

## Curriculum Vitae of Professor Jyh-Horng Chou (周至宏教授簡歷)

(Updated on September 15, 2018)

智慧製造/工業 4.0/智慧機械(Smart Manufacturing、Industry 4.0、Smart Machinery)的軟體核心技術是人工智慧/計算智慧(Artificial Intelligence (AI)、Computational Intelligence (CI))，優化技術(Optimization)則是人工智慧/計算智慧的重要基石。周至宏教授長期致力於人工智慧/計算智慧(AI/CI)領域中之重要基石－「進化優化演算法(Evolutionary Optimization)」的研究工作。周至宏教授以協助和指導台灣傳統產業與中小企業，研發智慧製造技術及培育智慧製造人才，作為其志業與研究重心。周教授應用所研發之前瞻進化優化演算法(AEO, Advanced Evolutionary Optimization)技術，並結合其他之人工智慧/計算智慧技術，協助台灣傳統產業與中小企業之"智慧製造技術"研發(包括：技術授權/技術移轉)的成功創新績效及產業技術突破等貢獻，深獲國際肯定與矚目，因而榮獲美國 IEEE Computational Intelligence Society (IEEE CIS) Industry Liaison Committee 極高評價(Highest Rank)的 Winner；因此，美國 IEEE Computational Intelligence Society 在 2014 年 6 月起迄今(2018 年 9 月)期間，於其 Website 開闢 Industry News and Success Stories 專欄，特別報導周教授帶領研究團隊在台灣產業之"智慧製造技術"研發創新績效及產業技術突破的 Industrial Success Story。在 IEEE CIS 的 Industry News and Success Stories 專欄公布期間，周教授是『全球第一位』膺獲美國 IEEE CIS Website 的專欄，特別報導其產業"智慧製造技術"研發成功績效的學者；周教授也是『國際上唯一』膺獲美國 IEEE CIS Website 的專欄，特別報導其產業"智慧製造技術"研發成功績效的學者。周至宏教授已大幅提升台灣於 Computational Intelligence、Smart Manufacturing 領域之國際能見度；也足見周教授之研發成果，深具學術創新價值與產業實務貢獻，並已顯著建立其國際學術地位、及具國際影響力。

周教授在 AEO 領域之持續深化研究及智慧製造應用等的成果，具學術理論上/產業技術上之創新、價值、與貢獻，以及對 AEO 領域之學術與技術發展的傑出衝擊貢獻，深獲學術界之肯定，榮獲科技部/國科會傑出研究獎、科技部特約研究人員主持特約研究計畫、東元科技文教基金會東元獎、IEEE Outstanding Technical Achievement Award、美國 IEEE Fellow、英國 IET Fellow、中國機械工程學會會士(CSME Fellow)、中華民國自動化科技學會會士(CIAE Fellow)、中華民國自動控制學會會士(CACS Fellow)等重要獎項與榮譽。周教授在前瞻進化優化演算法的開創性研究，深獲國際電機電子工程師學會(IEEE)的肯定，榮獲聘任為 IEEE Fellow 評審委員，及榮獲聘任為 IEEE Computational Intelligence Society (IEEE CIS)之 IEEE Fellow 委員會委員(IEEE Fellow Committee Member)。

依據 IEEE Xplore 及 Thomson Reuters ISI Web of Science 資料庫顯示：周教授是國際學者專家中第一位(pioneer)提出結合品質工程法和進化優化演算法之同時具有全域搜尋能力與系統性推算能力的前瞻進化優化演算法的學者。周至宏教授之 AEO 的學理創新研究成果，有效解決全球該領域之學者專家所遭遇之最大困難問題："進化最佳化演算法常遭遇每次所搜尋之解都不一致的問題(Solution Robustness Problem)"。周教授所提出之 AEO 研究成果，因具學術上之創新突破性，所以被全球學術界廣為引用，並成為後續之重要研究課題；因

此，依據 Thomson Reuters ISI Web of Knowledge, Essential Science Indicators 資料庫近幾年來之每兩個月一次的統計報告記錄資料，周教授已有 4 篇 AEO 方面的 SCI 期刊論文被選列為"高度被引用論文(Highly Cited Papers)"(論文分別在工程及電腦科學領域中被引用次數的排名在全球 Top 1%)，其中 2 篇 SCI 期刊論文也被選列為 Top Papers，以及被列為世界 Research Fronts 之一；也曾被 Thomson Reuters ISI Web of Knowledge, Essential Science Indicators 資料庫，選列為"被引用次數最多的科學家(Most Cited Scientists)"之一。另外，1 篇 SCI 期刊論文也被 Elsevier 的 Science Direct 選列為"前 25 篇最熱門 Computers & Operations Research 文章中的第一名"(First Place on Top 25 Hottest Articles)。國際著名出版公司 Springer 於 2015 年出版之書籍"Recent Advances in Swarm Intelligence and Evolutionary Computation"中，評論周教授之研發成果為最受全球學者專家青睞的 Popular Hybrid Algorithms 之一，並名列 Popular Hybrid Algorithms 的第一名。

周教授在智慧製造領域之學術研究著作成果，深具學術創新價值與產業實務貢獻，因此，於 2015 年膺獲台灣學術界之重要榮譽獎項—中山學術文化基金會中山學術獎。周教授因協助產業的"智慧製造技術"研發成果績效深獲肯定、對台灣產業的技術發展貢獻卓著，榮獲中國工程師學會傑出工程教授獎、中國機械工程學會傑出工程教授獎、中國電機工程學會傑出電機工程教授獎、中華民國系統學會傑出貢獻獎、...等多類獎項和榮譽。周教授帶領研究團隊在產學合作成果績效優異，也深獲科技部工程科技推展中心的肯定，榮獲科技部工程科技通訊雙月刊報導產學合作研發成果，以及榮獲被遴選推薦為代表科技部的參展團隊之一，代表科技部在台灣智慧自動化與機器人展中展示與推廣學術界之亮眼且創新的產學合作研發成果。

#### **Personal Data**

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#### **Educational Background**

- Ph.D. (1988), Institute of Mechatronic Engineering (Major in Systems and Control), National Sun Yat-Sen University, Kaohsiung, Taiwan (September 1986 to December 1988).
- M.S. (1983), Institute of Engineering Science (Major in Information and Control), National Cheng-Kung University, Tainan, Taiwan (September 1981 to June 1983).
- B.S. (1981), Department of Engineering Science (Major in Information and Control), National Cheng-Kung University, Tainan, Taiwan (September 1977 to June 1981).

## **Career Experiences**

- Chair Professor, Department of Electrical Engineering (February 2018 to present), National Kaohsiung University of Science and Technology, Taiwan. (國立高雄科技大學 第一屆講座教授)
- Chair Professor, Department of Electrical Engineering (August 2012 to January 2018), National Kaohsiung University of Applied Sciences, Taiwan. (國立高雄應用科技大學 第一屆講座教授)(2018年2月起，國立高雄應用科技大學、國立高雄第一科技大學、國立高雄海洋科技大學三校合併為國立高雄科技大學)
- Adjunct Chair Professor, Institute of Electrical Engineering (August 2017 to January 2018), National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 合聘講座教授)(2018年2月起，國立高雄應用科技大學、國立高雄第一科技大學、國立高雄海洋科技大學三校合併為國立高雄科技大學)
- Co-Principal Investigator, Intelligent Manufacturing Research Center (January 2018 to present), National Cheng Kung University, Taiwan. (國立成功大學智慧製造研究中心 共同主持人)
- Adjunct Chair Professor, Advanced Institute of Manufacturing with High-Tech Innovations (August 2017 to present), National Chung Cheng University, Taiwan. (國立中正大學 合聘講座教授)
- Distinguished Chair Professor, College of Engineering (January 2016 to present), Feng-Chia University, Taiwan. (逢甲大學 特約講座教授)
- Adjunct Chair Professor, Department of Healthcare Administration and Medical Informatics (August 2015 to present), Kaohsiung Medical University, Taiwan. (高雄醫學大學 合聘講座教授)
- Distinguished Research Consultant, Smart Microsystems Technology Center, Industrial Technology Research Institute (August 2014 to present), Taiwan. (工業技術研究院智慧微系統科技中心 特聘研究顧問)
- Distinguished Research Consultant, Smart Machinery Technology Center, Industrial Technology Research Institute (January 2018 to present), Taiwan. (工業技術研究院智慧機械科技中心 特聘研究顧問)
- Consultant, Precision Machinery Research and Development Center (January 2018 to present), Taiwan. (精密機械研究發展中心 顧問)
- Consultant, Metal Industries Research and Development Centre (January 2018 to present), Taiwan. (金屬工業研究發展中心 顧問)
- Consultant, Digital Service Innovation Institute, Institute of Information Industry (September 2018 to present), Taiwan. (資訊工業策進會數位服務創新研究所 顧問)
- Consultant, Smart Manufacturing Data Value-Added Alliance, Ministry of Economy (August 2017 to December 2020), Taiwan. (經濟部智慧製造聯網數據加值產業聯盟 顧問)
- Co-Convener, Artificial Intelligence Industry and Academia Alliance (December 2018 to present), National Applied Research Laboratories, Taiwan. (國家實驗研究院人工智慧產學研聯盟 共同召集人)
- Convener, Automation Program (January 2013 to December 2015), Department of Engineering and Technologies, Ministry of Science and Technology, Taiwan. (行政院科技部工程技術研究發展司自動化學門 召集人)
- Convener, Electromechanical Engineering and Energy Field, Project on the Promotion and Planning of Industry-University Cooperation (January 2018 to December 2020), Department of Engineering and Technologies, Ministry of Science and Technology, Taiwan. (行政院科技部工程技術研究發展司產學合作研究規劃推動計畫—機電能源領域 召集人)

