國立清華大學第 9 屆傑出產學研究獎得獎人簡介

材料科學工程學系 葉均蔚清華講座教授

葉均蔚教授自 1995 年鑽研高熵合金（High-entropy alloys），打破自古以來合金材料以 1-2 種金屬元素為主成分的配方觀念。他定義高熵合金由五種以上主要元素組成，中熵合金由 3 至 4 種主要元素組成，他及團隊於 2004 年發表了 5 篇高熵論文後，平均每年發表 10 篇，帶動了全球高熵材料研究風潮，每年論文數呈指數性成長，他因而被譽為高熵合金之父。2016 年 5 月《Nature 》對高熵合金做專題報導，肯定高熵合金新領域及台灣發源地。

葉教授於 2018 年 1 月獲得教育部及科技部雙補助，成立世界第一個高熵材料研發中心，共 32 位教授參與九項高熵材料計畫，涵蓋特殊合金、超硬合金、超耐溫複材、耐腐蝕材料、功能性薄膜、功能性陶瓷、生醫材料及相關學理。目標為鞏固世界高熵領導地位及建立我國高熵產業。

他在高熵合金材料擁有國內外專利 10 餘項，並技術移轉高熵材料科技股份有限公司，以提供熔鑄及鍛製的高熵合金型材給相關廠家發展更具功能或關鍵性零組件如 CNC 蝸輪、無火花手工具、高彈性高爾夫球

頭、抗菌刀及砧板等，提升自主性及國際競爭力。此技轉金高達 3000 萬元，市值已增為 2.4 億元。

整體而言，葉教授任教以來，協助很多產業發展，包括惠亞、可成、亞獵士、優頻、德川、高熵等公司，技轉金超過 4,500 萬元，顯示他在學術成就外，對國內產業做出很多貢獻，影響深遠。

Professor Jien-Wei Yeh has been studying high-entropy alloys since 1995, breaking the composition concept of alloy materials with 1-2 metal elements as the main components since ancient times. He defines high-entropy alloys as composed of more than five major elements, and medium-entropy alloys as composed of 3 to 4 major elements. He and his team published first five high-entropy papers in 2004 and from then on published 10 papers per year in average. This has led to the global new research trend on high-entropy materials, the number of papers per year is growing exponentially, so he is known as the father of high-entropy alloys. In May 2016, “Nature” made a special report on high-entropy alloys, affirming the new field of high-entropy alloys and the birthplace of Taiwan.

In January 2018, Professor Yeh received a double subsidy from the Ministry of Education and the Ministry of Science and Technology to establish the world's first High Entropy Materials Center, and a total of 32 professors participated in nine high-entropy materials programs, covering special alloys, super-hard alloys, ultrahigh-temperature resistant composites, corrosion-resistant materials, functional films, functional ceramics, biomedical materials and related theories. The goal is to consolidate the world's high entropy leadership position and establish high entropy materials industry in Taiwan.

He has more than 10 domestic and foreign patents in high-entropy materials, and has transferred technology to High Entropy Materials, Inc. to provide different shapes of casting and forging high-entropy alloys for related manufacturers to produce more functional or key components such as CNC worm gears, non-sparker hand tools, super-elastic golf heads, antibacterial knives and cutting boards, etc., to enhance autonomy and international competitiveness. The transfer fee is as high as 30 million NTD, and its market value has increased to 240 million NTD.

In total, Professor Yeh has assisted many companies for industrial developments and improvements, including Vero Veria, Catcher Tech, Alex

Global, UP Scientech Materials, Deltron Machine, High Entropy Materials, with a total transfer fee exceeding 45 million NTD. This demonstrates that in addition to his academic achievements, professor Yeh has made many contributions to the domestic industries and has a far-reaching impact.