病況是否穩定的情境下，結果顯示眼科會診民眾的同意度分布在病況穩定與否有顯著差異（p-value<0.0001），民眾在眼睛狀況較為不穩定時，對於遠距會診取代一般就醫的意願較有所保留。

結論：在多元運用的面向下，本研究模式能夠提升偏鄉地區的就醫便利性，使偏鄉民眾也能享有專科醫療服務，減少醫療數位落差，消弭健康不平等，達到健康與福祉的永續發展目標。進一步來看，慢性且穩定的疾病相較病情較為不穩定的狀況，在遠距醫療照護上具有更好的滿意度。

關鍵字：5G、遠距醫療、智慧醫療、連續式照護、創新醫療服務模式

【壁報 8】

The Application of Learning Management System in Education

網路學習平台於常規教育之運用

Kuan-Hui Lee, Jun-Ting Wang
李冠慧[1] 王君婷[2]
Education and Research Department[1], Nursing Department[2], Yonghe Cardinal Tien Hospital, Taipei, Taiwan, ROC
天主教永和耕莘醫院 教學研究部[1] 護理部[2]

背景：隨著數位科技的快速發展，網路學習平台在各行各業中的應用越來越普遍。網路學習平台提供了便利性和靈活性，使員工能夠隨時隨地獲取最新的知識和技能。本文旨在探討員工對於網路學習平台的滿意程度，分析其對學習效果的影響。

方法：本研究以 108-111 年員工滿意度調查結果進行分析，在 109 年導入新的數位學園平台後，員工滿意度調查之「您對於數位學園所提供的線上課程是否滿意」結果差異。問卷採 GOOGLE 表單發放，採全面普查，由員工自發性不計名填寫，問卷測量方式採用李克特五點尺度計分，由「非常不滿意」至「非常滿意」分別給予 1~5 分的分數。

結果：108-111 年問卷回收 340-375 份，回收率約 47-54%，每年填寫同仁以護理人員居多，其次為行政人員，兩者佔回收問卷的 80.2-85.8%，女性、非主管同仁填寫率較高，分別佔 87-90%、80-90%，多半填寫同仁工作年資達 10 年以上，佔 42-50%。108 年員工滿意度調查之「您對於數位學園所提供的線上課程是否滿意」僅 42%同仁感到滿意，且本項於當年度為整體問卷最不滿意前 5 名，自 109 年導入新的數位學園平台後，本項滿意程度提高至 62-66%，且每年全院必修學分完成率，也由 108 年的 70.9%，上升至 111 年的 87%。可能是新的數位學園平台可多裝置使用，無教材格式限制，採用儀表板方式呈現訓練記錄，便於同仁查詢學分完成情形。

結論：便利的網路學習平台可提供員工另一種學習途徑，不僅節省了場地和教材費用，還減少了學習者的時間和交通成本，不僅提高了員工的滿意度，亦改善了學習成果。未來可持續優化網路學習平台的功能和使用體驗，以滿足多樣化的學習需求。

關鍵字：網路學習平台、滿意度調查

【壁報 9】

AI teledermoscope for the diagnosis of skin lesions

用於皮膚病灶診斷的 AI 遠距醫療皮膚鏡

Chen-Sin Huang[1], Feng-Yi Hsu[2], Rong-Chen Lin[1], Han-Chao Chang[3], Cheng-Yang Liu[1]
黃辰昕[1] 許豐益[2] 林融辰[1] 張漢釗[3] 劉承揚[1]
[1]Department of Biomedical Engineering, National Yang Ming Chiao Tung University, Taipei, Taiwan, ROC
國立陽明交通大學 生物醫學工程學系
[2]Center for Teaching and Learning Development, National Yang Ming Chiao Tung University, Taipei, Taiwan, ROC
國立陽明交通大學 教學發展中心
[3]Taiwan Instrument Research Institute, National Applied Research Laboratories, Taipei, Taiwan, ROC
國家實驗研究院 台灣儀器科技研究中心

Background: Dermoscopes are widely used in clinical diagnostics to examine skin lesions. The COVID-19 pandemic has significantly increased the demand for clinical tools to facilitate telemedicine diagnoses. This study aims to design an intelligent dermoscope that performs the AI diagnostic process with iPhone promoting home-based examinations and enhancing the efficiency of remote diagnostics.

Methods: The system features multi-wavelength light sources, optical magnification, size measurement, image recording, and AI diagnostics capabilities. The mechanical design employs a magnetic attachment to the iPhone. The diagnostic algorithm uses a mixed-input architecture, incorporating images and traditional ABCDE rules (Asymmetry, Border, Color, Diameter, Evolution) for skin cancer detection into the AI model to improve the accuracy of skin lesion classification. This study employs a convolutional neural network (Inception-ResNet-v2) for image feature extraction. Asymmetry is evaluated by dividing the area into four sections using two symmetry axes and then calculating the overlap between each pair of sections. Boundary characteristics are assessed by analyzing the pixels along the lesion's edge. This analysis involves rotating the image at 22.5-degree intervals to identify abrupt changes indicative of irregular borders. The color is categorized into seven distinct shades: white, red, black, light brown, dark brown, blue-gray, and pink. And proposes a custom model architecture capable of simultaneously processing image feature vectors and ABCDE values as inputs for training.

Results: The results indicate that the HAM10000 dataset lacks size (D) and evolution (E) data for skin lesions. The validation results demonstrated a remarkable improvement of accuracy over 10%. Importantly, the proposed AI model improves the sensitivity of detecting melanoma. The AI model was implemented on the iPhone 15 Pro, and the proposed dermoscope was subsequently validated through practical clinical use.

Conclusion: The mixed AI model with the physical characteristics of asymmetry (A), border (B), and color (C) effectively enhances classification accuracy. The proposed iPhone-based dermoscope can remotely classify suspicious lesions and promote the application of AI in skin lesion diagnostics. The proposed AI dermoscope realized the ability of telemedicine.

Keyword：dermoscope, telemedicine, home-based, ABCDE rules

【壁報 10】

Feasibility and Accessibility of Human-centered AI-based Simulation System for Improving the Occupational Safety of Clinical Workplace

以人為本的人工智慧模擬的可行性和可近性，以提高臨床工作場所職業安全的體系

Pin-Hsuan Wang1,2, Anna YuQing Huang3, Yen-Hsun Huang4, Ying-Ying Yang1,4*, Jiing-Feng Lirng4, Tzu-Hao Li4,5, Ming-Chih Hou2,4, Chen-Huan Chen1,4, Albert ChihChieh Yang2,4, Chi-Hung Lin4 and Wayne Huey-Herng Sheu2,4

王品軒 黃鈺晴 黃彥勛 楊盈盈 凌憬峰 黎子豪 侯明志 陳震寰 楊智傑 林奇宏 許惠恒

1Department of Medical Education, Clinical Innovation Center, Medical Innovation and Research Office, Taipei Veterans General Hospital, Taipei, Taiwan // 2Taipei Veterans General Hospital, Taipei, Taiwan // 3Computer Science & Information Engineering, National Central University, Taoyuan City, Taiwan // 4College of Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan // 5Division of Allergy, Immunology, and Rheumatology, Department of Internal Medicine, Shin Kong Wu Ho-Su Memorial Hospital

1 臺北榮民總醫院 教學部 醫療創新中心 // 2 臺北榮民總醫院 // 3 國立中央大學 資訊工程學系 // 4 國立陽明交通大學醫學院醫學系 // 5 新光吳火獅紀念醫院內科過敏免疫風濕科

Background: Medical personnel need to learn occupational safety knowledge in clinical workplaces, not only to ensure their own safety, but also to further ensure patients safety. Based on Human-centered artificial intelligence (HAI) technology.