- Convener, Special Project on the Advanced Control Technology and Value-Added Software Development of Single Machine or Cell (June 2017 to May 2020), Department of Engineering and Technologies, Ministry of Science and Technology, Taiwan. (行政院科技部工程技術研究發展司「單機設備或單元智能控制系統前瞻技術及加值軟體研發專案計畫」規劃與推動之專案計畫 召集人)
- Convener, Special Project on the Advanced Technology and Value-Added Software Development of Machine Tool Control Systems (November 2013 to October 2016), Department of Engineering and Technologies, Ministry of Science and Technology, Taiwan. (行政院科技部工程技術研究發展司「工具機控制系統自主化前瞻技術與加值軟體研發」規劃與推動之專案計畫 召集人)
- Co-Convener, Special Project on the Industrial Fundamental Technologies (January 2015 to December 2017), Department of Engineering and Technologies, Ministry of Science and Technology, Taiwan. (行政院科技部工程技術研究發展司「深耕工業基礎技術」規劃與推動之專案計畫 共同召集人)
- Co-Convener, Special Project on the Advanced/Smart Manufacturing Technologies (May 2015 to April 2017), Department of Engineering and Technologies, Ministry of Science and Technology, Taiwan. (行政院科技部工程技術研究發展司「先進製造技術/智慧製造技術」規劃與推動之專案計畫 共同召集人)
- Vice President, (August 2016 to July 2017), National Kaohsiung University of Applied Sciences, Taiwan. (國立高雄應用科技大學 副校長)
- Distinguished Professor, Institute of Electrical Engineering as well as Department of Mechanical and Automation Engineering (January 2011 to July 2016), National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 第一屆特聘教授)
- Vice President, and Professor of Electrical Engineering Department (March 2010 to July 2012), National Kaohsiung University of Applied Sciences, Taiwan. (國立高雄應用科技大學 教授、副校長)
- Professor, Institute of System Information and Control (August 2003 to December 2010) as well as Department of Mechanical and Automation Engineering (August 1999 to December 2010), National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 教授；申請創設國立高雄第一科技大學資訊與控制研究所碩士班、及申請創設國立高雄第一科技大學光電工程研究所碩士班)
- Acting President (August 2009 to February 2010) and Vice President (January 2006 to February 2010), National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 副校長、代理校長)
- Chairman of Engineering Science and Technology Institute (October 2004 to July 2006), National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 工程科技研究所所長；申請創設國立高雄第一科技大學工程科技研究所博士班)
- Dean of Engineering College (October 2004 to December 2005), National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 工學院院長)
- Chairman of Mechanical and Automation Engineering Department (August 1999 to September 2004), National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 機械與自動化工程系系主任)
- Chairman and Professor of Mechanical Engineering Department (August 1991 to July 1999), National Yunlin University of Science and Technology, Taiwan. (國立雲林科技大學 教授、機械工程系系主任；應邀參與國立雲林科技大學之創校工作)
- Director of Automation Technology Center, and Associate Professor of Mechanical Engineering Department (February 1989 to July 1991), National

Kaohsiung Institute of Technology, Taiwan. (國立高雄工專 副教授、自動化中心主任；創辦國立高雄工專自動化中心；國立高雄工專是國立高雄應用科技大學之前身)

- Associate Professor of Electrical Engineering Department (August 1986 to January 1989), Yang-Ta Institute of Technology, Taiwan. (永達工專 副教授；應邀至永達工專協助校長規劃教育部之專科評鑑工作)
- Instructor of Mechanical Engineering Department (August 1984 to July 1986), National Sun Yat-Sen University, Taiwan. (國立中山大學 講師；應邀參與國立中山大學機械系之創辦工作)
- Instructor of Mechanical Engineering Department (August 1983 to July 1984), National Kaohsiung Institute of Technology, Taiwan. (國立高雄工專 講師；教育部培育專科師資獎學金分發至國立高雄工專服務；國立高雄工專是國立高雄應用科技大學之前身)

### **Honors and Awards**

- Selected as one of the “**Most Cited Scientists**” (被引用次數最多的科學家) in the Engineering Field by the Thomson Reuters ISI Web of Knowledge, Essential Science Indicators from January 2006 to present. Also selected as one of the “**Most Cited Scientists**” (被引用次數最多的科學家) in the Computer Science Field by the Thomson Reuters ISI Web of Knowledge, Essential Science Indicators from March 2014 to October 2014. This list consists of the **Top 1% most cited researchers** in the Engineering and in the Computer Science, respectively, during the last 10 years based on citations received for indexed journal papers.
- Based on the evaluation of **IEEE Computational Intelligence Society (IEEE CIS)**, Professor Jyh-Horng Chou’s **the Research Accomplishments and the Industrial Success Story have got the winner of highest rank**, thus being selected to **become (2014 to present) the only internationally Industrial Success Story being promulgated in the IEEE CIS website, also the first Industrial-Success-Story to be reported in the IEEE CIS website.** (周教授帶領研究團隊協助台灣傳統產業及中小企業研發的成功創新事蹟及產業技術突破之貢獻 (Industrial Application Success Story) 等優質績效，深獲國際肯定與矚目，因而榮獲美國 **IEEE Computational Intelligence Society (IEEE CIS)** 極高評價 (Highest Rank) 的 Winner；美國 **IEEE Computational Intelligence Society** 於其 Website 開闢專欄，特別報導周教授帶領研究團隊在台灣產業的研發績效及產業技術突破的 **Industrial Success Story**。周教授是「全球第一位」、也是「到目前為止之國際上唯一」膺獲美國 **IEEE CIS Website** 開闢專欄，特別報導其學術研究成果及研發績效的學者，大幅提升台灣之國際能見度；也足見周教授之研發成果，深具學術創新價值與產業實務貢獻，並已顯著建立其國際學術地位、並具國際影響力。) (請參考 IEEE 網站 <http://cis.ieee.org/industry-news-success-stories.html>)
- **IET Fellow**, Institution of Engineering and Technology (**IET**, U.K.) (英國工程技術學會會士)
- **IEEE Fellow**, Institute of Electrical and Electronics Engineers (**IEEE**, U.S.A.) (For contributions to hybrid evolutionary optimization approaches for industrial applications) (國際電機電子工程師學會會士)
- **CACS Fellow**, Chinese Automatic Control Society (**CACS**, Taiwan) (中華民國自動控制學會會士)
- **CSME Fellow**, Chinese Society of Mechanical Engineers (**CSME**, Taiwan) (中國機械工程學會會士)
- **CIAE Fellow**, Chinese Institute of Automation Engineers (**CIAE**, Taiwan) (中華民國自動化科技學會會士)

