國立清華大學第25屆新進人員研究獎得獎人簡介

物理學系 徐斌睿助理教授

徐斌睿老師於2017年8月加入清華大學物理系擔任助理教授。徐老師過去的研究方向專注於探索新穎量子材料中的磁性物理和量子現象以及開發特殊高解析度的顯微操控實驗技術，在該領域中已發表多篇論文於國際頂級期刊中。而近年來徐老師在清華大學所成立的研究團隊更是首先建構起在台灣第一套尖端超高真空極低溫高磁場的掃描穿隧電子顯微鏡實驗設備，並成功地實現開發自旋極化掃描穿隧實驗技術，可以用於解析新穎磁性量子材料原子尺度下的磁自旋結構。除此之外，也是台灣首先發展出超高能量解析的穿隧電子能譜，利用超導探針去量測單一顆磁性原子自旋和超導古柏對相互作用下所產生的新穎量子能態。這些世界頂級的實驗技術，也使得徐老師的研究團隊取得豐碩的研究成果，在到任清華這段時間內於國際頂級期刊包括Nature Communication，ACS Applied Matierals and Interfaces，Physical Review Letter，npj Quantum Materials和Physical Review Materials等，共10篇文章發表。而實驗室學生參予不同研究會議，也持續獲得壁報和口頭報告競賽的獎項，說明實驗室的研究成果能夠獲得廣泛肯定。近期也獲得科技部的哥倫布年輕學者計劃和台美雙邊合作型計畫，在這些長期計劃的支持下，更能去挑戰和展開更重要的研究工作和收獲更豐碩的結果。

Biography:

Prof. Hsu joined Department of Physics, National Tsing Hua University (NTHU) as an assistant professor in Aug. 2017. His research topics focus on the atomic-scale investigation of magnetism and quantum phenomena in novel quantum materials and the development of unique high-resolution scanning probe techniques. During this period in NTHU, he has built up the first ultra-high vacuum ultra-low temperature scanning tunneling microscopy/spectroscopy (STM/STS) with

high magnetic field in Taiwan, followed by realizing the experimental technique of spin-polarized STM/STS capable of resolving magnetic spin structures down to the atomic scale. Apart from that, his research team has also developed the ultra-high resolution tunneling spectroscopy by using superconducting tip to detect the intriguing quantum state from the single atomic spin interacted with superconducting Cooper pairs. With these top-notch experimental techniques, they have obtained fruitful research results and already published 10 papers at high-impact journals, including Nature Communication，ACS Applied Matierals and Interfaces，Physical Review Letter，npj Quantum Materials and Physical Review Materials etc. In addition, the students from his group also have obtained several different awards from different competitions in conferences and meetings. Recently, he also got Columbus young scholar fellowship and joined MOST-AFOSR bilateral research program. With subtaintial funding support in a long run, one can start more challening research topics and expect more abundant restuls to come in near future.