Methods: This study will provide HAI-based occupational safety training system for two training topics, Needle Stick/Sharps Injury (NSSI) prevention and appropriate Clinical Waste Management (CWM).

Results: From April 2018 to December 2021, this clinical occupational safety HAI training is used by 342 medical personnel (doctors and non-doctors). This study aims to investigate the learning performance and effectiveness including decreasing anxiety and increasing mastering level of users.

Conclusion: This study shows that, for the first-time and feel-friendly users of this HAI training system, not only can they achieve significant learning improvement, but they can also effectively decrease their anxiety and increase their mastery level of clinical work safety knowledge and skill. In terms of learning performance and effectiveness, this study found that doctors are significantly benefited by the HAI training system in contrast to non-doctors.

Keyword：Clinical waste management, Needle stick sharp injury, Virtual reality

【壁報 11】

Enhancing Medical Writing Skills: Interactive Teaching and Evaluation of Letter-to-Editor Training in Medical Students

提升醫學寫作技能：醫學生致編者信訓練的互動教學與評估

Su Boon, Yong.
楊樹文
Department of Allergy, Immunology, China Medical University children's hospital, Taichung, Taiwan.
中醫大兒童醫院 過敏氣喘科

Background: The ability to articulate thoughts clearly and concisely in written form is a crucial skill for medical professionals. Among the various forms of medical writing, the letter to the editor is a valuable tool for expressing concise clinical insights, engaging in scholarly debates, and contributing to ongoing medical discussions. This study explores the interactive teaching approach for training medical students in writing letters to the editor, focusing on the effectiveness of this method in enhancing their writing skills and understanding of academic discourse.

Methods: Totally 30 medical students participated in a structured program that combined didactic lectures, interactive workshops, and peer-review sessions. The training emphasized critical analysis, precision in argumentation, and adherence to journal guidelines. Students were assessed through pre- and post-intervention evaluations, measuring improvements in their writing quality, comprehension of the editorial process, and confidence in submitting letters to medical journals from August 1, 2023, to June 30, 2024.

Results: The results demonstrated a significant improvement in the students' abilities to construct well-organized, coherent, and impactful letters. The interactive teaching method fostered an engaging learning environment that not only increased students' proficiency in medical writing but also enhanced their critical thinking and collaborative skills. Feedback from participants indicated a heightened appreciation for the role of letters to the editor in medical communication and a greater willingness to engage in academic discourse.

Conclusion:
This study underscores the effectiveness of interactive teaching in developing essential writing competencies among medical students. By integrating this approach into medical education, institutions can better prepare future healthcare professionals for active participation in scholarly communication, thereby contributing to the advancement of medical knowledge.

Keyword：Interactive Learning, Medical Education, Letter-to-Editor

【壁報 12】

Zinc Oxide Composites For Room Temperature ppm-Level Methane Detection

氧化鋅複合材料應用於室溫型 ppm 級甲烷氣體之檢測

Shih-Han Wang*, Chong You Chen, Yi-Ju Tai

王詩涵* 陳重佑 戴翊如

Department of Chemical and Materials Engineering National Yunlin University of Science & Technology

國立雲林科技大學化學工程與材料工程系

Background: Methane production, influenced by dietary carbohydrates, is fermented by gut bacteria, elevating exhaled methane which is linked to various diseases. A fasting methane level of 15 ppm indicates Small Intestinal Bacterial Overgrowth (SIBO), and 3 ppm suggests Non-Alcoholic Fatty Liver Disease (NAFLD). Changes in methane levels also help monitor colorectal fermentation in Head and Neck Squamous Cell Carcinoma (HNSCC) patients. Traditional tests are too slow for real-time and remote monitoring. To overcome this, we developed a non-invasive, home-care oriented methane sensor using an AlOx/ZnO/rGO composite. This design features AlOx as a catalyst, enhancing selectivity, sensitivity, and resistance to humidity, making it ideal for home health monitoring and telemedicine applications.

Methods: We fabricated a chemiresistive methane sensor using AlOx/ZnO/rGO composites, synthesized hydrothermally and applied on gold interdigitated electrodes. Methane concentrations were adjusted between 0.5 and 25 ppm at 200 sccm. Tests were conducted and recored at 30℃ using a CHI4054A potentiostat, ensuring controlled conditions for optimal sensor performance.

Results: ZnO/rGO demonstrated a 0.33% response to 15 ppm methane, enhanced to 0.4% with the addition of AlOx, improving selectivity and reducing responses to interfering gases. This enhancement is attributed to altered gas molecule dissociation energies, granting high selectivity for methane. The material's hydrophobic nature maintained consistent responses (0.31% to 0.32%) across humidity levels from 40% to 90%, showcasing excellent moisture resistance due to methane's low water solubility. Repeatability tests revealed a standard deviation of ±0.011 at 15 ppm, confirming the sensor's high repeatability.

Conclusion: The hydrothermally synthesized AlOx/ZnO/rGO composite demonstrated high selectivity and reliability in methane sensing from 0.5 to 25 ppm, with excellent moisture resistance. This study confirms the potential of this composite chemiresistive sensor for non-invasive remote gastrointestinal monitoring, successfully completing preliminary research for residential sensor applications.

Keyword：Exhaled methan gas sensor, SIBO, chemiresistive sensor

【壁報 13】

Development and Preliminary Application of the Virtual Prescription Review Teaching System (V-pres)

虛擬審核處方教學系統 V-pres 的建置與應用初探

Chian-Ying Chou, Ming-Yeh, Wang, Tzu-Han Yang, Chin-Chin Ho

周千瀅 王明業 楊子涵 何沁沁

1. Department of Pharmacy, Taipei Veterans General Hospital, Taipei, Taiwan.

2. Department of Pharmacy, College of Pharmaceutical Sciences, National Yang Ming Chiao Tung University, Taipei, Taiwan.

1. 臺北榮民總醫院 藥學部 2. 國立陽明交通大學 藥學系

背景：疫情下凸顯出數位與遠距教學之彈性與重要性，臨床教學者應能善用科技輔助以達成教育目標、完善教學品質。藥師審核處方可減少處方疏失，但須依賴專業能力與經驗，現今從學校教育到臨床教學皆缺乏完整的訓練，國內外亦少有擬真、完善之教學工具。

方法：北部某醫學中心藥學部嘗試仿照現有之藥師審核處方系統，建置可雲端操作、擬真的處方判讀教學系統。系統建置完成後，進行使用者測試與自信心/滿意度調查初步評值系統成效。