- **MOST Merit Research Fellow** (August 2018 to July 2021) from the Ministry of Science and Technology (MOST), Taiwan. (科技部 2018 年 8 月至 2021 年 7 月特約研究人員)
- **Distinguished Research Award** (August 2011 to July 2014, August 2014 to July 2017) from the Ministry of Science and Technology (National Science Council), Taiwan. (科技部/國科會 2011 年 8 月至 2014 年 7 月、2014 年 8 月至 2017 年 7 月傑出研究獎)
- **2018 TECO Award** from the TECO Technology Foundation. (東元科技文教基金會 2018 年東元獎)
- **2015 Academic Award** from the Sun Yat-Sen Academic and Cultural Foundation. (中山學術文化基金會 2015 年中山學術獎)
- **Recipient of the Research Award, and Outstanding Research Award** from the National Science Council, Taiwan, twelve times. (國科會之研究獎、優等研究獎等共 12 次)
- **2015 Distinguished Academic Contribution Award** from the Taiwan Association Systems Science and Engineering, Taiwan. (中華民國系統學會 2015 年傑出學術貢獻獎)
- **2013 Distinguished Engineering Professor Award** from the Chinese Institute of Engineers, Taiwan. (中國工程師學會 2013 年傑出工程教授獎)
- **2012 IEEE Outstanding Technical Achievement Award** from the IEEE Southern Taiwan Section, Taiwan. (國際電機電子工程師學會南台灣分會 2012 年優異科技成就獎)
- **2011 Distinguished Automatic Control Engineering Award** from the Chinese Automatic Control Society, Taiwan. (中華民國自動控制學會 2011 年傑出自動控制工程獎)
- **2010 Distinguished Engineering Professor Award** from the Chinese Society of Mechanical Engineers, Taiwan. (中國機械工程學會 2010 年傑出工程教授獎)
- **2010 Distinguished Engineering Professor Award** from the Chinese Institute of Engineers, Kaohsiung Chapter, Taiwan. (中國工程師學會高雄市分會 2010 年傑出工程教授獎)
- **2007 Distinguished Electrical Engineering Professor Award** from the Chinese Institute of Electrical Engineering, Taiwan. (中國電機工程學會 2007 年傑出電機工程教授獎)
- **2016 to 2018 IEEE Fellow Evaluation Committee Member of IEEE Computational Intelligence Society** (2016 年至 2018 年榮獲聘任為 IEEE Computational Intelligence Society (CIS)之 IEEE Fellow 評審委員)
- **2016 to 2017 IEEE Fellow Committee Member of IEEE Computational Intelligence Society** (2016 年至 2017 年榮獲聘任為 IEEE Computational Intelligence Society (CIS)之 IEEE Fellow 委員會委員)
- **2007 Outstanding Educator Award** from the Ministry of Education, Taiwan. (教育部 2007 年優秀教育人員獎)
- **2017 Albert Nelson Marquis Lifetime Achievement Award**, Marquis Who's Who, U.S.A. (2017 Albert Nelson Marquis 終身研究成就獎)
- **2014, 2015 and 2017 Outstanding Associate Editor Award** of the International Journal of Automation and Computing (Springer International Publisher). (Springer 發行之國際期刊 International Journal of Automation and Computing 的 2014 年、2015 年、及 2017 年優秀副編輯獎)
- One paper (published in the IEEE Transactions on Evolutionary Computation, Vol.8, pp.365-377, 2004) has been selected to be one of the **“Highly Cited Papers”** (高度被引用論文) by the Thomson Reuters ISI Web of Knowledge,

Essential Science Indicators from January 2008 to April 2015; also was selected to be one of the **“Research Fronts”** (世界研究前沿) by the Thomson Reuters ISI Web of Knowledge, Essential Science Indicators in 2010, and selected to be one of the **“Top Papers”** (頂端論文) by the Thomson Reuters ISI Web of Knowledge, Essential Science Indicators from 2011 to 2015.

- One paper (published in the IEEE Transactions on Neural Networks, Vol.17, pp.69-80, 2006) has been selected to be one of the **“Highly Cited Papers”** (高度被引用論文) by the Thomson Reuters ISI Web of Knowledge, Essential Science Indicators from January 2011 to December 2016; also was selected to be one of the **“Top Papers”** (頂端論文) by the Thomson Reuters ISI Web of Knowledge, Essential Science Indicators in 2016.
- One paper (published in the Nonlinear Dynamics, Vol.61, pp.29-41, 2010) has been selected to be one of the **“Highly Cited Papers”** (高度被引用論文) by the Thomson Reuters ISI Web of Knowledge, Essential Science Indicators from September 2013 to June 2014.
- One paper (published in the International Journal of Innovative Computing, Information and Control, Vol.8, pp.403-413, 2012) has been selected to be one of the **“Highly Cited Papers”** (高度被引用論文) by the Thomson Reuters ISI Web of Knowledge, Essential Science Indicators from September 2013 to June 2014; also has been selected to be one of the **“Research Fronts”** (世界研究前沿) by the Thomson Reuters ISI Web of Knowledge, Essential Science Indicators from September 2013 to June 2014.
- One paper (published in the Computers & Operations Research, Vol.40, pp.3045-3055, 2013) has been ranked to be the **First Place on Top 25 Hottest Articles** (在最熱門的前 25 強文章中名列第一名) in the Computers & Operations Research, from July to September 2014; also has been selected to be one of the Top 25 Most Downloaded Computers & Operations Research Articles, from July 2013 to December 2014 and from April to December 2015.
- One paper (published in the Journal of the Franklin Institute, Vol.346, pp.253-266, 2009) has been selected to be one of the **Top 25 Hottest Articles** (最熱門的前 25 強文章之一) in the Journal of the Franklin Institute, from January to June 2009.
- One paper (published in the Journal of Vibration and Control, Vol.17, pp.223-234, 2011) has been selected to be one of the **“Most-Cited Articles”** (最常被引用的論文) in the Journal of Vibration and Control from December 2012 to July 2016.
- One paper (published in the Journal of Vibration and Control, Vol.4, pp.167-185, 1998) was selected to be one of the **“Most-Cited Articles”** (最常被引用的論文) in the Journal of Vibration and Control from January 2007 to March 2012.
- One paper (published in the IEEE Transactions on Industrial Electronics, Vol.53, pp.867-879, 2006) was selected to be one of the **“Most Cited TIE 2006 Papers”** (TIE 2006 被引用次數最多的論文) in the IEEE Transactions on Industrial Electronics.
- **2017 First Prize Paper Award** of the 2017 IEEE International Conference on Applied System Innovation, Japan. (IEEE 2017 年國際應用系統創新研討會第一名論文獎)
- **2016 Best Conference Paper Award** of the 2016 IEEE International Conference on Applied System Innovation, Japan. (IEEE 2016 年國際應用系統創新研討會最佳會議論文獎)
- **2016 Best Paper Award** of the Joint Conference of the 2016 Conference on Applications of Innovation & Invention and the 24th Conference on Fuzzy Theory

and Its Applications, Taiwan. (2016年創新發明應用研討會暨第二十四屆模糊理論及其應用研討會最佳論文獎)

- 2016 **Best Conference Paper Award** of the Fifth International Conference on Innovation, Communication and Engineering, China. (2016年國際第五屆創新、通訊及工程研討會最佳會議論文獎)
- 2006 **Best Paper Award** of the 2006 Conference on Artificial Intelligence and Applications, Taiwan. (中華民國人工智慧學會 2006年人工智慧與應用研討會最佳論文獎)
- 2009 Distinguished Alumnus Award from the National Sun Yat-Sen University, Taiwan. (國立中山大學 2009年學術卓越類傑出校友獎)
- 2005 Distinguished Achievement Alumnus Award from the Engineering Science Department at National Cheng-Kung University, Taiwan. (國立成功大學工程科學系 2005年系友傑出成就獎)
- 2015 Outstanding Research Accomplishment Poster Award from the Automation Program of the Ministry of Science and Technology, Taiwan. (2015年科技部自動化學門研究計畫成果發表會優秀成果海報獎)
- 2007 Outstanding Research Accomplishment Poster Award from the Control Engineering Program of the National Science Council, Taiwan. (2007年國科會控制學門研究計畫成果發表會優良成果海報獎)
- 2003 Outstanding Project Accomplishment Award of the Educational Promotion Project on the Integrated Manufacturing and e-Commerce Technology from the Ministry of Education, Taiwan. (教育部 2003年製商整合科技教育成果績效優良獎)
- 1998 Golden-Pen Paper Award from the Machinery Monthly Press, Taiwan. (機械月刊 1998年金筆佳作獎)
- Due to the academic special contribution, Professor Chou's academic achievements were reported in the Sci-Tech Vista of Ministry of Science and Technology, Taiwan, in 2016. (周至宏教授在學術上之特殊貢獻深獲科技部肯定，榮獲科技部於 2016 年之「科技大觀園網站」作專訪報導)
- According to the book entitled "Recent Advances in Swarm Intelligence and Evolutionary Computation" published by Springer in 2015, the Hybrid Taguchi-Genetic Algorithm (HTGA), proposed by Professor Jyh-Horng Chou, was ranked as the first in the popular hybrid metaheuristic algorithms, which have been published in the literature. (國際著名出版公司 Springer 於 2015 年出版之書籍"Recent Advances in Swarm Intelligence and Evolutionary Computation"中提到目前全球在 Hybrid Metaheuristic Algorithms 之已研發的成果，當中有二個研發成果為最受全球學者專家青睞的 Popular Hybrid Algorithms 並且效果最為優異，其中之一就是周教授帶領的研究團隊所研發之 Hybrid Taguchi-Genetic Algorithm (HTGA)；HTGA 名列 Popular Hybrid Algorithms 之第一名)
- According to the Email from Prof. Gregory S. Patience (Canada Research Chair at Polytechnique Montreal), Professor Chou's one paper (published in the Nonlinear Dynamics, Vol.61, pp.29-41, 2010) was ranked 337 out of 75736 articles (published between 2010 to 2014) in the category Engineering Mechanical by the Thomson Reuters ISI Web of Science. (加拿大 Polytechnique Montreal 的 Canada Research Chair—Prof. Gregory S. Patience 於 2017 年 10 月 20 日來函通知，周教授一篇發表於 Nonlinear Dynamics 的期刊論文被 Thomson Reuters ISI Web of Science 列為 2010 年至 2014 年期間全球發表之工程機械類期刊論文，其引用數排名在前 0.44% (ranked 337 out of 75736 articles))
- Industry-academia collaboration research accomplishments were selected for being reported in the Engineering Science and Technology Bulletin of Ministry of Science and Technology, Taiwan, in August 2014. (周至宏教授帶領研究團隊之產學



