



科技管理學院  
College of Technology Management

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# CTM

## E-Newsletter



### CTM 人物專訪 CTM Interview

從後野百合世代到科技新創推手：  
傑出校友彭德仁律師的跨界法學之路  
From the Post-Wild-Lily Generation to a Tech Startup  
Catalyst: The Transdisciplinary Legal Journey of  
Outstanding Alumnus De-Jen Peng, Esq.

科技管理研究所 錢克瑄老師  
談能源轉型的多維宇宙

The Multidimensional Universe of Energy Transition:  
A Conversation with Professor Ker-Hsuan Chien,  
Institute of Technology Management

### 教師研究亮點 Spotlight on Research

經濟系 黃賀寶教授

Professor Ho-Po Huang, Department of Economics

服務科學研究所 雷松亞教授

Professor Soumya Ray, Institute of Service Science

### 科管院大小事 CTM at a Glance



04 2026

## CONTENTS

- 01 從後野百合世代到科技新創推手：  
傑出校友彭德仁律師的跨界法學之路
- 04 科技管理研究所 錢克瑄老師  
談能源轉型的多維宇宙
- 07 教師研究亮點 - 經濟系 黃賀寶教授
- 09 科管院大小事
- 10 From the Post-Wild-Lily Generation to a Tech  
Startup Catalyst: The Transdisciplinary Legal  
Journey of Outstanding Alumnus De-Jen  
Peng, Esq.
- 13 The Multidimensional Universe of Energy  
Transition: A Conversation with Professor  
Ker-Hsuan Chien, Institute of Technology  
Management
- 17 Spotlight on Research- Professor Ho-Po  
Huang, Department of Economics
- 19 Spotlight on Research- Professor Soumya  
Ray, Institute of Service Science
- 21 CTM at a Glance



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# 從後野百合世代到科技新創推手： 傑出校友彭德仁律師的跨界法學之路

莊怡萱同學 撰



左為科法所副教授 陳宛妤老師；右為彭德仁律師

「投資自己，永遠是人生投資組合裡面最好的一個選擇。」這句話，出自 2025 年科管院傑出校友、元亨法律事務所合夥律師彭德仁。彭德仁的律師之路充滿轉折與驚奇，從中興大學昆蟲系、中山大學生物科學所，又跨足到清華大學科技法律研究所，再遠赴美國紐約大學法學院深造，彭律師現今不僅專注於科技新創的法律輔導，也擔任台灣未來基金會台灣區法務長。

## 時代浪潮下的覺醒： 從生物學到校園公共事務

談及踏入法學領域的契機，彭德仁律師的

起點與許多法律人截然不同。從小就對自然科學懷抱濃厚興趣，大學、研究所時期都沉浸於生物學科的世界中。沒想到讓他人生方向從此轉彎的原因，是台灣 80 年代末至 90 年代初的「野百合運動」。

在那個大學校園從傳統威權逐步走向自治的劇變時代，彭德仁並未選擇置身事外，反而積極投入校園公共事務，更成為中興大學第一屆學生會會長。因為籌組學生會的經歷，他開始密切關注《大學法》的修法歷程，這成為他從生物領域轉向政治、社會與法律的關鍵啟蒙。

「我其實是從公法領域開始進入到法律的殿堂的，這跟大部分的法律人可能差異還

蠻大的。」他如此回顧這段意外的旅程。對於公共事務的好奇，就如同種子在他的心中發芽，最終引領他推開法學世界的大門。

## 在清華科法所的歲月： 一個想「告學校」的叛逆夢想

帶著對公共事務的熱忱，彭德仁在二十一世紀初進入了當時甫成立不久的清華大學科技法律研究所。他所就讀的「科技組」專門招收非法律系背景的學生，而這種宛如美國法學院的學士後法學教育，提供他系統性學習法律的絕佳環境。

回憶起當時進入法學院的初衷，彭律師笑稱自己當時有個「很不乖的念頭」：「我們當年從大學時期的夢想是想要告學校！如果我們能夠在學生的時候就有機會創造一個判例、一個大法官的釋憲解釋的話，那其實是我們那個時代最想做的事情。」而這個有點叛逆的理想，卻也真實反映當時學生權利意識的覺醒。從早期司法院釋字第 380 號解釋，到後來突破學生與學校間特別權力關係，賦予學生行政爭訟權利的釋字第 382 號與第 684 號解釋，都見證了那個時代法學思潮的激盪。彭德仁正是在這樣的學術氛圍中，為了找尋對抗不合理制度的武器，積極修習行政法與憲法，進而奠定了對公法領域的深厚基礎。

## 意外的國考之路與非典型職涯選擇

儘管後續對法理學、法哲學與法律經濟分析充滿熱忱，彭德仁坦言，自己一開始對成為傳統律師並無太大興趣，甚至對殘酷的律師國考感到卻步。他打趣說道：「那

個年代考律師的鬼故事實在太多了！」光是看到前大法官吳庚那本有如天書的「橘皮」《行政法》教科書，就足以讓許多考生望而生畏。

儘管入學前曾有專利工程師的工作經歷，他畢業後的第一份工作甚至與傳統法律領域無關，而是參與了氣候變遷調適的國家級跨領域研究計畫。然而，人生的轉折往往充滿戲劇性且無法預期。當時為了解救一位需要讀書會督促才能專心備考的同學，彭德仁抱著「純伴讀」的心態組了國考讀書會，沒想到無心插柳，竟意外地考取律師執照。