結果：虛擬審核處方教學系統 V-pres 自 110 年初開始進行規劃，於 113 年 7 月建置完成，包括案例撰寫、教學訓練和管理三大平台。系統具備：快速便利建立教案、多項資訊供參考、測驗或學習模組供選擇、可調整題目難易度、記錄答題流程與結果協助分析成效、EPA 評核等多項功能。V-pres 系統建置完成後請 20 位藥學實習生測試，結果顯示有效縮短學生處方審核時間(p <0.001)與提升自信心(p =0.02)，整體滿意度約 4 分（滿分 5 分）。

結論：V-pres 可提供學習者不受時間空間限制模擬真實情況下的操作環境。具多種類型案例、難易程度及罕見案例，能提升臨場感與增強學習興趣。學習紀錄、即時回饋與 EPA 完善教學效果。有效縮短處方審核時間、提升自信心與獲得肯定，顯示 V-pres 是一有效的臨床學習輔助工具，可作為未來教學推廣使用。

關鍵詞：虛擬，模擬，審核處方，教學，系統

【壁報 14】

Smart Home Care: Multi-Alert Monitoring via Wearable Technology

智慧居家護理:可穿戴技術實現的多重警報通訊監測

Yen-Pei Lu[1], Jui-Yuan Yu[2], Wan-Hsuan Hsu[2], Tsung-Tai Huang[1], Chia-Wei Chang[1], Ming-Hua Shiao[1]

盧彥蓓 游瑞元 徐婉瑄 黃琮道 張佳瑋 蕭銘華

[1]*Taiwan Instrument Research Institute, National Applied Research Laboratories, Hsinchu, Taiwan, ROC*

[2]*BROADSIMS Inc, Hsinchu, Taiwan, ROC*

[1] *財團法人國家實驗研究院台灣儀器科技研究中心*

[2] *博鑫醫電股份有限公司*

Background: As the population ages and chronic diseases increase, smart home care systems are playing an increasingly important role in modern healthcare. This study presents an innovative smart home care solution - a smart patient monitor that utilizes wearable technology to achieve multi-alert and intelligent monitoring, providing comprehensive support for home care.

Methods: We leveraged the BROADSIMS Teletouch T320, an off-the-shelf patient monitor, as the foundation for our smart home care system. We performed a series of tests focusing on two key features: real-time video interaction and comprehensive physiological monitoring. The system integrates monitoring for various physiological indicators, including ECG, blood oxygen, blood pressure, and temperature, and can connect to wireless measurement devices like thermometers and glucose meters via Bluetooth. The video functionality enables remote consultations between patients and providers. All data can be transmitted in real-time to medical institutions through 4G/5G networks for process optimization and automated case management. For home care, the system provides comprehensive diagnostic information recording and integration, bringing the quality of out-of-hospital care closer to in-hospital standards.

Results: Key system features include cloud-physiological monitor integration, simplified operation procedures, comprehensive physiological monitoring, and real-time video interaction. Preliminary results show that the system significantly improved home care efficiency and quality, reduced staff workload, and provided patients with better self-management tools. The open API architecture enables integration with existing medical information systems, further enhancing efficiency.

Conclusion: This study provides a new technological approach for smart home care, with the potential to promote telemedicine and personalized health management. The system is applicable not only in hospital but also emerging fields like emergency care, home care, long-term care, and telemedicine.

Keyword：Smart home care, Physiological monitoring, Telemedicine, Multi-alert system, Real-time video interaction

【壁報 15】

The effect of self-made hand and foot coordination and healthy exercise videos for the elderly on maintaining physical fitness

銀髮族自製手腳協調健康操影片對體適能維持之成效

Shwu-Huey Lin, Nan-Cheng Chen
林淑惠，陳南成
Department of Rehabilitation, Taipei Veterans General Hospital, Hsinchu Branch, Taiwan, ROC
臺北榮民總醫院新竹分院 復健科

Background:人口老齡化問題日益嚴重，隨著年齡增長，個體面臨失能風險逐漸增加。預防及延緩失能已成為公共衛生領域的重要課題。尤其在新冠疫情期間，長者參與社區活動的比例下降，加上對居家運動的不了解，.相對也影響到體適能的維持。希望藉由長者自己錄製的健康操，提升在家運動的動機，進一步維持自身體適能。

Methods:在失智據點招募 8 位 65 歲以上輕度認知障礙長者，.藉由連續 12 週上課，由預防及延緩失能方案 L179 健智協調有氧椅子操的師資到社區教導長者坐在椅子上手腳協調健康操的內容，並錄製成 12 分鐘的影片， 12 週課程結束後，讓長輩們可以每日看自己錄製的影片做運動，持續時間從 112 年 9 月至 113 年 3 月，再評估長者半年後體適能變化。

Results: 8 位長者中，有 1 位因個人身體因素退出計畫，半年前後的體適能比較如下：握力部分有 5 位進步，2 為維持；下肢肌力部分有 7 位進步；行走速度有 4 位進步，2 為維持，1 位退步；心肺耐力部分 7 位都進步。

Conclusion: 適當的運動強度和時間對於預防及延緩失能具有顯著作用，長者常會因為對運動知識的缺乏以及無人指導與監督下安全的考量而無法持續在家中運動。本研究讓長者自己錄製健康操，進一步提高長者運動動機及參與感，也可促進長者長期學習，進而維持長者體適能。.

Keyword：預防及延緩失能，手腳協調，健康操

【壁報 16】

Psychological Determinants of Academic Success: The Role of Depression, Anxiety, Stress, and Insomnia in Medical Education.

學業成功的心理決定因素：憂鬱、焦慮、壓力和失眠在醫學教育中的作用。

Shiau-Shian Huang, Ke-Ke Wang, Chien-Min Yang
黃孝先 王可可 楊傑閔
Department of Medical Education, Taipei Veterans General Hospital, Taipei, Taiwan, ROC
臺北榮民總醫院 教學部

Background: In the current medical education landscape, students are frequently burdened with high levels of stress, anxiety, depression and insomnia. These factors contribute to a challenging academic environment where many students struggle to maintain their mental health. Our study aims to explore the impact of depression, anxiety, stress, and insomnia on academic performance among medical students. By identifying key factors that affect learning outcomes, we intend to propose evidence-based reforms in medical education to mitigate these issues and enhance overall student well-being.

Methods: Our research team employed biostatistical and epidemiological methods to assess the influence of emotional factors and stress levels on academic performance. We conducted a cross-sectional study enrolling 300 medical students from all undergraduate medical universities nationwide. The study evaluated variables, including age, gender, school attended, sources of stress, Beck Depression Inventory (BDI) scores, Beck Anxiety Inventory (BAI) scores, Perceived Stress Scale (PSS) scores, and Pittsburgh Sleep Quality Index (PSQI) scores. Statistical analyses were performed using independent sample t-tests and regression models to determine the relationships between these factors and students' academic performance.

Results: Students with higher academic performance exhibited significantly lower BDI scores (9.92 ± 7.80 vs. 17.57 ± 12.33, $p < 0.001$), indicating reduced levels of depression. Similarly, these students had lower BAI scores (10.20 ± 7.89 vs. 14.42 ± 11.60, $p < 0.05$), reflecting less anxiety, and their PSS scores were marginally lower (26.78 ± 5.22 vs. 28.12 ± 5.14, $p = 0.125$). Moreover, students with better academic outcomes reported fewer sleep disturbances, as evidenced by lower PSQI scores (7.58 ± 3.83 vs. 9.46 ± 4.65, $p < 0.01$).