合作成果績效優異，深獲科技部工程科技推展中心的肯定，榮獲工程科技通訊雙月刊於 2014 年 8 月報導產學合作研發成果)

- Research accomplishments on the “Hybrid Evolutionary Optimization” and the “Evolutionary Multiobjective Computation” were selected, respectively, for inclusion in the **2009 and 2012 Science and Technology Yearbook of Taiwan** as one of the important academic achievements of National Science Council of Taiwan. (在混合式進化最佳化演算法之研發與應用以及演化式多目標計算方法的應用研發等領域的研究成果，由於學術價值與產業應用等績效優異，分別被推薦列為 2009 年及 2012 年中華民國科學技術年鑑(*Science and Technology Yearbook*)中之國科會工程處的重要學術成就之一)
- Forty-six academic papers have been selected to be "Your Research is in the Spotlight" by the ResearchGate. (已有 46 篇學術論文被 ResearchGate 評選為 "Your Research is in the Spotlight")
- For contributions to Intelligent Automation and its Applications, invited by the Chinese Institute of Automation Engineers Magazine to write the “Applications of Intelligent Evolutionary Computation to the Optimal Design of Automation Systems” Feature Article in March 2011. (在智慧型自動化領域的產業應用成果績效優異，中華民國自動化科技學會會刊邀請周至宏教授撰寫 "智慧進化演算技術於自動化系統之最佳化設計應用" 專題文章)
- The Work “A Novel EBike Using Force-Sensorless Power Assist Control” won the Silver Medal Award of the Poster Competition of the 2012 International Innovation and Invention Conference, Taiwan. ("具無力感測電助力功能之新型電動自行車" 作品獲得 2012 年第三屆國際創新發明大會海報競賽銀牌獎)
- 2012 and 2014 Highly-Cited Papers Awards, National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 2012 年及 2014 年論文高度被引用獎)
- 2011, 2013 and 2015 Outstanding Teaching Performance Award from the National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 2011 年、2013 年及 2015 年教學成效優異獎)
- 2011 Distinguished Engineering Contribution Award from the National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 2011 年傑出工程貢獻獎)
- 2005, 2008 and 2011 Distinguished Research Awards from the National Kaohsiung First University of Science and Technology, Taiwan. (國立高雄第一科技大學 2005 年、2008 年及 2011 年學術研究傑出獎)
- 2018 Faculty Advisor of graduate student Po-Yuan Yang winning the Fine Paper Award in the 2018 SPINTECH Technology Paper Competition organized by the National Chung-Hsing University, Taiwan, Paper Title: “Development of the Prediction System for Stamping Iron Loss of Motor Steel Sheet”. (指導博士班研究生楊柏遠先生的論文「馬達矽鋼片沖壓鐵損劣化預測系統之開發」榮獲 2018 年旭泰科技論文獎競賽佳作獎)
- 2017 Faculty Advisor of graduate students Po-Yuan Yang and Yan-Jie Huang winning the Fine Paper Award in the 2017 Low Voltage Smart Meter Big Data Analysis Competition organized by the Bureau of Energy (Ministry of Economic Affairs) and Industrial Technology Research Institute, Taiwan, Competition Paper Title: “Research on Intelligent Modeling for Analysis and Forecasting of Energy-used of Low Voltage User”. (指導研究生楊柏遠先生、黃彥傑先生的論文「智慧型建模於低電壓用戶用電量分析與預測之研究」榮獲 2017 年經濟部能源局及工業技術研究院共同舉辦之「低壓智慧電表大數據分析競賽」的佳作獎)
- 2016 Faculty Advisor of graduate student Chorng-Tyan Lin winning the Fine Paper Award in the 2016 SPINTECH Technology Paper Competition organized

by the National Chung-Hsing University, Taiwan, Paper Title: “Applications of Industry 4.0 Modelling and Optimization to Exposure Machine System”. (指導博士班研究生林崇田先生的論文「工業 4.0 建模與優化技術於微影製程曝光機之應用」榮獲 2016 年旭泰科技論文獎競賽佳作獎)

- 2016 Faculty Advisor of the Fine Master Thesis Award from the Taiwan Fuzzy Systems Association, Taiwan, Thesis Title: “Optimal Design for System Parameters by Uniform Design Method” by Yan-Rou Cai (Master Student). (指導蔡彥柔小姐的碩士論文「均勻設計法於最佳化系統參數實驗設計之應用」榮獲 2016 年中華民國模糊學會碩士論文佳作獎)
- 2015 Faculty Advisor of graduate student Ping-Yi Chou winning the Second Prize Award in the Best Student Paper Competition from the 2015 International Conference on Fuzzy Theory and Its Applications, Taiwan, Paper Title: “Adaptive Neuro-Fuzzy Inference System with Evolutionary Algorithm for Designing Process Parameters of Color Filter”. (指導博士班研究生周秉毅先生的論文「結合進化演算法與適應神經模糊推論系統於彩色濾波器之製程參數設計」榮獲 2015 年國際模糊理論及其應用研討會之最佳學生論文獎競賽第二名)
- 2015 Faculty Advisor of graduate student Ping-Yi Chou winning the Fine Paper Award in the 2015 SPINTECH Technology Paper Competition organized by the National Chung-Hsing University, Taiwan, Paper Title: “Optimization of Process Parameters of Color Filter by using Improved Particle Swarm Optimization Approach”. (指導博士班研究生周秉毅先生的論文「改良式粒子群演算法應用於彩色濾光片製程參數最佳化」榮獲 2015 年旭泰科技論文獎競賽佳作獎)
- 2015 Faculty Advisor of the Special Outstanding Doctorial Dissertation Award from the Taiwan Fuzzy Systems Association, Taiwan, Dissertation Title: “Intelligent Optimal Production Scheduling of Fastener Manufacturing Industry” by Yeh-Peng Chen (Doctoral Student). (指導陳業鵬先生的博士論文「扣件製造之生產排程的智慧最佳化規劃」榮獲 2015 年中華民國模糊學會特優博士論文獎)
- 2015 Faculty Advisor of the Fine Doctorial Dissertation Award from the Chinese Society of Mechanical Engineers, Taiwan, Dissertation Title: “Intelligent Optimal Production Scheduling of Fastener Manufacturing Industry” by Yeh-Peng Chen (Doctoral Student). (指導陳業鵬先生的博士論文「扣件製造之生產排程的智慧最佳化規劃」榮獲 2015 年中國機械工程學會博士論文佳作獎)
- 2015 Faculty Advisor of the Fine Master Thesis Award from the Chinese Automatic Control Society, Taiwan, Thesis Title: “Optimal Parameter Design of Excitation Synchronous Wing Power Generators with Maximum Power Tracking Scheme Using the Taguchi method” by Yu-Hsiang Chen (Master Student). (指導陳宇祥先生的碩士論文「田口方法應用於激磁同步風力發電機最大功率追蹤策略之最佳參數設計」榮獲 2015 年中華民國自動控制學會碩士論文佳作獎)
- 2014 **Faculty Advisor of graduate students team** Ping-Yi Chou, Jing-Hsien Yang, Shang-Yuan Sun, Yu-Hsiang Chen and Chun-Kai Cheng winning the **First Prize Award of Industry-Academia Collaboration Award from the International ICT Innovative Services Contest** organized by the Industrial Development Bureau of Ministry of Economic Affairs, Taiwan. (指導碩博士班研究生團隊周秉毅先生、楊京憲先生、孫上原先生、陳宇祥先生與鄭駿凱先生之產學合作專題「客製化商品銷售自動化系統」榮獲 2014 年經濟部工業局第十九屆全國大專校院資訊應用服務創新競賽之產學合作組第一名)
- 2014 Faculty Advisor of graduate student Cheng-Chung Chiu winning the Third Prize Award in the Best Student Paper Competition from the 22th National Conference on Fuzzy Theory and Its Applications, Taiwan, Paper Title: “Study on the Parameters Optimization of Semiconductor Wire Bonding Process”. (指導碩士

班研究生邱政中先生的論文「半導體封裝錫線製程參數最佳化之研究」榮獲 2014 年中華民國第二十二屆模糊理論及其應用研討會之最佳學生論文獎競賽第三名)