取得律師資格後，彭德仁依然堅持走自己的路。他並未立刻投入法院的訴訟叢林，而是選擇放下一切負笈美國求學，並曾在紐約律所任職。從美國法領域穩紮穩打重新歷練，最終才將過往的理科背景與法律專業完美整合，轉向他目前深耕的商業法律領域。

## 重新定義律師價值： 成為新創生態圈的「Deal Maker」

如今，彭德仁律師的業務核心聚焦在協助科技新創企業，服務範圍涵蓋從公司初期的設立、股權安排與分配、跨國企業架構設計，一路到中後期的企業併購與首次公開募股等資本市場專業服務。面對快速多變的商業環境，他經常引導年輕律師思考一個核心問題：「我們這樣的法律人，到底在法學界應該扮演什麼樣的角色？」

他指出，傳統台灣的法學訓練往往將律師定位為在法庭上為了勝訴而廝殺的代理人，但對於商業運作與新創圈而言，律師



更應該是促成雙方合作的「Deal Maker」（交易推手），甚至是協助企業日常運營與戰略佈局的法務長。彭律師強調：「如果單純從訴訟律師『一定要贏』的那個角度來看的話，我覺得是蠻容易踩雷的。」在商業世界中，律師的最高價值在於理解客戶的商業邏輯，並在談判桌上創造出讓專案得以順利推行的雙贏局面。

面對現今如火如荼的人工智慧（AI）技術浪潮，彭律師也從實務界提出觀察。當 AI 能夠在極短的時間內產出精準的商業合約並進行基礎法律分析時，律師傳統的文書處理技能正受到前所未有的嚴峻挑戰。他藉此提醒年輕學子，必須及早探索並建立自己的「獨特性」與「不可取代性」。無論是培養外語能力，或是具備跨領域的財務、商業與科技思維，都是未來法律人在高度競爭環境中脫穎而出的必備條件。

### 結語：投資自己，勇敢跨界

最後，彭德仁律師以自身的留學經驗作為總結。當年，他背負沉重的學貸壓力，毅

然決然前往美國深造。雖然過程中經濟壓力為他造成不小的挑戰，但事後回顧這段歷程，他堅定地表示，投資自己的教育與眼界，絕對是人生中最不會後悔的選擇。

從觀察昆蟲的理科生，到推動校園自治的學生領袖；從為了爭取學生權利想要狀告學校的科法所學生，到如今穿梭於國際商務與新創領域的專業律師，彭德仁的經歷完美詮釋「跨領域」的珍貴價值。他的經驗，為有志跨足不同學科的學生點亮了一盞明燈，同時也鼓勵所有人保持對世界的好奇，勇於擁抱不確定性，在變動的時代中找到屬於自己的領航星星。

本次訪談完整內容，將於 4 月  
「清華科管領航員」頻道播出。



Podcast

# 科技管理研究所 錢克瑄老師 談能源轉型的多維宇宙

莊怡萱同學 撰



左為科管所助理教授 李柏毅；右為科管所副教授 錢克瑄

在當今探討台灣能源轉型與淨零碳排的熱烈辯證下，清華大學科技管理研究所的錢克瑄老師提供了一個立體的跨領域視角。擁有地理學、政治經濟學與科技治理等多重學術背景的錢老師，擅長穿透冰冷的發電數據與生硬的工程術語，從社會制度、空間地理與全球市場的交錯網絡中，剖析能源政策在台灣「落地」的樣貌，帶領我們穿過僵硬的數據，看見「能源轉型」背後那張交織著技術、政治、地理與全球市場的大網。

## 意料之外的起點： 從都市洪流走向離岸的風

被問及為何會一頭栽進能源轉型這個複雜的領域時，錢老師笑著回答：「其實答案很簡單，就是為了工作，為了討生活。」時光倒轉至錢老師的博士班時期，當時她的研究專長是洪水與都市治理。然而，學術研究的軌跡往往與時代的脈動緊密相連。畢業後適逢 2016 年，當時台灣政府正大刀闊斧地推動能源政策，離岸風電與太陽光電成為國家發展的重點。也在當時，科技部企圖推動以社會需求為核心的跨領域基礎研究計畫。就是這股推力，讓錢老師毅然將研究視角從都市的治水防洪，轉向了風起雲湧的離岸風電。

「以科管來說，我們關注的是把技術當成



一個變數，探討它怎麼影響我們的決策或管理方式；而政治經濟學看的是一個國家的制度；地理學在乎的則是到底事情在『實際上』是怎麼發生的。」錢老師展現其跨領域視野，條理分明且精闢地分析不同學科的專業。十多年下來的研究淬鍊，讓她不再只是探討企業如何應用新技術，更在於審視政府政策、法規制度與市場機制，如何在特定地理空間中，與當地的生態及社會產生深刻的互動。