Conclusion: Our findings suggest reduced levels of depression, anxiety, and sleep disturbances are positively correlated with improved academic performance among medical students. Although the impact of perceived stress was not statistically significant, the overall pattern underscores the critical role of mental health in academic achievement. These results highlight the need for reforms in medical education that prioritize alleviating of psychological burdens and enhancing students' mental well-being, thereby fostering better learning outcomes and improved quality of life.

Keyword：Medical Education, Mental health, Undergraduate Students, Academic Performance

【壁報 17】

The Impact of Telemedicine on Medical Students' Competence and Confidence During Clinical Rotations: A Systematic Review

遠距醫療對實習醫學生能力及信心之影響：系統性回顧

Daniel Hsieh[1], Fang-Chun Wu[2]

謝尚恩 [1], 吳芳郡 [2]

[1] *Department of Medical Education, Chung Shan Medical University Hospital*

[2] *Department of Medical Education, Taichung Veterans General Hospital*

[1] *中山醫學大學附設醫院 醫學教育部*

[2] *台中榮民總醫院 教學部*

Background: The COVID-19 pandemic accelerated the shift from traditional in-person clinical rotations to telemedicine-based learning for medical students. This transition raised concerns about the effectiveness of virtual environments in developing clinical competencies and confidence. This study explores the impact of telemedicine on medical students' competency and confidence during clinical rotations, aiming to assess the efficacy of telemedicine in medical education.

Methods: We conducted a systematic search of PubMed, Embase, and the Cochrane Library, covering publications from inception to July 23, 2024. We reviewed articles for their countries, participant numbers, objectives, teaching methods, and effectiveness evaluations. The quality of studies was assessed using appropriate tools for respective study designs. Out of 290 studies screened, 15 met the selection criteria for detailed review.

Results: The majority of the studies originated from the USA and included a total of 1,341 participants. Twelve studies employed cohort designs, along with one cross-sectional study, one randomized controlled trial, and one mixed-method study. Most studies utilized telemedicine through both synchronous and asynchronous methods. Additionally, four studies integrated telemedicine with in-person learning, while one used interactive platforms like virtual reality. Overall, telemedicine was found to positively impact students' confidence in general, specifically in history taking, physical examination, and diagnostic abilities. Objective assessments, including tests and OSCEs, demonstrated that telemedicine effectively improved clinical competence during rotations.

Conclusion: Telemedicine has proven to enhance medical students' confidence and competence in critical clinical skills. Objective evaluations corroborate the effectiveness of telemedicine in improving clinical training outcomes during rotations.

Keywords: Telemedicine, Tele-education, Medical education, Clinical rotation, Clinical competence, Confidence

【壁報 18】

Utilizing smart glasses with eye tracking function to determine how different eye diseases affect reading

使用具備眼球追蹤功能的智慧眼鏡了解不同眼科疾病如何影響閱讀

Po-Wei Sung, De-Kuang Hwang, Ying-Ying Yang

宋柏緯 黃德光 楊盈盈

Department of Medical Education, Taipei Veterans General Hospital, Taipei, Taiwan, ROC

Department of Ophthamology, Taipei Veterans General Hospital, Taipei, Taiwan, ROC

Department of Medical Education, Taipei Veterans General Hospital, Taipei, Taiwan, ROC

臺北榮民總醫院 教學部

臺北榮民總醫院 眼科部

臺北榮民總醫院 教學部

Background: Reading involves rapid eye movements (saccades) and fixations, with not all words being fixated on. Regression, or backtracking, is common. Fixations mainly occur on the fovea, though the parafovea and peripheral retina are also involved. Eye diseases affecting these areas can impact reading. Smart glasses with eye-tracking can measure reading parameters, aiding in developing targeted therapies for visual disorders.

Methods: This study assessed patients with ocular diseases from March 5, 2024, to July 9, 2024. Excluded were patients unable to read, follow instructions, or calibrate the smart glasses. Patients were categorized by visual defects and reading times. Parameters were measured with Tobii Pro Glasses 3. Pearson's correlation, ANOVA, and Student's t-test were used for analysis.

Results: We studied 139 patients (mean age 58.7). Average reading time was 45.9 seconds, with 23.2 seconds of fixation time and 87.7 fixation points. Visual acuity negatively correlated with reading time (Pearson's -0.27, $p<0.05$). No significant differences in reading times and fixation times were found among central, peripheral, general, and no visual defects. Higher visual acuity groups read faster (44.3 seconds) compared to lower acuity groups (51.5 seconds), with significant differences.

Conclusion: Smart glasses with an eye-tracking system cannot differentiate patients with different types of visual field defects. Visual acuity may play a more important role in reading than visual field defects. Smart glasses help monitor visual accuracy and reading difficulties, and a visual acuity cutoff of 0.8 significantly impacts reading performance, suggesting that high visual acuity is essential for optimal reading and influencing cataract lens choices.

Keyword：smart glasses, reading, visual acuity, visual defect

【壁報 19】

Establishing a Hybrid High-Fidelity Anesthesia Team Teaching Model and Its Effectiveness Analysis

建立虛實整合的麻醉高擬真團隊教學模式與成效分析

陳威宇 彭靖捷 黃雅卿

Wei-Yu Chen, Ching-Chieh Peng, Ya-Ching Huang

高雄榮民總醫院 麻醉部

Department of Anesthesiology, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ROC

高雄榮民總醫院 教學研究部臨床技能訓練中心

Clinical Skills Training Center, Department of Medical Research & Education, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ROC

背景：隨著醫學教育的進步與數位化技術的發展，虛實整合的教學模式日益受到重視。針對麻醉科住院醫師、PGY 醫師、實習醫學生及麻醉實習護理師，我們將以往的麻醉高擬真危症處理教學，結合了 Google Workspace 的雲端互動平台，進行虛實整合的團隊教學新模式，以提升麻醉團隊合作能力與手術麻醉急症處理能力。本研究旨在探討這種虛實整合教學對學員學習成效的影響。

方法：本研究於 2022 年 9 月至 2024 年 1 月期間進行，對象包括麻醉科住院醫師、PGY 醫師、實習醫學生和麻醉實習護理師。教師利用 Google Workspace 的免費雲端互動工具，建立虛實整合教學模式，設計了五堂針對醫師和六堂針對護理師的課程。評估方式包括教師使用 EPA（Entrustable Professional Activities）評分方式評估學員學習成效，學員則根據 TRM（Team Resource Management）的四大面向進行自我表現評估。

結果：醫師和護理師學員在 EPA 評分上均顯著提高，並在 TRM 自我評估中反映出對團隊合作重要性的深入理解。此外，通過 Google Workspace 平台進行的雲端團隊合作模式，學員們對於各種手術麻醉急症處理的應對能力有所提升。

結論：利用 Google Workspace 建立的虛實整合教學模式，不僅有效促進了學員的雲端團隊合作與急症處理能力，還透過 Google Sites 等免費工具實現了無縫的教學內容分享與即時回饋。此模式不僅能讓教師即時了解學員需求，還能有效促進教學互動與成長，達成雙贏的教育效果。