- 2014 Faculty Advisor of the Fine Master Thesis Award from the Chinese Society of Mechanical Engineers, Taiwan, Thesis Title: “Temperature Control Improvement of Industrial Oven by Using Fuzzy Control Method” by Ming-Wei Chung (Master Student). (指導鍾明洧先生的碩士論文「應用模糊方法改善工業用烤箱之溫度控制」榮獲 2014 年中國機械工程學會碩士論文佳作獎)
- 2014 Faculty Advisor of the Fine Master Thesis Award from the Chinese Automatic Control Society, Taiwan, Thesis Title: “Study on the Controllability of Particle Swarm Optimization Algorithm and Its Applications” by Chien-Cheng Lin (Master Student). (指導林建丞先生的碩士論文「粒子群演算法之可控制性研究及其應用」榮獲 2014 年中華民國自動控制學會碩士論文佳作獎)
- 2014 Faculty Advisor of the Fine Master Thesis Award from the Taiwan Institute of Electrical and Electronic Engineering, Taiwan, Thesis Title: “Improvement of Energy-Efficiency for the Reciprocating Air Compressors by using Intelligent Variable Frequency Technology” by Pin-Hsuan Hsieh (Master Student). (指導謝秉軒先生的碩士論文「運用智慧型變頻技術於往復式空壓系統節能改善之研究」榮獲 2014 年台灣電機電子工程學會碩士論文佳作獎)
- 2013 Faculty Advisor of the Fine Doctorial Dissertation Award from the Taiwan Fuzzy Systems Association, Taiwan, Dissertation Title: “Soft Computing Approach for Predicting Survival of Patients with Esophageal Cancer” by Chang-Yu Wang (Doctoral Student). (指導汪昶佑先生的博士論文「軟性計算法在食道癌存活預測之應用研究」榮獲 2013 年中華民國模糊學會博士論文佳作獎)
- 2012 Faculty Advisor of the Outstanding HIWIN Doctorial Dissertation Award from the Chinese Mechanical Engineering Society, China, Dissertation Title: “Engineering Optimization Using Improved Differential Evolution Algorithms” by Kuo-Ming Lee (Doctoral Student). (指導李國銘先生的博士論文「微分進化演算法於工程最佳化之應用」榮獲 2012 年兩岸四地『上銀機械博士論文獎』之優秀獎、排名為 Top 10.7%)
- 2012 Faculty Advisor of the Outstanding Master Thesis Award from the Chinese Automatic Control Society, Taiwan, Thesis Title: “Multi-objective Optimization for RCD Snubber of DC-DC Converter” by Zhen-Yu Yang (Master Student). (指導楊鎮宇先生的碩士論文「DC-DC 轉換器之 RCD 緩衝電路多目標最佳化設計」榮獲 2012 年中華民國自動控制學會碩士論文優等獎)
- 2012 Faculty Advisor of the Fine Master Thesis Award from the Taiwan Institute of Electrical and Electronic Engineering, Taiwan, Thesis Title: “Multi-objective Optimization for RCD Snubber of DC-DC Converter” by Zhen-Yu Yang (Master Student). (指導楊鎮宇先生的碩士論文「DC-DC 轉換器之 RCD 緩衝電路多目標最佳化設計」榮獲 2012 年台灣電機電子工程學會碩士論文佳作獎)
- 2012 Faculty Advisor of the Special Outstanding Master Thesis Award from the Taiwan Fuzzy Systems Association, Taiwan, Thesis Title: “Multi-Objective  $H_\infty/H_2$  Controller Design of Fuzzy Model-Based Systems” by Sheng-You Tsai (Master Student). (指導蔡昇佑先生的碩士論文「模糊系統之多目標 H-infinity/H-2 強健控制器設計」榮獲 2012 年中華民國模糊學會特優碩士論文獎)
- 2012 Faculty Advisor of graduate students team Kai-You Chiou, Chien-Cheng Lin, Hui-Kai Lin, Jia-Ming Lin and Bing-I Chou winning the Outstanding Award from the Campus Creative Invention Competition of the National Kaohsiung First University of Science and Technology, Taiwan. (指導碩博士班研究生團隊邱愷祐先生、林揮丞先生、林揮凱先生、林家明先生與周秉毅先生榮獲 2012 年國立高雄第一科技大學校園創意發想競賽科技類優等獎)

- 2011 Faculty Advisor of graduate student Chih-Cheng Chiou winning the Fine Work Award from the Scientific Innovation Venture Proposal Competition of the National Kaohsiung First University of Science and Technology, Taiwan. (指導博士班研究生邱志成先生榮獲 2011 年國立高雄第一科技大學科技創新創業提案競賽佳作獎)
- 2011 Faculty Advisor of the Fine Doctorial Dissertation Award from the Chinese Society of Mechanical Engineers, Taiwan, Dissertation Title: “Engineering Optimization Using Improved Differential Evolution Algorithms” by Kuo-Ming Lee (Doctoral Student). (指導李國銘先生的博士論文「微分進化演算法於工程最佳化之應用」榮獲 2011 年中國機械工程學會博士論文佳作獎)
- 2011 Faculty Advisor of the Second Place Thesis Award from the Chinese Grey System Association, Taiwan, Thesis Title: “State-of-Charge Estimation of Lithium Iron Phosphate Battery Using Grey Theory” by Geng-Da Lin (Master Student). (指導林庚達先生的碩士論文「灰色理論於磷酸鋰鐵電池電量估測」榮獲 2011 年中華民國灰色系統學會論文獎第二名)
- 2009 Faculty Advisor of graduate student Yu-Lung Chiang winning the Second Prize Award from the National Home-Service Robotics Competition, Taiwan. (指導碩士班研究生江奕龍先生榮獲 2009 年全國機器人競賽的智慧居家服務型機器人產品創意競賽之創意情境組第二名)
- 2008 Faculty Advisor of graduate students Chung-Ho Shih and Chun-Hsien Lin winning the Special Award from the National Patent Value-Added Creative Competition, Taiwan. (指導碩士班研究生施中和先生與林俊憲先生榮獲 2008 年第一屆全國專利加值創意競賽特別獎)
- 2008 Faculty Advisor of the Fine Doctorial Dissertation Award from the Chinese Society of Mechanical Engineers, Taiwan, Dissertation Title: “Analysis and Design of Robustness for Surface Modifications in Plasma Spraying Processes” by Ming-Der Jiang (Doctoral Student). (指導簡明德先生的博士論文「電漿噴塗表面改質製程之穩健設計分析」榮獲 2008 年中國機械工程學會博士論文佳作獎)
- 2006 Faculty Advisor of the Fine Doctorial Dissertation Award from the Chinese Society of Mechanical Engineers, Taiwan, Dissertation Title: “Analysis and Design for Takagi-Sugeno Fuzzy-Model-Based Control Systems Using Orthogonal-Functions Approach and Genetic Algorithm” by Wen-Hsien Ho (Doctoral Student). (指導何文獻先生的博士論文「應用函數計算法及基因演算法於模糊控制系統之分析與設計」榮獲 2006 年中國機械工程學會博士論文佳作獎)
- 2006 Faculty Advisor of the First Place Doctorial Dissertation Award from the Taiwan Fuzzy Systems Association, Taiwan, Dissertation Title: “Analysis and Design for Takagi-Sugeno Fuzzy-Model-Based Control Systems Using Orthogonal-Functions Approach and Genetic Algorithm” by Wen-Hsien Ho (Doctoral Student). (指導何文獻先生的博士論文「應用函數計算法及基因演算法於模糊控制系統之分析與設計」榮獲 2006 年中華民國模糊學會最佳博士論文獎)
- Name Listed in Asia/Pacific Who’s Who, India.
- Name Listed in Who’s Who in the World, U.S.A.
- Name Listed in Who’s Who in Science and Engineering, U.S.A.
- Name Listed in Who’s Who in Asia, U.S.A.
- Name Listed in Asian/American Who’s Who, India.
- Name Listed in Biography Fame International, India.
- Name Listed in Who’s Who in American Education, U.S.A.
- Name Listed in Who’s Who in Finance and Industry, U.S.A.
- Name Listed in Dictionary of International Biography, England.
- Name Listed in Who’s Who in Asia and the Pacific Nations, England.

- Name Listed in Research Board of Advisors, American Biographical Institute, U.S.A.
- Name Listed in Reference Asia: Asia's Who's Who of Men & Women of Achievement, India.
- Name Listed in 2009/2010 Honors Edition of the Registry, Princeton Global Networks, U.S.A.
- Name Listed in Who's Who in the ROC, the Government Information Office, Executive Yuan, Taiwan.