### 能源轉型的巴別塔： 解構多尺度的系統工程

錢老師指出：「假設你想的儲能是電池，那當然是這幾年才變大；但如果是有儲能功能的系統，其實台灣最大的儲能是在日月潭的明潭抽蓄水力發電廠，它在 1995 年就蓋好了。」透過這段話不難發現一個關鍵：對於能源基礎設施，我們其實真正知道的不多。

「能源轉型」是當代最常出現的關鍵字，但錢老師一針見血地指出，這個詞彙在不同群體口中，就宛如一座各說各話的巴別塔。在學術，有人關心偏鄉社區如何透過微型水力或太陽能電網自給自足；在產業，車廠全力朝向運具電動化的未來；而在國際談判桌上，氣候公約則是國與國之間的角力。

將目光拉回台灣，推動能源轉型的強大動力，其實具有濃厚的國際色彩。蘋果（Apple）、谷歌（Google）等跨國科技巨擘高舉 RE100 倡議的大旗，將減碳的要求嚴格延伸至全球供應鏈。台灣的半導體與高科技代工廠若想守住國際訂單，就必須大量且穩定地取得綠電。錢老師提到：

「我們過去十年來開始出現很多產業治理、供應鏈治理，大公司把去碳化的要求放在供應鏈上，這是一個完全不同的面向。」國際商業鏈的需求，與台灣政府推動綠能的政策不謀而合，這些便成為驅動台灣能源版圖重構的雙引擎。

### 走鋼索的電網： 自由化市場的脆弱與挑戰

然而，再生能源可以說是「看天吃飯」，台灣的電力系統從此便像是加入一場驚心動魄的生存遊戲。「電力系統因為它是需要隨時保持平衡的。就像一個翹翹板，有一邊高另外一邊就要低，它不能等。」錢老師用平易生動的比喻，解釋電網的脆弱性。過去，核能與燃煤發電是穩定輸出的老員工；如今，太陽光電與風力發電加入團隊，它們儘管充滿活力卻陰晴不定。中午烈日當空時發電量達到高峰，一旦太陽下山，瞬間歸零的日落危機便成為調度員每天必須面對的考驗。為了填補落差，傳統的抽蓄水力與能快速啟動的天然氣機組，便成了維持電網心跳的急救員。

與此同時，台灣的電力市場也正經歷從單一國營事業壟斷，走向逐步自由化的陣痛期。2017 年「電業法」修正，讓民間綠電業者得以透過憑證機制自由買賣。錢老師提醒，高度自由化的市場並非萬靈丹：「市場的交易是有規則的，而這些規則都是非常人為的設計。」以 2021 年美國德州大停電為例，指出德州雖然擁有自由化的電力市場，但在極端嚴寒導致天然氣管線結凍、電廠停擺時，市場機制依然瞬間失靈。「當現實的情況沒有被反映在價格的時候，市場是很難及時回應當下發生的狀況的。」在追求市場效

率的同時，防範極端氣候的基礎設施韌性，是絕對不能被忽略的隱藏成本。

## 國際標準的水土不服： 離岸風電的在地化摩擦

再將視角轉向台灣海峽，台灣離岸風電的發展，宛如一部國際標準與本土環境相互碰撞的寫實紀錄片。發展初期，台灣高度仰賴歐洲開發商的資金、技術與經驗。然而，那些在歐洲身經百戰的風機規格與施工標準，一來到台灣便面臨了嚴重的「水土不服」。與歐洲不同，台灣周邊海床的地質結構是沙質之外，還有頻繁的地震、每年的颱風，海域裡也充滿台灣特有的海洋生物。

歐洲的環境評估標準與施工工法無法直接複製貼上，外商必須重新認識這片海域，修改設計以抵抗天災侵襲，甚至必須在海底打樁的噪音規範上，與台灣的生態保育標準不斷磨合。錢老師強調：「我們必須思考，有沒有辦法透過自己的本土化，讓風機在台灣的建置也是安全的。」這正是技術在跨國流動時必然經歷的在地化摩擦，也是台灣建立自主科技實力的必經之路。

## AI 與能源的矛盾對決： 優化解方還是吃電怪獸？

訪談最後，話題轉向了現今席捲全球的人工智慧（AI）。在能源領域裡，AI 扮演著令人又愛又恨的雙面角色。

AI 展現令人驚嘆的優化能力。它能分析大量氣象數據，精準預測風速與日照；能透過感測器數據累積「經驗值」，「精確地做出維修船期的排程，提早預訂零件，讓

風機停下來的時間不要這麼長。」進而大幅降低昂貴的海上維修成本。Google 等科技巨頭更嘗試用 AI 進行全球運算資源的動態調度，哪裡綠電多，耗能的運算任務就往哪裡送。