關鍵詞：Google Workspace、虛實整合教學、麻醉科教育、團隊合作、TRM、EPA 評估

【壁報 20】

"vDxM: Revolutionizing Clinical Education - Empowering Self-Directed Learning with a Focus on Clerk as Teacher (CAT)"

Po-Kai Chan[1], Yaw-Don Hsu[2], Tsuen-Chiuan Tsai[3], Feng-Cheng Liu[4]

[1] Department of Internal Medicine, Tri-Service General Hospital, Taipei City, Taiwan [2] Department of Neurology, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan [3] Department of Pediatrics, Chung-Ho Memorial Hospital, Kaohsiung Medical University College of Medicine, Taiwan, ROC, Taiwan [4] Division of Rheumatology/Immunology and Allergy, Department of Internal Medicine, School of Medicine, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan

Background: Amid the rapid pace and heavy demands of the modern clinical medical environment, exacerbated by the challenges of the pandemic, students face limitations in practical learning opportunities. Virtual Patient Simulators (VPS), specifically vDxM, emerged in 2022 as a solution to provide a safe and innovative avenue for students to enhance clinical skills at their own pace. This study explores the efficacy of vDxM in a tertiary hospital in Taipei, Taiwan.

Summary Of Work:vDxM enables students to gather information and formulate a differential diagnosis with real-time, step-by-step feedback from virtual patients, utilizing natural language processing and artificial intelligence. In 2023, 40 virtual cases were offered online, encouraging self-directed learning. Top scorers were invited to share experiences through lectures and videos. The system assessed performance in history taking, examinations ordering, diagnosis accuracy, and management appropriateness, displaying scores and expenses post-simulation. Retrospective data analysis evaluated results of self-directed learning.

Summary Of Results: In 2023, 1344 completed the entire simulation, averaging a score of 58.6/100. The metabolic case, particularly the chief complaint of conscious change and final diagnosis as insulinoma, had the highest mean scores (64.84/100). Conversely, the case involving involuntary movement due to urosepsis scored the lowest (26.79/100). Notably, 121 visits scored over 85, and 39 top scorers contributed videos about their learning experiences, earning official "Top Record" certification and scholarships.

Discussion And Conclusion:vDxM successfully provides a novel and safe learning environment, fostering self-directed learning and identifying challenging topics through score analysis. The application of virtual-patient-based simulators, exemplified by vDxM, holds great promise in medical education, aligning with the focus on Clerk as Teacher (CAT).

Take-home Message: Virtual-Patient-Based Simulators, specifically vDxM, offer a promising avenue to provide opportunities and enhance self-directed learning among medical students, emphasizing the pivotal role of the Clerk as Teacher (CAT) in advancing medical education methodologies.

【壁報 21】

"CAT Training Triumph: Elevating Clinical Competence Through Virtual Patient Cases in a Tertiary Hospital in Taiwan, Better Than Resident as Teacher (RAT)"

Po-Kai Chan[1], Yaw-Don Hsu[2], Tsuen-Chiuan Tsai[3], Feng-Cheng Liu[4]

[1] Department of Internal Medicine, Tri-Service General Hospital, Taipei City, Taiwan [2] Department of Neurology, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan [3] Department of Pediatrics, Chung-Ho Memorial Hospital, Kaohsiung Medical University College of Medicine, Taiwan, ROC, Taiwan [4] Division of Rheumatology/Immunology and Allergy, Department of Internal Medicine, School of Medicine, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan

[Background] In the dynamic landscape of healthcare, innovative educational approaches are essential. This study explores the transformative impact of CAT (Clerk as Teacher) training, led by an education champion, integrating virtual patient cases in medical training at a Tertiary Hospital in Taiwan. This initiative aims to significantly enhance clinical competence among medical students, surpassing traditional methods like Resident as Teacher (RAT).

[Summary of Work] A Mandarin virtual patient system (v-DxM) was integrated into core medical teaching at a Taiwanese medical center, incorporating in-hospital competitions for motivation. The AI-powered platform empowers students to gather clinical information, formulate diagnoses, and receive real-time feedback from virtual patients. The system was utilized in final-year clerkship examinations, with one group accessing it online via laptops and the other through desktop software. Exam scores and user experiences were collected, and analysis revealed insights for ongoing improvement.

[Summary of Results] Our medical students consistently demonstrated excellence in the National Clinical Skills Competition, securing top-champion honors for three consecutive years (2021-2023). Notably, in 2023, they achieved an outstanding sweep of gold, silver, and bronze awards, marking three consecutive years of championship victories. This remarkable success is a testament to the enduring impact of our Clinical Skills Training (CAT) program. Additionally, the substantial increase in self-directed usage from 653 cases in 2022 to 1344 cases in 2023 reflects the growing influence of our training, as students actively apply and enhance their clinical skills outside the competition setting.

[Discussion and Conclusion] Reflecting on virtual patient cases, they emerged as a complementary tool addressing gaps in traditional clinical training. Virtual patient cases provided a controlled, diverse learning environment, allowing systematic practice and refinement of diagnostic skills, bridging the gap between theory and practice. The strategic integration of CAT training, with a focus on virtual patient cases during the fourth and fifth years, significantly enhanced students' clinical competence, surpassing the outcomes achieved through RAT methods.

[Take-home Message] The success of CAT Training, particularly the integration of virtual patient cases at this Tertiary Hospital in Taiwan, led by an education champion, highlights their transformative potential in medical education. The notable increase in self-directed usage in 2023 emphasizes the positive impact of CAT Training globally.

【壁報 22】

The Innovation of Integrated Platform of Holistic Education in Telehealth Medical education

全人教育整合平台在遠距醫學教育之創新

Ching-Huang Lin, Pei-Chin Lin, Wang-Chuan Juang, Wen-Shan Liu, Yih-Wen Tarng, Jin-Shuen Chen

林清煌、林佩津、莊旺川、劉文山、唐逸文、陳金順

Department of Medical Education and Research, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ROC

高雄榮民總醫院 教學研究部

背景:全人醫療及勝任能力為導向的醫學教育已成為現今醫學的主流。隨著疫情影響教學模式，遠距醫療延伸學習場域，智慧醫療及精準教學的興起，建置以學習者及教學者為中心的資訊平台系統，具備雲端運算分析功能，解決學習困境，彙整學習資源及歷程，兼顧評估回饋及全人學習，來完善能力評量與精準教學，已是時勢所趨。

方法:高雄榮總創新開發全人教育整合平台，結合全人照護與醫學教育理念，融入雲端運算分析，整合相關資訊系統，成功建置以六宮格全景為架構的全人教育整合平台，包括基本資料、課程資訊、教學目標、綜合照護、回饋考核及教學指標等六大面向。

結果: 全人教育整合平台讓學生能隨時遠端進行連線學習，豐富的內容包括 1.基本資料:學習歷程 2.課程資訊:作業評估、能力認證、全院課程、醫倫教育 3.教學目標:創新教學、訓練計畫、核心能力、自主學習、自主評讀平台 4.綜合照護:目前病人、過往清單、收藏個案、實證搜尋 5.回饋考核:360 度評量、導談回饋、優良病歷、意見回饋 6.教學指標:作業及能力完成率、累積照護、全人會議、EPA 整合單。