#### **Invited Talks at the Conferences/Forums/Workshops**

- Keynote Speaker (on *Artificial Intelligence and Its Industrial Applications*) in the National Technical University and College Academic Affairs Dean Conference, Ministry of Education of Taiwan, September 20, 2018.
- Invited Speaker (on *Smart Machinery and Smart Manufacturing*) in the Smart Manufacturing Camp of Academia Sinica, September 19, 2018.
- Keynote Speaker (on *Smart Machinery and Smart Manufacturing*) in the Advanced Precision Equipment Forum for Smart Machinery, September 4, 2018.
- Keynote Speaker (on *Artificial Intelligence and Smart Machinery/Manufacturing*) in the 2018 Smart Manufacturing Forum, August 2, 2018.
- Keynote Speaker (on *Artificial Intelligence and Industry-4.0/Smart-Manufacturing*) in the 13th Intelligent Living Technology Conference, June 1, 2018.
- Keynote Speaker (on *Experiences of Industrial Technology Research & Development and IEEE Fellow Evaluation*) in the IEEE Taiwan Academic Seminars, May 23, 2018.
- Keynote Speaker (on *Applications of Artificial Intelligence and Computational Intelligence in Smart Machinery and Manufacturing*) in the Workshop of Artificial Intelligence Applications, April 12, 2018.
- Keynote Speaker (on *Applications of Artificial Intelligence in Smart Manufacturing*) in the Workshop of Kaohsiung Chamber of Industry, April 11, 2018.
- Invited Speaker (on *Applications of Computational Intelligence in Industry 4.0*) in the Academic Front Workshop of Cross-Strait Systems Science and Control, April 2, 2018.
- Keynote Speaker (on *Applications of Artificial/Computational Intelligence in Smart Manufacturing*) in the Faculty Workshop of United Microelectronics Corporation, Tainan, Taiwan, March 15, 2018.
- Invited Speaker (on *Applications of Artificial/Computational Intelligence in Smart Manufacturing*) in the AI Meetup Tainan, Taiwan, March 13, 2018.
- Keynote Speaker (on *Applications of Computational Intelligence in Smart Machinery*) in the Faculty Workshop of Digital Transformation Institute, Institute of Information Industry, Taiwan, January 30, 2018.
- Keynote Speaker (on *Applications of Computational Intelligence in Smart Machinery*) in the Faculty Workshop of Smart Manufacturing, NXP Semiconductors Taiwan Ltd, January 23, 2018.
- Keynote Speaker (on *Development and Applications of Artificial Intelligence in Smart Machinery*) in the Forum of Machine Tool Community, December 26, 2017.

- Keynote Speaker (on *Artificial Intelligence and Way of Wisdom*) in the Member Conference of Chinese Economy and Trade and Academic Exchange Association, December 23, 2017.
- Keynote Speaker (on *Applications of Artificial Intelligence in Smart Machinery*) in the Forum of Internet of Things and Artificial Intelligence, December 22, 2017.
- Keynote Speaker (on *Talk on the Smart Machinery/Manufacturing*) in the Forum of Smart Machinery/Manufacturing at the 2017 Conference on Theoretical and Applied Mechanics, November 25, 2017.
- Keynote Speaker (on *Advanced Smart Manufacturing*) in the Workshop of the Knowledge-added Value Applications Results Presentation, November 16, 2017.
- Keynote Speaker (on *Development and Applications of Computational/Artificial Intelligence in Smart-Manufacturing/Industry-4.0*) in the Symposium on Computational and Cyborg Intelligence& IEEE CIS Winner School at Zhejiang University, November 14, 2017.
- Keynote Speaker (on *Applications of AI Technology in Smart Machinery, Industry 4.0, Smart Manufacturing*) in the Workshop of Smart Manufacturing and Smart Machinery, October 20, 2017.
- Keynote Speaker (on *Applications of AI in Smart Manufacturing Technology*) in the Forum of Smart Factory and Industry 4.0, September 28, 2017.
- Keynote Speaker (on *Development and Applications of AI in Smart Manufacturing*) in the Workshop of Development and Applications of Smart Manufacturing, September 7, 2017.
- Keynote Speaker (on *Development and Applications of AI in Smart Manufacturing*) in the 4th Cross-Strait Forum of CIO in Manufacturing Industry, June 16, 2017.
- Keynote Speaker (on *Applications of Optimization Technology to Smart Factory*) in the Forum of Mechatronics and Smart Factory, April 27, 2017.
- Keynote Speaker (on *To Meet the Next Wave of Industrial Revolution-Industry 4.0*) in the Ministry of Science and Technology- Popular Science Education Series Lectures on Artificial Intelligence, National Museum of Natural Science, Taiwan, March 31, 2017.
- Invited Panelist Speaker (on *Smart Automation and Interdisciplinary Field Integration*) in the Workshop of Industry-University Cooperation and Technology Transfer Matchmaking for the Advanced Manufacturing and the Advanced Software/Hardware Technology of Machine Tool Control Systems, Ministry of Science and Technology, Taiwan, December 8, 2016.
- Keynote Speaker (on *Technology and Development of Industry 4.0*) in the Workshop on Industry 4.0, Internet of Things, Cloud Services, and 4G Mobile Applications, October 6, 2016.
- Keynote Speaker (on *Technology and Development of Industry 4.0*) in the 2016 Taipei International Industrial Automation Exhibition, September 2, 2016.
- Invited Speaker (on *Industry 4.0 and Applications of Computational Intelligence Technology*) in the Matchmaking Workshop on Technology Transfer and Industry-University Cooperation for the Research Achievements of Smart Machines, Robotics and Automation, August 12, 2016.
- Keynote Speaker (on *Technology of Industry 4.0*) in the Forum of the Tightening Boundaries Industry-University Technologies Alliance, July 11, 2016.
- Keynote Speaker (on *Technology and Development of Industry 4.0 and Productivity 4.0*) in the Joint Conference of the Chinese Institute of Engineers, the

Chinese Society of Mechanical Engineers, and the Chinese Institute of Electrical Engineering at Kaohsiung, May 27, 2016.

- Keynote Speaker (on *Technology of Industry 4.0*) in the Member Conference of Taiwan Motor Industry Association, May 26, 2016.
- Keynote Speaker (on *Technology and Development of Industry 4.0 and Productivity 4.0*) in the Forum of Mechatronic Engineering and Technology, May 13, 2016.
- Keynote Speaker (on *Technology and Development of Industry 4.0 and Productivity 4.0*) in the Forum of Intelligent Micro-Systems at the Southern Region Campus of Industrial Technology Research Institute, December 23, 2015.
- Keynote Speaker (on *Technology and Development of Industry 4.0 and Productivity 4.0*) in the Forum of Machine Tools and Industry 4.0, December 17, 2015.
- Keynote Speaker (on *Technology and Development of Industry 4.0 and Productivity 4.0*) in the Conference on Applications of Innovation and Invention, November 13, 2015.
- Keynote Speaker (on *Intelligent Manufacturing – Industrial Applications and Development of Industry 4.0*) in the Administrators and Engineers Conference of the China Steel Corporation, October 13, 2015.
- Keynote Speaker (on *Technology and Development of Industry 4.0 and Productivity 4.0*) in the Workshop for the Trend, Opportunity and Industrial Applications of Productivity 4.0, September 21, 2015.
- Keynote Speaker (on *Industry 4.0 and Productivity 4.0 : Talking the Issues of Computational Intelligence and System Integration*) in the Forum of the 10th Taiwan Entrepreneurs in China, September 19, 2015.
- Keynote Speaker (on *Industry 4.0 and Productivity 4.0 : Talking the Issues of Computational Intelligence and System Integration*) in the Central and Southern Taiwan Engineering Leaders Forum, August 21, 2015.
- Keynote Speaker (on *Industry 4.0 and Productivity 4.0 : Talking the Issues of Computational Intelligence and System Integration*) in the Workshop on the Intelligent Manufacturing – Industry 4.0, August 17, 2015.
- Keynote Speaker (on *Industry 4.0 and Productivity 4.0 : Talking the Issues of Computational Intelligence and System Integration*) in the Precision Machinery Development Forum, August 12, 2015.
- Keynote Speaker (on *Industry 4.0 and Productivity 4.0 : Talking the Issues of Computational Intelligence and System Integration*) in the Symposium on System Science and Engineering, July 18, 2015.
- Keynote Speaker (on *Productivity 4.0 : Talking the Applications of Computational Intelligence and Optimization Technologies*) in the Food Industry Promoting the Productivity 4.0 Policy Forum of Intelligent Automation Community of Taiwan Food Industry, June 12, 2015.
- Keynote Speaker (on *Sharing the Experiences of Special Practice Projects*) in the Workshop on the Strategic Alliance Program of Technological and Vocational Education, December 20, 2014.
- Keynote Speaker (on *Intelligent Manufacturing: Talking Computational Intelligence Technology*) in the Member Conference of Taiwan Association of Machinery Industry, November 18, 2014.
- Invited Speaker (on *Hybrid Taguchi-Genetic Algorithm*) in the 2014 Cross-Strait Advanced Manufacturing Technology Conference, September 25, 2014.