但矛盾的是，AI 本身卻又就是一頭巨大的「吃電怪獸」。訓練大型模型與維持資料中心運轉，需要相當驚人的電力。錢老師引用數據分析道：「2024 年全球用電大概是四千多億度，可是到了 2030 年可能會達到九千多億度，超過兩倍。」這種「以耗能的 AI 來尋求節能解方」的弔詭現象，無疑對已經緊繃的全球電網下了一封新的戰帖。

## 結語：跨界，在複雜的難題中尋找 永續解答

「遇到一個新的事物，先不要拒它於千里之外，先試著了解它，說不定它就能幫助你了解更複雜的東西。」錢克瑄老師是如此期勉學生與研究者。能源系統從來就不是單純的技術問題，而是牽一髮而動全身的「社會技術網絡」。面對未來的挑戰，我們必須跳脫單一學科的舒適圈，帶著開放的心態，去理解商業市場的殘酷、政府法規的考量，以及在地環境與社會的脈絡。唯有具備多維度的跨界思考能力，才能在能源轉型的洶湧波濤中，越過市場的陣痛，找到一條兼顧效率、公平與永續的航道。

本次訪談完整內容，將於 5 月  
「清華科管領航員」頻道播出。



Podcast



# 教師研究亮點 - 經濟系 黃賀寶教授

本文由經濟系黃賀寶教授提供，公共事務辦公室翻譯



這篇探討「同性婚姻立法對同性伴侶遷徙決策影響」的論文，已獲國際法律經濟學頂尖期刊 *Journal of Law and Economics* 接受刊登。本研究延續我過去關於家庭法如何影響家庭行為的研究。美國最高法院在 *Obergefell v. Hodges* 一案中裁定，各州必須承認並核發同性婚姻，此判決引發我思考：同性婚姻合法化，是否會改變性少數族群的行為選擇？

從零開始，我花了一年的時間回顧美國各州同性婚姻合法化的歷程、同性戀議題相關研究，以及許多記錄同志族群遭受污名化的敘事文獻。我也閱讀了過去關於 LGBT 個體如何遷移至如芝加哥、舊金山等城市，以探索與表達其性別認同的研究。在閱讀大量關於同志族群面對社會排斥、歧視與霸凌的個人故事時，我深刻感受到他們會因不被主流社會接納而承受的痛苦，也因此希望透過數據，為他們說一個故事：同性婚姻法的實施，是否改變了他們的人生選擇？特別是在「是否遷移」這個決策上。

我發現，其實有些人並不一定喜歡那些傳統上對同性戀較友善的大城市生活，例如舊金山。對許多 LGBT 個體而言，回到家鄉（他們出生的州份）重建家庭與社會連結，似乎是一個遙不可及的選項。既有研究也指出，相較於異性戀伴侶，同性伴侶顯著較不可能居住在自己的出生地附近。

因此，我開始思考：當同性婚姻在其家鄉州合法化後，性少數族群是否更可能返回家鄉？尤其是那些與家庭關係較為緊密的人。也許，在同性婚姻法提供更完整法律



保障，加上家鄉州整體社會態度可能隨合法化而更加包容的情況下，回鄉這個選項會變得更可行？

為了回答這個問題，我運用 2008 至 2021 年的美國社區調查 (American Community Survey, ACS) 資料進行實證分析。研究發現，在過去 12 個月內跨州遷移的伴侶中，當同性婚姻在其出生州獲得法律承認時，女同志與男同志伴侶返回戶長出生州的機率提高約 10 個百分點。相對而言，對於異性戀伴侶而言，婚姻平權在其家鄉州的存在，並未對其跨州遷移決策產生顯著影響。

這些結果顯示，同性婚姻合法化在鼓勵同性伴侶重建與家鄉社群連結方面扮演重要角色——這在缺乏法律承認的情況下，可

能是一個難以想像或不願選擇的選項。我的研究強調，同性婚姻法對於塑造同性伴侶的流動性與人生選擇具有關鍵影響。我也相信，當法律使「回到出生地」成為可行選項時，這種可能性將大幅提升同志族群的心理福祉。

我希望這篇論文的完成歷程，也能鼓勵正在進行研究的學生們。只要懷抱好奇心、持之以恆並努力投入，即使起初對研究主題所知有限，也能將最初的問題發展成一篇有意義的學術成果。對我而言，這正是實證研究最有趣的部分——在探索新議題的過程中，不斷學習並理解這個世界。我也期待有一天，我的學生能提出屬於他們對社會的洞見。



# 院內大小事

科管院公共事務辦公室提供

## 榮譽 Honor

計量財務金融學系許博炫教授榮升清華特聘講座

經濟系黃賀寶教授研究成果“*No Place Like Home? Same-sex Marriage Legislation and the Relocation Choice of Homosexual Partners*”榮獲國際法律經濟學頂尖期刊 *Journal of Law and Economics* 正式接受刊登！

計量財務金融學系許博炫教授榮獲 2025 玉山學術獎

恭賀科管院前院長、現任校資長林哲群教授最新著作《紀律長贏》出版。

恭賀本院 114 學年度傑出校友——經濟系 90 級學士、92 級碩士林惠敏校友（瑞利光智能股份有限公司策略長兼發言人），以及 EMBA 03 校友吳顯揚（台積公司研究發展／技術發展資深副總經理）榮獲殊榮。

