

國立清華大學第 2 屆傑出產學研究獎得獎人簡介



動機系 宋震國教授

宋教授於 1986 年獲得美國密西根州立大學機械工程博士。自同年擔任教職以來，就將目標定位在可為產業所用之基礎學理與應用技術研發。隨著台灣產業發展的變遷，宋教授的研發亦與時俱進。自 1994 年起約 8 年時間協助國內川飛、日馳、友隆、利奇四家大廠開發自行車變速器與碟式剎車，成功獲得國外 5 項發明專利、使各公司得以突破日本專利箝制順利外銷，也因此獲得教育部「大學教師與產業合作研發績效獎」。此外，與國內光陽、陸聯公司合作開發 CNC 軋齒輪創成機、大型齒輪磨床及液靜壓軸承，已獲國內外發明專利三件及技術移轉金 795 萬元。另與友達公司合作研發 roll-to-roll 大面積奈米壓印技術以製作 70 奈米線寬之金屬奈米結構偏光板，大幅提升顯示器的效率。

由於長期與上銀公司保持產學合作的關係，在上銀卓董事長與清華賀陳校長的支持下，於 103 年 5 月成立 HIWIN - 清華聯合研發中心，該中心以十年為期，每年研發經費超過 2000 萬元，在長期穩定的經費支援下，相信未來的成果應會更為豐碩。

宋教授以其在精密機械設計的專長，積極協助國內廠商開發新機器與新製程。迄今，除發表學術期刊論文 101 篇外，亦獲得專利 32 件、技術移轉 7 件。產學合作雖艱辛但也有趣，當選擇了一個自認為有產業價值的學術研究題目，便需要構思可能的應用情境，在論文發表之後仍要持續投入較長的時間於設計、實作與測試，在不同時期都須專注於每一細節，教授的投入遠遠不夠，需要學生的務實、耐心與毅力，感謝我的每一位學生。

Cheng-Kuo Sung, Ph.D.
Distinguished Professor
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Dr. Sung received his Ph.D. from the Department of Mechanical Engineering, Michigan State University, 1986. Currently, he is a distinguished professor of Power Mechanical Engineering Department, National Tsing Hua University and Director of Hiwin-Tsing Hua Joint Research Center. Dr. Sung's research spans from precision mechatronics design, machine dynamics, and more recently, nano-fabrication. His studies have covered many fundamental aspects of modeling, simulation, and experimentation of precision machine configuration and implementation. He has emphasized his efforts in conducting industrial and university collaborative research since he became a professor. Therefore, most of his research papers are strongly linked with industries. He has more than 310 publications including 32 patents and 101 journal papers in the areas of mechanical design and manufacturing.

He had initiated and led a nation-wide education program on Precision Mechatronics to foster undergraduate and graduate students over 35 ME departments in Taiwan from 1998 to 2006. As he served as the ME Program Coordinator of MOST (equivalent to NSF in USA), he initiated a so-called "A+ machine tools" program to upgrade "Precision life" of Taiwan-made machine tools. Besides, he also served as the Chairman of the International Federation for the Theory of Machines and Mechanisms, China-Taipei; Technical Advisor of Ministry of Economic Affairs; Associate editor of ASME Journal of Vibration and Acoustics.