- Keynote Speaker (on *Computational Intelligence Technologies for Intelligent Manufacturing Systems*) in the Industry-Academia Collaboration Forum of ITRI Southern Region Campus and Taiwan Comprehensive University System, August 11, 2014.
- Keynote Speaker (on *Talk on the Applications of Optimization Methods for Industrial Problems*) in the 2014 Conference on Commercial Modernization, June 20, 2014.
- Keynote Speaker (on *Talk on the Applications of Optimization Methods for Industrial and Engineering Problems*) in the 2014 Conference on Innovative Technology of Electronics, Signal and Communication, May 16, 2014.
- Invited Speaker (on *Robust Evolutionary Optimization*) in the 2013 Cross-Strait Advanced Manufacturing Technology Conference, June 15, 2013.
- Invited Speaker in the Workshop on the “How Should a New Comer Write a Successful NSC Project Proposal and What is Academic Ethics?” at the 2012 International Automatic Control Conference, November 30, 2012.
- Keynote Speaker (on *Evolutionary Optimization with Applications*) in the 2012 Conference on Precision Manufacturing, November 9, 2012.
- Keynote Speaker (on *Evolutionary Optimization Algorithm and Its Applications*) in the 2011 Conference on Precision Machinery and Manufacturing Technology, May 22, 2011.
- Invited Speaker in the 10th WSEAS International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases, February 20, 2011.
- Keynote Speaker (on *Hybrid Taguchi-Genetic Algorithm and Its Applications*) in the 2010 Information Technologies Applications and Management Conference, June 25, 2010.
- Invited Speaker in the 2009 European Computing Conference, June 26, 2009.

### **Editorships**

- Editor-in-Chief, International Journal of Computational Intelligence Research and Applications (January 2011 to present).
- Associate Editor, IEEE Transactions on Systems, Man and Cybernetics: Systems (October 2015 to present).
- Guest Editor for Industry 4.0 Special Section, IEEE Access (2016).
- Associate Editor, International Journal of Information and Systems Sciences (January 2004 to present).
- Associate Editor, International Journal of Automation and Computing (August 2010 to present).
- Associate Editor, Journal of Optimization Theory and Applications (May 2012 to present).
- Associate Editor, Mathematical Problems in Engineering (May 2009 to January 2015).
- Associate Editor, Journal of Mechatronics and Applications (January 2009 to December 2010).
- Associate Editor, International Journal of Fuzzy Systems (August 2012 to present).
- Co-Editor-in-Chief, Modern Management (January 2011 to present).
- Editorial Board Member, International Journal of Computational Intelligence in Control (January 2008 to present).
- Editorial Board Member, International Journal of Numerical Methods and Applications (January 2009 to December 2013).



- Editorial Board Member, Intelligent Information Management (December 2009 to present).
- Editorial Advisory Board Member, Asian Journal of Electrical Sciences (October 2011 to present).
- Editorial Board Member, International Journal of Intelligent Systems in Engineering (March 2011 to present).
- Editorial Board Member, International Journal of Control Engineering and Technology (May 2011 to present).
- Editorial Board Member, International Journal of Automation and Control Engineering (September 2012 to present).
- Editorial Board Member for Communications in Information Science and Management Engineering (May 2011 to present).
- Editorial Board Member, Journal of Engineering (July 2012 to present).
- Editorial Board Member, International Journal of Information Engineering (January 2013 to present).
- Editorial Board Member, Journal of Electrical and Control Engineering (July 2013 to present).
- Editorial Board Member, The Open Cybernetics and Systemics Journal (January 2007 to present).
- Editorial Board Member, SOJ Robotics and Automation (November 2014 to present).
- Editorial Board Member, The Open Materials Science Journal (January 2007 to September 2015).
- Editorial Board Member, The Open Biomaterials Journal (January 2008 to present).
- Editorial Board Member, Computer Science and Applications (May 2011 to December 2013).
- Editorial Board Member, Management Science and Engineering (January 2012 to December 2013).
- Editorial Board Member, Mechanical Engineering and Technology (February 2012 to present).
- Editorial Board Member, Journal of Mechatronics (September 2012 to present).
- Editorial Review Board Member, Artificial Intelligence Research (March 2012 to present).
- Editorial Member, Journal of the Chinese Society of Mechanical Engineers (January 1999 to present).
- Editorial Member, Journal of Technology (January 2009 to present).

#### **International Conferences Activities**

- Chair of International Program Committee, General Co-Chair and Keynote Speech Session Chair for the Fifth International Conference on Positioning Technology (2012).
- Co-Chair of Organizing Committee for the Sixth/Seventh International Conference on Positioning Technology (2014, 2016).
- Track Chair of Industrial Informatics for the IEEE International Conference on Industrial Electronics and Applications (2010 to 2015).
- Program Chair for the IEEE International Conference on System Science and Engineering (2013 to 2015).

- Special Session Chair for the IEEE International Conference on System Science and Engineering (2016).
- Steering Committee Chair for the IEEE International Conference on System Science and Engineering (2017).
- International Program Committee Co-Chair for the International Conference on Mechatronics and Computational Mechanics (2013).
- Advisory Council Chair for the IEEE ICME International Conference on Complex Medical Engineering (2014).
- Advisory Committee Member for the IEEE International Conference on Fuzzy Systems (2011).
- Program Committee Member for the IEEE International Conference on Fuzzy Systems (2012).
- Program Committee Member for the IEEE International Conference on System Science and Engineering (2014).
- Associate Editor at Large and Technical Program Committee Member for the IEEE Conference on Decision and Control (2015).
- Program Committee Member for the 28<sup>th</sup> Annual IEEE Canadian Conference on Electrical and Computer Engineering (2015).
- Program Committee Member for the IEEE International Conference on Information and Automation (2014 to 2016).
- Advisory Committee Member and Program Committee Member for the IFSA World Congress and the AFSS International Conference (2011, 2012).
- Advisory Board Member and Program Committee Member for the FIRA RoboWorld Congress and Cup (2011, 2012).
- International Advisory Board Member for the International Conference on Computer Applications (2010).
- International Advisory Board Member for International Conference on Electrical, Computer, and Communication Technologies (2015).
- General Chair, Best Papers Award Chair, International Advisory Committee Member, Advisory Committee Member, or Honorary Chair for the International Conference on Fuzzy Theory and Its Applications (2012 to 2016).
- Local Arrangements Chair and International Program Committee Member for the Asian Control Conference (2011, 2013, 2015).
- International Program Committee Chair for the International Conference on Automatic Control and Mechatronic Engineering (2013).
- Program Committee Member, Organizing Committee Member or Honorary Committee Member for the International Conference on Automation Technology (2005, 2011, 2013).
- International Scientific Committee Member for the International Conference on Evolutionary Computing and Fuzzy Systems (2012).
- Chair of Best Theory Paper Competition Session for the International Automatic Control Conference (2014).
- Plenary Speech Session Chair for the International Automatic Control Conference (2012, 2014).
- International Advisory Committee Member for the International Automatic Control Conference (2012, 2013).
- Advisory Committee Member for the International Automatic Control Conference (2014 to 2016).
- International Steering Committee Member for the 5th International Conference of Asian Society for Precision Engineering and Nanotechnology (2013).

- Program Committee Member for the International Automatic Control Conference (2009).
- Program Committee Member for the World Conference on Information Systems and Technologies (2013).
- Program Committee Member and Track Chair for the IEEE International Conference on Systems, Man and Cybernetics (2005 to 2016).
- Program Committee Member for the IEEE World Congress on Intelligent Control and Automation (2008, 2010, 2012, 2014, 2016).
- Program Committee Member for the IEEE TENCON International Conference (2007).
- Program Committee Member for the IEEE International Conference on Machine Learning and Cybernetics (2007 to 2012).
- Technical Committee Member for the IEEE World Congress on Computational Intelligence (2008).
- Invited Sessions Chair for the IEEE International Conference on Intelligent Systems Design and Applications (2008).
- International Program Committee Member for the IEEE International Conference on Intelligent Systems Design and Applications (2012 to 2015).
- Program Committee Member for the International Computer Symposium (2008).
- Program Committee Member or Advisory Committee Member for the IEEE International Conference on Innovative Computing, Information and Control (2007 to 2010).
- Advisory Committee Member for the Workshop of International Institute for General Systems Studies (IIGSS) (2007).
- Program Committee Member for the International Symposium on Intelligent Informatics of Japan Society for Fuzzy Theory and Intelligent Informatics (2008).
- Host Committee Member and Co-Chair for the IEEE Workshop on Systems, Man and Cybernetics (2008).
- Program Committee Member for the IEEE International Conference on Granular Computing (2009 to 2014).
- Program Committee Member for the International Symposium on Foundations and Practice of Data Mining in GrC2010 (2010).
- Program Committee Member for the IEEE Global Congress on Intelligent Systems (2009).
- International Program Committee Member for the International Conference on Soft Computing and Pattern Recognition (2009, 2010, 2012, 2013, 2016).
- International Program Committee Member for the IEEE/SICE International Symposium on System Integration (2011 to 2016).
- Program Committee Member for the International Conference on Computer Information Systems and Industrial Management Applications (2009, 2010).
- Program Committee Member for the International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems (2009 to 2017).
- Program Committee Member for the IEEE Tenth International Symposium on Pervasive Systems, Algorithms and Networks (2009).
- Program Committee Member for the International Conference on Frontier of Computer Science and Technology (2009).
- Best Paper Award Review Committee Member for the International Conference on Automation Technology (2009).