結論: 高雄榮總創新開發全人教育整合平台，教師與學生能在遠距醫療下進行隔空精準教學、能力評量及全人教育，為醫學教育開創另一個藍天。

關鍵詞：全人教育整合平台、遠距教學、精準教學、勝任能力

【壁報 23】

From Screen to Practice: Evaluating the Impact of Movie-Based Teaching on Real-World Doctor-Patient Communication

從銀幕到實踐：將電影片段教學轉化為真實世界體驗的醫病溝通成效

Chih-Chung Huang[1], Yong Ni Lee[2], Chun Lun Hsu[3,4]
黃志中 李咏倪 許郡倫
[1]*Department of Psychiatry, Tri-Service General Hospital, Taipei, Taiwan*
[2]*Counseling Room, National Defense Medical Center, Taipei, Taiwan*
[3]*Center for General Education, National Defense Medical Center, Taipei, Taiwan*
[4]*Graduate Institute of Medical Sciences, National Defense Medical Center, Taipei, Taiwan*

Introduction: Effective doctor-patient communication is a core competency in medical education. Surveys often reveal dissatisfaction with healthcare professionals' communication skills, emphasizing the need for improved training. Movie-based teaching has the potential to enhance empathy among medical students by exposing them to realistic doctor-patient interactions.

Methods: This quasi-experimental study involved second-year medical students using a self-developed questionnaire (internal consistency 0.89). Over two weeks, the experimental group used movie scenes for communication practice, while the control group received traditional lectures and role-play exercises. Pre- and post-tests were administered, followed by semi-structured interviews with selected participants.

Results: Dependent t-tests showed no significant differences in empathy scores between the experimental (t(21)=-2.017, p=.055, d=-0.273) and control groups (t(24)=-0.802, p=.441, d=-0.102). Qualitative feedback indicated that the experimental group found movie-based teaching beneficial for learning, interaction, applicability, and realism.

Discussion: Extending the course duration could provide more practice opportunities. The experimental group showed positive attitudes towards movie-based teaching, while the control group valued traditional lectures and role-playing. Both methods demonstrated potential benefits for communication skills training.

Conclusion: This study highlights the potential of integrating movie-based teaching with traditional methods in medical communication training. While quantitative results showed no significant differences, qualitative feedback suggests that movie-based teaching offers unique benefits in engagement and realism. Future research should explore a blended approach, combining movie analysis, classroom discussions, and role-playing. This integrated method could provide a more comprehensive learning experience, potentially leading to improved empathy and communication skills among medical students. Additionally, incorporating diverse assessment methods, including real-world scenario evaluations, could offer a more holistic view of students' progress in developing these crucial skills. Ultimately, refining communication training approaches may contribute to better doctor-patient relationships and improved healthcare outcomes.

Keyword：Movie-based Teaching, Communication Skills, Empathy, Doctor-Patient Relationship, Medical Education

【壁報 24】

Enhancing Pulmonary Rehabilitation in Advanced Lung Cancer Patients: The Impact of an Augmented Reality-Based Approach on Patient Motivation and Clinical Workload

提升晚期肺癌患者的肺部復健效果：擴增實境輔助肺部復健系統對患者動機與護理師臨床工作負荷的影響

Wan-Ting Chu[1], Jen-Ting Lee[1], Su-Ying Hung[1], Ying-Ying Yang[2,3]

朱琬婷 李仁婷 洪素鶯 楊盈盈

[1]*Department of Physical Medicine and Rehabilitation, Taipei Veterans General Hospital, Taipei, Taiwan;*

[2]*Department of Medical Education, Taipei Veterans General Hospital, Taipei, Taiwan*

[3]*School of Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan*

[1] *臺北榮民總醫院 復健部 心肺物理治療*

[2] *臺北榮民總醫院 教學部*

[3] *國立陽明交通大學 醫學系*

Background: Patients with advanced lung cancer often experience symptoms such as exercise intolerance, muscle weakness, and dyspnea, which are exacerbated during cancer treatment. Traditionally, PR involves physical therapists teaching rehabilitation techniques to patients in person two to three times a week, supplemented by educational pamphlets for self-practice. However, this approach has limited effectiveness, particularly for weaker or less motivated patients. To overcome these challenges, the study introduced an innovative AR-based pulmonary rehabilitation application (AR_APP) designed to deliver personalized exercise prescriptions.

Methods: The study enrolled 50 patients with advanced lung cancer, dividing them into two groups: 30 patients received AR-based therapy, while 20 patients followed a conventional paper-based PR program. The PR regimen, which included strength, balance, and breathing exercises, was conducted three times daily during hospitalization until discharge. The effectiveness of the AR_APP was evaluated through questionnaires assessing improvements in patient strength, balance, and dyspnea, as well as the impact on clinical workload and communication efficiency for nursing staff.

Results: The AR-based PR was found to significantly reduce the clinical workload for nursing staff and improve communication efficiency. Patients in the AR-based PR group reported higher levels of motivation compared to those in the paper-based group, indicating a greater engagement with the rehabilitation process.

Conclusion: The AR-based pulmonary rehabilitation program demonstrated higher patient motivation and reduced clinical workload for nursing staff, suggesting that this innovative approach is more effective and user-friendly than traditional PR methods.

Keyword：Augment-Reality, pulmonary rehabilitation, telehealth, lung cancer

【壁報 25】

Efficacy of Real-Time Continuous Glucose Monitoring System in Patients with Poorly Controlled Type 2 Diabetes

即時連續血糖監測系統在血糖控制不佳的第 2 型糖尿病患者之應用成效

Kuei-Chun Yeh[1]、Hsu-Min Tseng[2]、Hsiao-Yun Chang[3]、Jui-Hsu Li[1]

葉桂春 曾旭民 張曉雲 李瑞祥

[1] *Metabolism Department, Ministry of Health and Welfare, Taoyuan Hospital, Taoyuan, Taiwan, ROC*

衛生福利部桃園醫院 新陳代謝科

[2] *Institute of Medical Management, Chang Gung University, Taoyuan, Taiwan, ROC*

長庚大學 醫務管理研究所

[3] *Institute of Nursing, Chang Gung University of Science and Technology, Taoyuan, Taiwan, ROC*

長庚科技大學 護理研究所

Objective

To explore the impact of using Real Time Continuous Glucose Monitoring (RT-CGM) on blood sugar in patients with type 2 diabetes.

Methods

A prospective experimental study design was employed with random sampling. A total of 90 type 2 diabetes patients were recruited from cardiology, nephrology, neurology, and metabolism outpatient clinics at a regional hospital. Participants were randomly assigned into three groups: RT-CGM group, SMBG (self-monitoring of blood glucose) group, and control group, with 30 patients in each group. All three groups received diabetes education from a diabetes share care team and two weeks of remote care. Additionally, the RT-CGM and SMBG groups were remotely monitored and managed for blood glucose for an additional two weeks. During the care period, the incidence of hypoglycemia, baseline and three-month post-intervention self-efficacy, health-promoting behaviors, diabetes health literacy, body composition, and frequency of self-monitoring of blood glucose were analyzed. HbA1c and fasting blood glucose were analyzed at three and six months post-intervention. Effectiveness analysis was conducted on complete cases following the protocol (Per Protocol, PP).