## 活動 Events

3 月 5 日「2025 科管院博士生研究獎」頒獎典禮圓滿舉行

得獎名單：

- 服科所 何捷睿 | 指導老師：雷松亞教授
- 經濟系 張金育 | 指導老師：林世昌教授
- 科法所 李子鉉 | 指導老師：彭心儀教授
- 科法所 陳怡靜 | 指導老師：林勤富教授
- 服科所 Matthew Ray Bobea | 指導老師：徐茉莉教授

3 月 19 日，孫運璿科技講座邀請 前行政院長、新世代金融基金會董事長 陳冲演講，講題「以蠡測海也無妨—從川普、穩定幣談起」。

# From the Post-Wild-Lily Generation to a Tech Startup Catalyst: The Transdisciplinary Legal Journey of Outstanding Alumnus De-Jen Peng, Esq.

Written by Yi-Hsuan Chuang



Prof. Wan-Yu Chen, Associate Professor of the Institute of Law for Science and Technology; on the right, Attorney De-Jen Peng

**"Investing in yourself should always be the best option in your life's investment portfolio."** These words come from **De-Jen Peng, Esq.**, a partner at LCC Partners Law Office and the 2025 Outstanding Alumnus of the College of Technology Management at National Tsing Hua University (NTHU).

Peng's career path is a tapestry of unexpected turns. Starting from the Department of Entomology at National Chung Hsing University (NCHU) and moving through the Institute of Biological Sciences at National Sun Yat-sen University (NSYSU), he eventually pivoted to the Institute of Law for

Science and Technology at NTHU before pursuing advanced studies at New York University (NYU) School of Law. Today, Peng specializes in legal consulting for tech startups and serves as the General Counsel (Taiwan) for the NEX Foundation.

## **An Awakening in the Tides of Time: From Biology to Public Affairs**

The catalyst for Peng's entry into law was far removed from the traditional legal path of many Taiwanese lawyers. Having been immersed in natural science since childhood, his life took a sharp turn because of the profound **"Wild Lily Student Movement"** of the late

1980s and early 1990s - a period when Taiwanese universities were transitioning from authoritarian toward autonomy.

Rather than remaining a bystander, Peng jumped into campus public affairs, becoming the founder and first President of the Student Government at NCHU. This experience led him to closely follow the amendment process of the University Act and sparked his interest in politics, society, and law.

"I actually entered the hall of law through the realm of public law, which could be quite different from most Taiwanese legal professionals," Peng recalls. That seed of curiosity for public affairs eventually led him to the gates of the legal world.

### Years at NTHU Law: A "Rebellious" Dream to Sue the University

In the early 2000s, Peng joined the newly established Institute of Law for Science and Technology at NTHU. He enrolled in the "Technology Track," designed specifically for students without a legal background - a Juris Doctor (JD) style of education that provided a systematic legal foundation.

Peng jokingly recalls his "rebellious" motivation at the time: "Our dream back then since undergraduate was to sue the university! If we could create a leading precedent or trigger a constitutional interpretation while still being students, that was one of the ultimate goals of our generation." This reflected the burgeoning awareness of student rights. From the landmark Judicial Yuan Interpretation **No. 380** to **No. 684**, which broke the "Special Power Relationship" between students

and schools, Peng studied Administrative Law and Constitutional Law to find the "weapons" needed to challenge unreasonable regime, and thus laid the foundation for his early public law studies.

### An Accidental Bar Exam Sitting and a Non-Traditional Career Path

Despite his following passion for legal philosophy and economic analysis, Peng initially had little interest in becoming a lawyer and was reluctant to sit the notoriously difficult Taiwan Bar Exam. He quips, "The 'ghost stories' out there about the Bar Exam back then were endless!"

After graduation, he worked on a national, trans-disciplinary research project regarding climate change adaptation. However, fate intervened when he hesitantly joined a bar exam study group simply to help his classmate stay focused. Unexpectedly, he eventually passed the Bar Exam himself thereafter.

Even with his Bar Admission, Peng chose an unusual path. Instead of entering the courtroom immediately, he left everything behind and flew to the U.S.A to study, and then worked at a law firm in New York. All these allowed him to integrate his science background with legal expertise before transitioning into his current focus: **commercial law**.

### Redefining the Lawyer's Value: Becoming a "Deal Maker"

Today, Peng focuses on assisting tech startups, with services ranging from initial incorporation and equity distribution to cross-border restructuring, M&A, and IPOs. He often challenges young lawyers





to rethink their roles:

- **The Traditional View:** An advocate fighting for a “Zero-Sum” victory in court.
- **The Modern Reality: A "Deal Maker"** who facilitates cooperations and serves as a strategic General Counsel.

"If you only look at things from the 'must-win' perspective of an advocate, it's easy to step on landmines in the business world," Peng explains. He believes a lawyer's highest value lies in understanding a client's business logic and creating win-win scenarios at the negotiating table.

