

國立清華大學第3屆傑出產學研究獎得獎人簡介



材料系周卓輝教授

周卓輝教授在薄膜應力分析、聚合物、專家系統和從事教育方面，擁有二十八年以上的豐富經驗。近二十五年來，致力於有機發光二極體(OLED)的研究，並發展類燭光可調式色溫 OLEDs、高效率低色溫OLEDs以及超高演色性OLEDs，研究團隊至今已開發了無數的高效率元件，不論是磷光還是螢光的結構，藍、綠、橘紅、黃以及白光的OLEDs皆有超越世界紀錄的輝煌成績。

自2009年起，全力著手研究低藍害、健康的創新光源與技術，包括：低色溫、超低色溫、以及不含深藍光的OLED。之後於2013年，成功發明出人類史上第一個不必燃燒碳氫的類燭光光源，此項燭光OLED研究成果，在投稿的三周內，即獲得國際著名期刊—前瞻功能材料接受刊登，並在其材料眺望網上專文刊載，以做為當(2012)年聖誕節的特輯，接著於2014年，此技術獲得國際Impact Factor排名第一的期刊-臨床醫師癌症期刊的肯定，譽為對抗乳癌罹患率攀升的有效照明方法。在2015年11月，此項類燭光OLED研究成果，先後榮獲台灣照明學會照明金質獎，與國際暗天協會照明設計獎。此外，今年9月，更在素有華人界奧斯卡設計獎美譽的光寶創新獎，獲得金賞首獎。周教授不論在培養人才方面或是創新研究方面皆執牛耳，對於台灣的產業發展與推動有著巨大的影響力，而其所發展的類燭光光源可望帶給台灣固態照明一個亮麗的未來，並為人類健康生活帶來莫大的助益。

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After working at IBM Research Center for one and half years, Prof. Jou has joined NTHU since 1988. Lately, he devotes himself to the development of healthy sources and technologies, including ultra-low color temperature and blue-hazard free LEDs and OLEDs.

In 2012, Prof. Jou invented the first candlelight OLED. The work had promptly been accepted by the renowned journal, “Advanced Functional Materials”, and promoted on the Material-View Website as a special edition for the Christmas. In 2014, this technology was recognized by Cancer Journal for Clinicians (having an impact factor of 162 in 2013-2014) and thought to be an effective intervention to reduce the threat of breast cancer. In late 2015, this candlelight OLED had been awarded a Lighting Design Award from IDA (International Dark-sky Association) and the Excellent Award of Lighting Design from Illuminating Engineering Society of Taiwan. Nearly the same time, the Ministry of Economic Affairs had granted Jou's group a 20,000,000 NTD project to enable commercialization of their technologies into customer affordable candlelight OLED panels with a joint collaboration with WiseChip.

In last September, a highest honor, the Golden Award in Technology, was awarded by Lite-on to Prof. Jou's group, indicating this health based lighting technology and products to be highly acceptable in future lighting. Jou and his group members' effort may trigger “Lighting Renaissance” soon, and rejuvenate Taiwan's lighting industry. The good light may bring to the world a better and healthy life.