Results

The age difference among the three groups was statistically significant, and age was used as a covariate in the inter-group comparisons. Analysis of variance for within-group effects showed significant improvements in HbA1c and fasting blood glucose post-intervention ($F=7.666$, $p=0.001$; $F=3.882$, $p=0.025$). The interaction between group and time was significant for HbA1c (group*time: $F=4.701$, $p=0.001$), with post hoc tests indicating that the SMBG group showed a greater improvement than the other two groups. Self-efficacy within-group effects were also significant ($F=4.277$, $p=0.042$). Comparing the occurrences of primary and secondary hypoglycemia among the

CGM group, SMBG group, and control group, whether occurring during the day or night, and with or without hypoglycemia awareness, respectively: (F=6.152, *p*=.003; F=3.141, *p*=.045; F=5.658, *p*=.005; F=3.380, *p*=.039; F=5.471, *p*=.006; F=1.185, *p*=.311), indicating a higher detection rate of hypoglycemia in the CGM group compared to the other two groups. During the observation period, 76.9% of patients in the SMBG group monitored their blood glucose more than twice a week (with 42.3% monitoring at least four times a week), the highest among the groups. The differences in self-monitoring frequencies among the three groups were statistically significant, with post hoc tests using the Mann-Whitney test indicating that the SMBG group had significantly higher monitoring frequencies than the RT-CGM and control groups.

Conclusion

This study shows that during the study period, all three groups (RT-CGM, SMBG, and control) received outpatient education and two weeks of remote care, resulting in significant improvements in HbA1c, highlighting the importance and necessity of intervention by a diabetes share care team. The RT-CGM group detected more hypoglycemia events, indicating its comprehensive monitoring capability. However, the SMBG group achieved better diabetes control through continuous and frequent self-monitoring, demonstrating its advantages in long-term management. Future research should explore enhancing self-monitoring in poorly controlled diabetes patients and reducing hypoglycemia occurrence. Integrating the strengths of RT-CGM and SMBG could lead to more effective diabetes management strategies for optimal blood glucose control.

Keyword：Real Time Continuous Glucose Monitoring, Blood Glucose Self-Monitoring,
Type 2 Diabetes, Hypoglycemia

【壁報 26】

Evaluation of the effectiveness of distance learning using augmented and virtual reality technologies in "Radiation Medicine Teaching Practical Course"

運用擴增與虛擬實境技術於「放射醫療教學實習課程」之遠距學習成效評估

Chang-Ching Yu, Chen-Hong Huang, Po-Hsiang Lin, Fu-Chao Chan, Pi-Yun Tseng
俞長青 黃承鴻 林博翔 詹富超 曾碧雲
Department of Radiology, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ROC
高雄榮民總醫院 核醫科 & 放射線部 醫事放射科

Background: 隨著醫療技術的迅速進步，遠距醫療教育逐漸成為提升醫療人才培訓的重要手段之一。本研究旨在探討運用擴增實境（Augmented Reality, AR）及虛擬實境（Virtual Reality, VR）技術對於心導管室放射實習生遠距教學的成效。心導管檢查是心臟病診斷及治療的重要技術，但由於其操作複雜性及臨床風險，對實習學員與 PGY 職前的技能訓練具有高度要求。傳統的現場教學模式面臨著資源限制及場地受限等挑戰，特別在疫情或其他不可預測的情況下，遠距教學更成為亟待解決的問題。

Methods: 本研究採用 AR/VR 技術，設計並實施了一套遠距心導管操作教學系統，該系統提供實習生一個虛擬且沉浸式的學習環境，使其能夠在遠端進行模擬操作及互動學習。我們針對 112～113 年共 42 位高榮放射實習生，其中有 16 位男生，26 位女生。在本實驗開始前所有的學員都需填寫量表(前測)，AR/VR 教學欣賞後為期實習 5 天後，於教學實驗後進行相關量表之施測。並透過問卷調查、認知前後測及訪談，分析實習學員在學習效果及滿意度等方面的表現。為了評估該學習模式的有效性，本研究針對實習學員之學習成效、學習動機、學習模式的滿意度、認知負荷反應及科技接受度進行分析。

Results: 研究結果顯示，學員在進行學習成效前測平均分數為 50.95 標準差為 23.2，，後測分析平均分數為 88.57 標準差為 12.4；有顯著性差異($P=9.6^{\wedge-12}<0.001$)。在運用 AR/VR 技術的遠距教學相較於傳統教學模式，在提升實習學員的操作技能、自我效能感及學習動機上具有顯著成效(滿意/非常滿意分別有:5 人/37 人)，但在認知負荷上則無顯著性差異。此外，九成以上學員自認對課程知識有增加(認同/非常認同:7/35)且 AR/VR 課程符合學員需求(認同/非常認同:6/36)。

Conclusion: 本研究結果提供了實證支持，證明 AR/VR 技術在心導管室放射實習學員遠距教學中的應用潛力。此技術的推廣不僅能夠應對現行教學挑戰，亦能作為未來醫學教育模式創新的一環。我們建議未來在更大規模及多元互動式的教學場景中進一步驗證此技術的適用性及長期效果。

Keyword：擴增實境, 虛擬實境, 心導管室, 學習成效, 遠距醫療教育

【壁報 27】

The Application and Impact of Telemedicine Education in Hybrid Models

「遠距醫療會診在虛實整合模式中的應用與影響」

Ron-Gjie Liu[1] , Shu-Wen Kuo[1] , Li-Wen Hong[1] , Ying-Lan Chen[1] , Bang-Yu Wang[1]
劉榮傑[1] 郭淑文[1] 洪麗雯[1] 陳英嵐[1] 王邦宇[1]
Department of Medical Information, Kaohsiung Medical University Chung-Ho Memorial Hospital[1]
高雄醫學大學附設中和紀念醫院 資訊室[1]

背景(Background): COVID-19 大流行改變了醫療服務的提供方式，遠距醫療因其能夠減少直接接觸、降低感染風險以及提供便利的診療服務而迅速崛起。國家健保署推出的虛擬健保卡進一步促進了遠距看診的普及。本研究旨在探討虛實整合的遠距看診模式對醫學教育的影響，尤其是如何在偏鄉和行動不便的患者群體中提高健康照護質量，並評估其在臨床教育中的效果。我們將重點放在改善醫療效率、加強醫病溝通、減少資源分配不平等以及如何融入醫學教育訓練當中。

方法(Methods): 本研究基於南部某醫學中心的實際操作，探討了遠距醫療平台與現有醫療資訊系統（如掛號系統、門急診管理系統、檢驗與檢查報告系統）的整合過程，並通過引入虛擬健保卡 2.0，取代傳統實體卡的使用。此模式運用 FHIR 資料交換協議來進行即時病歷的調閱與分享，強化了遠距醫療的可操作性。

研究聚焦於台東縣、屏東縣及高雄市等偏遠地區的 10 所衛生所，並重點分析眼科、耳鼻喉科與皮膚科三個專科的遠距會診效果，同時評估該模式在醫學教育中的應用與潛力，包括如何為醫學生提供真實臨床案例學習的機會。