Regarding the rise of **Artificial Intelligence (AI)**, Peng observes that as AI has begun to handle precision drafting and basic analysis, lawyers must find their "uniqueness." Whether through language proficiency or trans-disciplinary expertise in finance and technology, young lawyers must build their moats and then become irreplaceable.

### **Conclusion: Invest in Yourself and Embrace the Trans-Discipline**

Reflecting on his time studying in the U.S. while burdened by heavy student loans, Peng remains certain: **investing in your own education and perspective is the one choice you will never regret.**

From an entomology student to a student leader, and from a "rebellious" law student to an international business attorney, De-Jen Peng's journey defines the value of being trans-disciplinary. His story encourages every student to remain curious, embrace uncertainty, and find their own "guiding star" in a changing era.

The full interview will be featured on the CTM Podcast in April 2026. Stay tuned !!



**Podcast**

# The Multidimensional Universe of Energy Transition: A Conversation with Professor Ker-Hsuan Chien, Institute of Technology Management

Written by Yi-Hsuan Chuang



Prof. Bo-Yi Lee, Assistant Professor of the Institute of Technology Management; on the right, Prof. Ker-Hsuan Chien, Associate Professor of the Institute of Technology Management

Amidst the heated debates surrounding Taiwan's energy transition and net-zero emissions, Professor Ker-Hsuan Chien from the Institute of Technology Management at National Tsing Hua University (NTHU) offers a sophisticated, cross-disciplinary perspective. With an academic background spanning geography, political economy, and technoscience governance, Professor Chien excels at looking beyond cold power generation data and rigid engineering jargon. She dissects how energy policies "land" in Taiwan by examining the intersecting networks of

social institutions, spatial geography, and global markets, leading us through the data to see the vast web of technology, politics, and geography behind "energy transition."

## **An Unexpected Starting Point: From Urban Floods to Offshore Winds**

When asked why she dove into the complex field of energy transition, Professor Chien laughed and replied, "The answer is simple: for a job, to make a living." Looking back to her doctoral studies, her expertise was actually in

flood and urban governance. However, the trajectory of academic research is often tied to the pulse of the era. Upon graduating in 2016, the Taiwanese government was aggressively pushing new energy policies, making offshore wind and solar power national priorities. At the same time, the Ministry of Science and Technology was promoting interdisciplinary foundational research centered on societal needs. This push prompted Professor Chien to pivot her research from urban water management to the surging field of offshore wind.

"In technology management, we view technology as a variable and explore how it affects decision-making or management; political economy looks at a country's institutions; while geography cares about how things actually happen on the ground," she explained, demonstrating her interdisciplinary vision. Over a decade of research, she has moved beyond just discussing how companies apply new tech to examining how government policies, regulations, and market mechanisms interact deeply with local ecology and society within specific geographical spaces.

### **The Babel of Energy Transition: Deconstructing Multi-scale Systems Engineering**

Professor Chien noted a common misconception: "If you think of energy storage only as batteries, then of course it seems like a recent development. But if you look at systems with storage

functions, Taiwan's largest is actually the Mingtan Pumped-Storage Hydro Power Plant at Sun Moon Lake, completed in 1995." This highlights a key point: we actually know very little about our energy infrastructure.

While "energy transition" is a modern buzzword, Professor Chien pointed out that it is a "Tower of Babel" where different groups speak different languages. In academia, some focus on how remote communities can become self-sufficient through micro-hydro or solar grids; in industry, automakers are racing toward an EV future; and at international negotiation tables, climate conventions are a tug-of-war between nations.

Back in Taiwan, the momentum for energy transition is heavily influenced by international factors. Tech giants like Apple and Google, under the RE100 initiative, have extended decarbonization requirements to their global supply chains. If Taiwan's semiconductor and high-tech foundries want to secure international orders, they must obtain large-scale, stable green power. "In the past decade, we've seen the rise of industrial and supply chain governance," Chien mentioned. This demand from international business chains aligns with the government's green energy policies, acting as dual engines reshaping Taiwan's energy landscape.

### **A Grid on a Tightrope: The Fragility of Liberalized Markets**

However, renewable energy is often at



the mercy of the weather, turning Taiwan's power system into a high-stakes survival game. "A power system must maintain balance at all times. It's like a seesaw; if one side goes up, the other must go down immediately. It cannot wait," she explained using a vivid metaphor. In the past, nuclear and coal were the "steady employees." Now, solar and wind have joined the team—energetic but fickle. When the sun sets and solar output drops to zero, dispatchers face a daily "sunset crisis." To fill the gap, traditional pumped-storage hydro and quick-start natural gas units act as the "emergency responders" keeping the grid's heartbeat steady.

Simultaneously, Taiwan's electricity market is transitioning from a state monopoly to liberalization. The 2017 amendment to the Electricity Act allowed private green energy providers to trade via certificates. However, Chien warned that a liberalized market is not a panacea: "Market trading has rules, and these rules are very much human designs." Citing the 2021 Texas power crisis, she noted that despite having a liberalized market, the mechanism failed when extreme cold froze pipelines. "When reality isn't reflected in the price, the market struggles to respond in real-time." Infrastructure resilience against extreme weather is a hidden cost that cannot be ignored.

