『淨零新創主題館』活動辦法

附件 4

參選說明表-大專院校

填表日期：113 年 11 月 08 日 　　　　　　　　　　　(*為必填欄位)

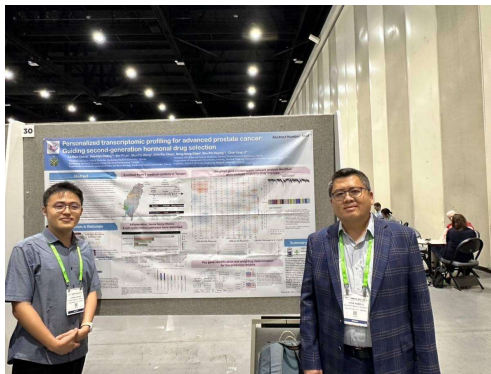|	
產品或服務名稱	攝護腺癌二代賀爾蒙藥物精準推薦服務
	Precision Drug Recommendation for Second-Generation Hormonal Therapy in Prostate Cancer
產品或服務創新介紹 (50%)	本團隊基於晚期轉移性攝護腺癌的病人之全轉錄體資料，本技術藉由 Affymetrix 的全轉錄體晶片，分析病人的投藥前、投藥後三個月以及抗藥性產生後三個時間點的全轉錄體資料，透過加權相關網絡分析 (weighted gene correlation network analysis)與臨床資訊關聯，並結合數種機器學習的演算法，篩選出關鍵的轉錄體資訊，針對現行的雄性激素受體拮抗劑與雄性激素生成抑制劑兩種不同機轉的藥物建立預測模型，因為這兩種藥物原則上只有一次選擇的機會，抗藥性產生後即使換藥也會無效，我們的目標是在病人投藥前能透過檢測服務使用較為有效的藥物。
	Our team has built predictive models based on whole transcriptome data from patients with advanced metastatic prostate cancer, focusing on two different mechanisms of action: androgen receptor antagonists and androgen synthesis inhibitors. These two types of drugs essentially offer only one chance of selection, as resistance to one renders the other ineffective. Using weighted gene correlation network analysis, we identified several gene modules correlated to specific drug responses. Then, we combined several machine learning algorithms and constructed classification models for different drug mechanisms. Our goal is to use detection services to determine the more effective drug for patients before administration.
應用效益 (30%)	透過研發藥物推薦系統，選擇適當的藥物以延長病患的存活時間，同時為健保每年節省約一億元浪費在無效的醫療費用；並透過現有模式拓展至其他疾病領域，為醫療提供精準且快速的臨床決策；未來，將檢測系統推廣至全球，增進學研團隊的國際交流機會。
	Through the development of a drug recommendation system, the goal is to select the appropriate medications to extend patient survival time, while also saving for Taiwan's national health insurance about one hundred million NTD in invalid medical expenses. Additionally, the current model will be expanded to other disease areas, providing precise and rapid clinical decision-making for healthcare. In the future, the testing system will be promoted globally to enhance international collaboration opportunities for the research and academic team.
研發績效及國內外發表成效 (20%)	參與 2024 Meet Greater South 亞灣新創大南方展覽會，推廣藥物推薦系統，同年也入選 BioAsia 亞洲生技大會，增加產品曝光率，並參加 FITI 創新創業激勵會選拔入圍前 7 名，由於專利規劃，目前關鍵演算法的公開發表僅有 2024/4/9 於 2024 美國癌症學會年會(AACR 2024)發表的壁報展示，本技術以取得中華民國發明專利 I808838 號，並已送件 PCT 申請，期刊論文將待多中心臨床試驗結束後另行發表。
	Participated in the 2024 Meet Greater South to promote the drug recommendation system. Also selected for the BioAsia–Taiwan International Conference and Exhibition in the same year to increase product visibility. Additionally, participated in the FITI Program, making it to the top 7 finalists. Because of the patent planning, our publication was limited to 2024 AACR poster. We have obtained a patent in Taiwan (I808838) and the PCT application was submitted.

*符合 SDGs	1.消除貧窮		2.終止飢餓	ˇ	3.健康與社福

『淨零新創主題館』活動辦法

永續發展目標	4.優質教育	5.性別平權	6.淨水與衛生
	7.可負擔的潔淨能源	8.適合的工作及經濟成長	9.工業化、創新與基礎建設
	10.減少不平等	11.永續城鄉	12.責任消費及生產
	13.氣候行動	14.保育海洋生態	15.保育陸域生態
	16.和平、正義及健全制度	17.多元夥伴關係	
淨零十二項關鍵戰略	1.風能/光能	2.氫能	3.前瞻能源
	4.電力系統與儲能	5.節能	6.碳捕捉利用及封存
	7.運具電動化及無碳化	8.資源循環零廢棄	9.自然碳匯
	10.淨零綠生活	11.綠色金融	12.公正轉型

研究團隊/單位	研究團隊由南台灣泌尿科權威黃書彬醫師、專攻於轉錄體研究與應用的應用基因體研究中心主任李佳陽教授以及大數據分析領域專家—陳灯能教授所組成，其成員還有專精於 TRIZ 系統性創新方法並擁有 10 項專利獲獎博士後研究員、醫檢師、護理師以及基因體分析領域的博士生一同參與研發。
	The research team is composed of Dr. Shu-Ping Huang, a leading urology expert from Southern Taiwan, Professor Chia-Yang Li, Director of the Applied Genomics Research Center, specializing in transcriptomics research and applications, and Professor Deng-Neng Chen, an expert in big data analytics. The team also includes a postdoctoral researcher with expertise in TRIZ systematic innovation methods and 10 awarded patents, along with medical laboratory scientists, nurses, and doctoral students specializing in genomics analysis, all contributing to the research and development efforts.

*學校/研究單位 logo	

佐證圖片或影片	入圍 FITI 前 7 名

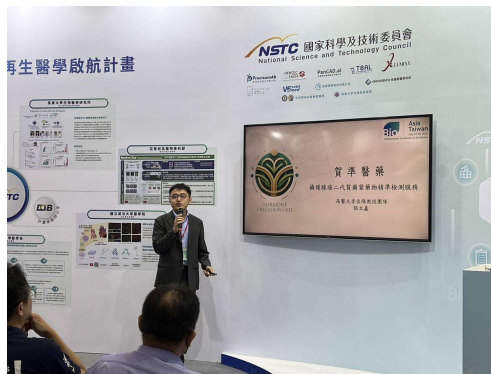# 『淨零新創主題館』活動辦法

2024 Meet Greater South 亞灣新創大南方展覽會

2024 AACR

BioAsia–Taiwan International Conference and Exhibition

附註：表格大小不足，請自動調整欄位大小，以便利於撰寫