結果(Results): 統計數據顯示，2020 年至 2024 年 5 月間，南部某醫學中心共進行了 8174 次偏鄉遠距會診，診療次數隨著時間推移穩步增長，由最初的每月 136 次增至 2024 年高峰期的 296 次。患者年齡分佈中，65 歲以上的高齡患者占比達 40.7%，41-64 歲的患者占比 35%。在三大專科中，眼科的會診次數最高，占比 45%。

從醫學教育的角度看，遠距醫療提供了實習醫生和學生接觸多樣化病患的機會，並通過即時的病例分享與專家會診，強化了學習的實際效果。該模式被認為是臨床教育中的有效補充，特別是針對偏遠地區和基礎醫療資源有限的區域。

結論(Conclusion): 本研究顯示，虛實整合的遠距看診模式顯著提升了偏遠地區的醫療服務質量與可及性，並在臨床教育中展現出重要價值。尤其是對偏遠地區的醫療資源覆蓋、提高醫學生臨床經驗、以及推動醫療全人照護方面起到了積極作用。

然而，該模式的推行仍面臨諸多挑戰，如技術適應性、系統安全性和政策支持的缺乏。未來應加強技術發展與政策支持，簡化虛擬健保卡的操作流程，並保證數據安全和隱私，為偏鄉及行動不便的群體提供持續且有效的健康服務。同時，也應持續探討如何進一步將遠距醫療納入醫學教育，提升學生的臨床實踐能力，讓遠距醫療成為未來醫學教育的一個核心部分。

關鍵字(Keyword)：遠距會診、醫病溝通、全人照護、臨床教育

影片摘要投稿

影片投稿摘要：

作品編號	1	投稿代表人	黃辰昕
投稿作者	黃辰昕、許豐益、林融辰、劉承揚	申請機構	國立陽明交通大學 生物醫學工程學系
主題類型	■通訊醫療醫師工程師／科學家的人才培育		
影片內容概述	本研究旨在設計一款智慧檢測皮膚鏡，將人工智慧（AI）診斷過程與 iPhone 同步，普及居家檢測及提升遠距診斷效率。		

作品編號	2	投稿代表人	許心怡
投稿作者	許心怡、葉芳妙	申請機構	臺北榮民總醫院
主題類型	■通訊醫療全人／跨領域教育訓練的成果推廣		
影片內容概述	利用多元化虛擬遠距教學教材於學員面對「急性心臟衰竭併呼吸衰竭」病患之教學應用。		

作品編號	3	投稿代表人	許心怡
投稿作者	張依婷、許心怡、葉芳妙	申請機構	臺北榮民總醫院
主題類型	■通訊醫療全人／跨領域教育訓練的成果推廣		
影片內容概述	規劃設計遠距門診視訊禮儀五步驟：環境佈置、醫病禮儀、傾聽與觀察、保持對話節奏與適當決策、確認與回饋。		

作品編號	4	投稿代表人	許心怡
投稿作者	葉芳妙、許心怡	申請機構	臺北榮民總醫院
主題類型	■通訊醫療全人／跨領域教育訓練的成果推廣		
影片內容概述	混合、擴增、虛擬實境(MR/AR/VR)遠距醫療教學訓練系統於醫病共決及促進健康應用。		

作品編號	5	投稿代表人	葉芳妙
投稿作者	葉芳妙、許心怡、郭穎頻	申請機構	臺北榮民總醫院
主題類型	■通訊醫療全人／跨領域教育訓練的成果推廣		
影片內容概述	數位 AI 時代運用至會眼鏡培訓遠距醫療服務之訓練模式分享。		

作品編號	6	投稿代表人	酒小蕙
投稿作者	楊芷芸、陳怡君、張祐嘉、陳怡靜、酒小蕙	申請機構	臺北榮民總醫院護理部
主題類型	■通訊醫療全人／跨領域教育訓練的成果推廣		
影片內容概述	為新進 PGY 學員訓練，先介紹正念的方法，再以臨床實例示範，引導護理人員，運用正念成功完成靜脈注射技術。		

作品編號	7	投稿代表人	謝尚恩
投稿作者	謝尚恩、吳芳郡	申請機構	中山附醫醫教部
主題類型	■通訊醫學教育影響與應用		
影片內容概述	COVID-19 疫情加速醫學生臨床實習轉向通訊醫學教育。本 影片將深入說明作者的系統性回顧研究，評估通訊醫學教 育對醫學生臨床技能與信心的影響。		

作品編號	8	投稿代表人	俞長青
投稿作者	俞長青	申請機構	高雄榮民總醫院核醫科
主題類型	■通訊醫學教育影響與應用		
影片內容概述	心導管室 AR/VR 教學平台提昇學習效果，有助力遠距教學應用與專業人才醫療教育之培育，增進臨床技術掌握。		

作品編號	9	投稿代表人	蔡丞弼
投稿作者	蔡丞弼	申請機構	高雄榮民總醫院
主題類型	■通訊醫學教育影響與應用		
影片內容概述	由於護理工作繁忙，實體課程參與困難，因此希望透過遠距數位教學來減輕實體課程的壓力，提升照顧品質。		

作品編號	10	投稿代表人	蔡佳容
投稿作者	蔡佳容、王明業、王致恩、鄭琬庭、王苾如、蔡涵怡、李婉詩、何沁沁、周千瀅	申請機構	臺北榮民總醫院
主題類型	■通訊醫療教育創新的評估工具		
影片內容概述	創新設計調配化學治療要品溢灑事件擬真教學訓練，模擬細胞毒性針劑輸液突發溢灑的緊急處理步驟，讓受訓人員在虛擬安全情境下也能受實務訓練。		

作品編號	11	投稿代表人	莊佩雯
投稿作者	陳玉舫、王晏莉、蔡慧思、李民安、陳欣涵、莊佩雯、邵齊宏、陳妍希	申請機構	臺北榮民總醫院
主題類型	■通訊醫療全人／跨領域教育訓練的成果推廣		
影片內容概述	VIRTI360 度沉浸模式及問答圖片設計，增進學員主動學習和互動性，且刺激臨床思路，以加強醫病溝通及臨床判斷能力。		

感謝與祝福

國立陽明交通大學 林奇宏校長

今天共有 300 位專家學者報名參加此次研討會，並收到三十餘篇重要的學術投稿，恭喜得獎團隊。我們共同探討了遠距醫療的未來，尤其是數位技術如何推動醫學教育的創新和變革。我們欣喜地見證了數位技術在醫學教育和醫療領域中的廣泛應用，這不僅展示了技術的巨大潛力，也強調了學術合作在推動創新中的關鍵作用。

我深知學術界與實務界的合作對於推動醫學教育和公共健康的進步至關重要。今天的討論讓我們看到，數位轉型不僅是提升醫療服務質量和效率的關鍵，也是未來發展的主要驅動力。我們需要積極應對數位轉型過程中的挑戰，並把握未來的機遇，推動醫學教育的全面變革。

此外，我們也特別關注數位技術對公共健康領域的影響。數位技術不僅能提升教育質量，還能促進健康服務的現代化。未來，我們將繼續支持數位技術的應用，並推動相關研究，以期實現更高效、更公平的健康服務。

今天的研討會為我們描繪了遠距醫療和數位轉型的未來藍圖。我們期待未來能夠見證這些技術帶來的實質性變革，並在推動醫學教育和公共健康領域的發展中取得更大的成就。期待明年再相見！

謝謝大家！