### **International Standards vs. Local Realities: Friction in Offshore Wind**

Turning to the Taiwan Strait, the development of offshore wind is a documentary of international standards

colliding with local environments. Initially, Taiwan relied heavily on European developers. However, specifications that worked in Europe faced "rejection" in Taiwan. Unlike Europe, Taiwan deals with sandy seabeds, frequent earthquakes, annual typhoons, and unique marine life.

European environmental assessments and construction methods couldn't simply be "copy-pasted." Foreign firms had to relearn the waters, modifying designs to withstand natural disasters and negotiating noise regulations for underwater piling to protect local ecology. "We must think about how to ensure wind turbine construction is safe through localization," Chien emphasized. This is the "localization friction" inevitable in cross-border tech transfer, and a necessary path for Taiwan to build its own technological strength.

### **AI vs. Energy: Optimizer or Power Hungry Monster?**

Finally, the conversation turned to Artificial Intelligence (AI). In the energy sector, AI plays a double-edged role.

On one hand, AI shows amazing optimization capabilities. It can analyze weather data to predict wind and sunlight, and use sensor data to schedule maintenance precisely, reducing downtime and expensive offshore repair costs. Tech giants like Google even use AI to dynamically shift energy-intensive computing tasks to regions where green power is abundant.

Paradoxically, AI itself is a "power-hungry



monster." Training large models and running data centers requires staggering amounts of electricity. Chien cited data showing that while global electricity consumption was around 400 TWh in 2024, it could exceed 900 billion kWh by 2030. This irony—using energy-intensive AI to find energy-saving solutions—is a new challenge for an already strained global grid.

### Conclusion: Finding Sustainable Answers in Complexity

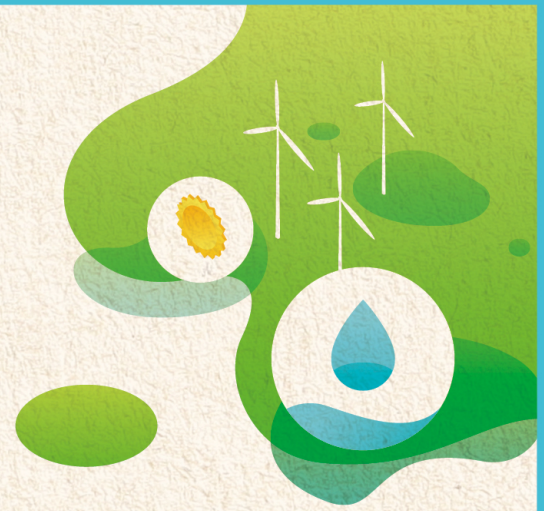
"When you encounter something new, don't push it away. Try to understand it; it might help you understand even more complex things," Professor Chien encourages students and researchers. Energy systems are never just technical issues; they are "socio-technical networks." To face future challenges, we must step out of our disciplinary comfort zones with an open mind to

understand market realities, regulatory considerations, and local contexts. Only through multidimensional, cross-border thinking can we navigate the waves of energy transition and find a course that balances efficiency, fairness, and sustainability.

The full interview will be featured on the CTM Podcast in May 2026. Stay tuned !!




Podcast






# No Place Like Home? Same-sex Marriage Legislation and the Relocation Choice of Homosexual Partners

This article is provided by Professor Ho-Po Huang of Departments of Economics



This paper on the impact of the migration decision of same-sex marriage couples accepted by *the Journal of Law and Economics* builds on by my previous research on how family law affects family behaviors. The U.S. Supreme Court ruling of *Obergefell v. Hodges* that mandates states to both license and acknowledge same-sex marriages drew my attention on the potential effects of same-sex marriage laws on the behavior of sexual minorities.

Starting from scratch, I spent about a year reviewing the literature on the legalization of same-sex marriage across different U.S. states, homosexuality, and narratives documenting the stigmatization of gay and lesbian individuals. I also examined research on how LGBT individuals have historically migrated to cities such as Chicago and San Francisco to explore and express their sexual identities. While reading numerous personal accounts of social rejection, discrimination and bullying faced by lesbian and gay individuals, I felt the pain they experienced from not being accepted by mainstream society in the past and wanted to tell a story about them using data. In particular, how the introduction of the same-sex marriage law might have altered their life choices. And I focused on their migration choice.



I learnt that some of them did not like city lives in places that are traditionally friendlier to homosexual people like San Francisco. LGBT individuals often felt that returning to their home states to rebuild family and social ties was simply out of reach. Indeed, existing studies show that





same-sex couples are significantly less likely than their heterosexual counterparts to reside near their places of birth.

One question that arose from this pattern was whether sexual minorities would be more likely to return to their home states after the legalization of same-sex marriage, particularly those with strong family ties. Perhaps the enhanced legal protections of homosexual relationships under same-sex marriage law, along with the broader social acceptance that often accompanies its legalization in one's home state, may have made this option seem more feasible?

