

## ■ 環境工程學系 王玉純教授

### Dr. WANG, YU-CHUN, Professor



#### ■ 研究論述

個人自 2007 年起聘於環境工程學系，致力於環境風險與國民健康之關聯性研究。研究主題包含大氣環境、氣候變遷與公共衛生，尤其是極端氣溫對於國人慢性病及傳染性疾病健康風險相關性研究，有數十篇發表。此外，個人亦關心水環境品質與健康，協助政府完成數項環境大數據彙整評估計畫案。亦協助多家私人企業評估其營運期間環境危害物釋放量與在地居民健康評估。協助人壽產業分析建立氣候變遷財務風險模式，即早因應世界變遷。國際計畫部分，曾協助氣象署合作建立友邦國家跨國氣候與登革熱傳染病風險分析及預警系統。近年則與美國馬里蘭大學及瑞典隆德大學共同執行東南亞氣候變遷對腹瀉傳染性疾病預警系統建置計畫，該計畫共有 7 個國家參與，研究成果以推動季節與次季節性預警訊息給利害關係者，以達健康風險降低之目標。個人在以維護國人健康為目標下，評估探索環境變遷對國人健康之影響，並經由自然與社會科學研究測試可能解決方案。協助產業規劃平衡環境與經濟發展之策略與作為。研究主軸符合永續發展目標 SDGs 3、4、6、11 及 17。

## ■ 經驗分享

求學期間因為個人興趣而走入研究領域，在教書及帶研究生做研究上一竅不通。在中原大學任教初期，歷經的數年的教與學的洗禮後，才明白團隊策勵及攜手學生邁向世界共好，才有機會引導學生往好的知能及職能發展，才能創造出好的研究團隊服務社會大眾。研究產出發表並不困難，但是，如何創造出對社會有價值的研究需要每位研究人員放下本位、多方探索及合作才能達成。在環境變遷快速的情況下，如何整合大家跨領域團隊力量解決實務問題，是個人持續學習也是大家都該努力的方向。

### Research focus

Professor Yu-Chun Wang's research focused on association analysis between weather variations, ambient air quality and risk of infectious diseases, such as diarrhea, infectious gastrointestinal disease, enterovirus infection/complicated illness, eye disease/conjunctivitis, skin disease and influenza. In addition, assessments on temperature indices and mortality and morbidity risks of Taiwanese population in association with prolonged extreme temperatures event (heatwave and cold spell) were also the focus of my research. I tried to transform my research findings into practical applications and interface with governmental priorities. I expanded the temperature-health risk association study from using historical observations to real-time, seasonal and long-term predicting weather/climate data, to make practical applications of climate services in the field of public health. In the next few years, with cooperation with investigators from Sweden and the United States, and partners from the Asia Pacific Region (India, China, Vietnam, Nepal, Bangladesh, and Indonesia; referred to as the focus area), we had established a multinational consortium of scientists that performed a comparative analysis of diarrheal disease risk associated with extreme weather events in study regions. Our consortium also developed a transferable solution — seasonal to sub-seasonal (S2S) early warnings for diarrheal disease — that has been implemented across the focus area to reduce extreme weather-related diarrheal disease burdens and improve community resilience to climate change. My research mainly in line with the sustainable development goals SDGs 3, 4, 6, 11 and 17.

### Experience sharing

In my early career for research, I did research for personal interesting, thus, I did not emphasize the teaching skills and did not know well how to lead younger students to academic research. However, I realized that provide a positive goal to the students to right knowledge and right way is the pathway to upgrade the team after few years interactions with students on teaching and learning. Recently, the sustainable development goal No. 17 Partnerships is particularly emphasized in international

researcher groups. Partnerships means a cross-disciplinary cooperation among researchers from different fields that is key for real problems in real world and changing environment. Today international academic society emphasizes co-design, co-creation, co-delivery, and co-benefit with stakeholders in researches that should be considered and embed in mine and every researcher's study philosophy.