I want to get my question answered from available data. Using data from the 2008–2021 American Community Survey (ACS), I reveal that among couples who have moved to a different state in the past 12 months, lesbian and gay couples are about 10 percentage points more likely to return to the home state of the householder when same-sex marriages are legally recognized in their birth state. Conversely, for heterosexual couples, there is no substantial evidence suggesting that their interstate migration decisions are affected by the presence of marriage equality in their home

states. These findings suggest that the legalization of same-sex marriage plays a significant role in encouraging homosexual individuals to re-establish ties with their home communities: an option that may have seemed inaccessible or undesirable in the absence of such legal recognition. The results in my paper underscore the important role that same-sex marriage laws play in shaping the mobility and life choices of same-sex couples. I believe that this prospect of returning to the state of birth, made feasible by the legal recognition of same-sex marriage, could significantly enhance the psychological well-being of homosexual individuals.

I hope my story of how I complete this paper can inspire students who are working on their own research. With curiosity, perseverance, and hard work, you can transform your initial questions into a meaningful paper, even if you begin with little prior knowledge of the subject. To me, this is also the fun part of doing empirical research. I always learn a lot about the world from exploring new subjects. I hope one day my students can also offer their insights about societies.



# With GenAI, A New Chapter in My Research Journey Opens

This article is provided by Prof. Soumya Ray



We are no longer alone as intelligent beings. Something new this way comes — not conscious, not human, but capable enough to reason, express, and persuade. It will undoubtedly become both a bionic superpower and a crutch that quietly erodes our judgment. But how to nudge ourselves toward the better path is the question to which I now pivot my research, teaching, and attention.

My work has long explored how people


think, decide, and act when technology enters the equation. But GenAI has broken the frame. These systems write back. They push back. And they are being woven, inexorably, into how we work and decide.

## To Delegate or to Resist?

When do people actually choose to collaborate with an AI agent? Our team at NTHU built a custom platform capturing every keystroke, prompt, and edit as hundreds of participants completed writing tasks alongside an embedded AI. We found people far less willing to delegate creative work than planning work — when a task feels personally meaningful, we hold on. The result is a first model of human-AI collaboration not as adoption or rejection, but as a nuanced negotiation of agency.

## When AI Pushes Back

GenAI can also persuade — advocating alternatives and adapting arguments in real time. In our second study of a workplace scenario, an OfficeBot AI behaves deferentially to some participants and authoritatively to others. Early results: brief interactions follow predictable power



dynamics, but extended dialogue flips them. Prolonged engagement may be the antidote to the dynamics we dread.

### **Unpacking the Black Box**

Both directions reveal a deeper problem: AI agents have no stable psychological identity. In settings such as healthcare and elder care, this is dangerous. So our third direction asks: can the psychometric tools, like structural equation models, that management researchers have long used to peer into the organic black box of the human brain be repurposed as the psychological architecture of AI agents?

### **A New Research Identity**

Three directions, one thread: how to be human alongside a new intelligence. The risks of GenAI are real, but so are the opportunities. We have only this brief moment to understand who our new artificial partners are and how we can coexist.

# CTM at a Glance

Written by the Office of Public Affairs

## 榮譽 Honor

Professor Po-Hsuan Hsu (QF) appointed Tsing Hua Distinguished Chair Professor

Professor Ho-Po Wong (ECON) research accepted by the Journal of Law and Economics

Professor Po-Hsuan Hsu, Tsing Hua Distinguished Chair Professor from the Department of Quantitative Finance, on receiving the 2025 E. Sun Academic Award.

Congratulations to former CTM Dean and current Vice President for Alumni Service and Resources Development, Professor Che-Chun Lin on the publication of his latest book, "DISCIPLINE - The Proven Path to Investment Success."

Congratulations to the Outstanding Alumni of the College for Academic Year 2025—Ms. Anita Lin (ECON), Chief Strategy Officer and Spokesperson of Rayleigh Vision Intelligence Co., Ltd., and Mr. Michael Wu (EMBA), Senior Vice President of Research & Development / Platform Development at TSMC.

## 活動 Events

On March 5, 2025 CTM Doctoral Research Awards Ceremony successfully held.

Award recipients:

- Chieh-Jui Ho, ISS  
Advisor: Prof. Soumya Ray
- Chin-Yu Chang, ECON  
Advisor: Prof. Shih-Chang Lin
- Tzu-Hung Lee, ILST  
Advisor: Prof. Shin-Yi Peng
- I-Ching Chen, ILST  
Advisor: Prof. Ching-Fu Lin
- Matthew Ray Bobea, ISS  
Advisor: Prof. Galit Shmueli

On March 19, Sean C. Chen, Former Premier and Chairman of the New Generation Finance Foundation, delivered a Speech titled "Seeing the Sea Through a Shell—From Trump to Stablecoins space" at the Sun Yun-Suan Lecture.

# CTM

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## E-Newsletter

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