- Preparatory Committee Member for the International Association of University Presidents (IAUP) North East Asia Conference (2009).
- Program Committee Member for the IEEE International Conference on Electric Information and Control Engineering (2011).
- Program Committee Member for the International Conference on Hybrid Intelligent Systems (2011 to 2013).
- Technical Program Committee Member for the International Conference on Advances in Computing and Data Sciences (2016).
- Program Committee Member for the International Conference on Mechatronics and Computational Mechanics (2012).
- Organizing Committee Member for the 20th MAGDA Conference in Pacific Asia (2011).
- Technical Program Committee Member for the International Conference on Automatic Control and Artificial Intelligence (2011, 2012).
- Program Committee Member for the IEEE International Conference on Computational Science and Engineering (2012, 2013).
- International Program Committee Member for the 13th WSEAS International Conference on Evolutionary Computing (2012).
- Technical Program Committee Member for International Conference on Electric Information and Control Engineering (2012).
- International Program Committee Member for the UKACC International Conference on Control (2012).
- International Program Committee Member for the 3rd IFAC International Conference on Intelligent Control and Automation Science (2013).
- Technical Program Committee Member for the International Conference on Automation and Control Engineering (2013).
- Associate Editor and International Program Committee Member for the 11th IEEE International Conference on Control and Automation (2014).
- Associate Editor for the IEEE/SICE International Symposium on System Integration (2014).
- International Program Committee Member for the Second Euro-China Conference on Intelligent Data Analysis and Applications (2015).
- Program Committee Member for the International Conference on Fuzzy Computation Theory and Applications (2015, 2016).
- Program Committee Member for the 8th International Conference on Computational Aspects of Social Network (2016).

#### **General and Program Chairs for the National Conferences at Taiwan**

- General and Program Chair, the 2008 National Conference on Automation Technology.
- General and Program Chair, the 2005 National Conference on Fuzzy Theory and Its Applications.
- General Chair, the 2008 and 2009 National Conference on Fuzzy Theory and Its Applications.
- Invited Sessions Chair, the 2013 National Conference on Fuzzy Theory and Its Applications.
- Program Chair, the 2000 National Conference on Mechanical Engineering of the Chinese Society of Mechanical Engineers.

- General and Program Chair, the 2010 Research Achievement Conference for the Project Year 2009 of Control Engineering Program, National Science Council, Taiwan.
- Program Chair, the 2014 National Symposium on System Science and Engineering.
- Papers Chair, the 2015 National Symposium on System Science and Engineering.

### **Societies Activities**

- Board Director (January 2000 to present) and Executive Board Director (January 2008 to December 2009), The Chinese Society of Mechanical Engineers, Kaohsiung Chapter, Taiwan.
- Board Supervisor (January 2010 to present), Executive Board Supervisor (January 2010 to December 2011), Board Director (October 2005 to December 2009), and President (October 2007 to December 2009), The Taiwan Fuzzy Systems Association.
- Executive Board Supervisor (January 2012 to present) and Board Supervisor (January 2006 to present), The Chinese Automatic Control Society, Taiwan.
- Executive Board Director (June 2011 to present), The Taiwan Association of System Science and Engineering, Taiwan.
- Executive Board Director (January 2013 to present), The Chinese Institute of Automation Engineers, Taiwan.
- Board Director (January 2008 to February 2010), The Academia-Industry Consortium for Southern Taiwan Science Park.
- Board Director (September 2009 to December 2010), The Academia-Industry Consortium of Kaohsiung Software Park, Taiwan.
- Member of Membership Committee (January 2011 to December 2012), The Chinese Institute of Electrical Engineering, Taiwan.
- Council Member (January 2008 to December 2010), The International Fuzzy System Association (IFSA).
- Distinguished Research Board Member of Advisors (May 2002 to present), The American Biographical Institute.
- Chair of Tainan Chapter, The IEEE Systems, Man and Cybernetics Society (January 2014 to December 2016).
- Technical Committee Member on Machine Learning, The IEEE Systems, Man and Cybernetics Society (November 2010 to present).
- Technical Committee Member on Evolutionary Computation, The IEEE Computational Intelligence Society (January 2011 to June 2012).
- Scientific Committee Member, The World Scientific and Engineering Academy and Society (WSEAS) (March 2011 to present).
- Technical Committee Member on Intelligent Learning in Control Systems, The IEEE Systems, Man and Cybernetics Society (January 2012 to present).
- Technical Committee Member on Computational Cybernetics, The IEEE Systems, Man and Cybernetics Society (March 2014 to present).
- IEEE Fellow Evaluation Committee Member, The IEEE Computational Intelligence Society (January 2016 to present).
- IEEE Fellow Committee Member, The IEEE Computational Intelligence Society (January 2017 to present).

### **Research Interests**

- Artificial Intelligence (人工智慧)
- Information Technology and System Integration (資訊技術與系統整合)
- System Modeling and Simulation (系統模式與模擬)
- System Dynamics and Control (系統動力與控制)
- Integration Technology of Automation Systems (自動化系統整合技術)
- Numerical Analysis and Computational Mathematics (數值分析與計算數學)
- Robust Optimization Technology (穩健優化技術)

### **Principal Investigator for Research Projects**

- Principal Investigator, “Application of Chebyshev Polynomials to the Optimal Control of Time-Delay Systems”, Project Funded by the Sun Yat-Sen Academic Research Council, Taiwan (August 1984 to July 1985).
- Principal Investigator, “Educational Promotion Project on the Mechatronics (I) (II)”, Projects Funded by the Ministry of Education, Taiwan (July 1989 to June 1991).
- Principal Investigator, “Educational Promotion Project on the Industrial Automation (I) (II)”, Projects Funded by the Ministry of Education, Taiwan (July 1989 to June 1991).
- Principal Investigator, “Planning and Training Project of PLC Systems”, Project Funded by the Hou-Ji Ltd., Taiwan (January 1990 to December 1990).
- Principal Investigator, “Study on the Electrical Characteristic of Digital Control Systems”, Project Funded by the Yun-I Ltd., Taiwan (August 1990 to January 1991).
- Principal Investigator, “Eigenvalues Assignment of Saturating Dynamic Systems and Application to Servo Mechanism”, Project Funded by the Ministry of Education, Taiwan (July 1990 to June 1991).
- Principal Investigator, “Optimal Robust Control of Saturating Systems”, Project Funded by the National Science Council, Taiwan (February 1991 to January 1992).
- Principal Investigator, “Robust Time-Domain Control of Nonlinear Digital Uncertain Systems”, Project Funded by the National Science Council, Taiwan (February 1992 to January 1993).
- Principal Investigator, “Improvement of Robust Bounds on Structured Time-Varying Uncertainties and Application to Airplane Systems”, Project Funded by the National Science Council, Taiwan (August 1992 to January 1994).
- Principal Investigator, “Influence of Both Finite Word-length and Computational Delays on the Digital Control Systems (I) (II)”, Project Funded by the National Science Council, Taiwan (February 1994 to July 1995).
- Principal Investigator, “Path and Velocity Control of XY Table”, Project Funded by the National Science Council, Taiwan (July 1994 to September 1994).
- Principal Investigator, “Vibration Control of Rotating Machine Systems with Parameter Perturbations and Noise Uncertainties”, Project Funded by the National Science Council, Taiwan (August 1994 to July 1995).
- Principal Investigator, “Active Vibration Suppression Design of Uncertain Flexible Structures”, Project Funded by the National Science Council, Taiwan (August 1995 to July 1996).
- Principal Investigator, “Integration and Improvement of CAD/CAE/CAM Curriculums of Mechanical Engineering Department at Institute of Technology”,

Project Funded by the National Science Council, Taiwan (August 1995 to January 1997).

- Principal Investigator, “Active Robust Design of Suspensions Incorporating Human Sensitivity to Vibration”, Project Funded by the National Science Council, Taiwan (August 1996 to July 1997).
- Principal Investigator, “Development of Automation Technology for Production Systems”, Project Funded by the Chung-Ching Ltd., Taiwan (August 1997 to July 1998).
- Principal Investigator, “Active Robust Vibration Control of Mechanical and Structural Systems”, Project Funded by the National Science Council, Taiwan (August 1997 to July 1998).
- Principal Investigator, “Digital Robust Control of Flexible Mechanical and Structural Systems”, Project Funded by the National Science Council, Taiwan (August 1998 to July 1999).
- Principal Investigator, “Parameters Design of Fuzzy Gain Scheduling Control Systems with Applications to Mechanical Systems (1/3) (2/3) (3/3)”, Projects Funded by the National Science Council, Taiwan (August 1998 to July 2001).
- Principal Investigator, “Asymmetric Robust Conditions of Robustness for Uncertain Singular Systems”, Project Funded by the National Science Council, Taiwan (August 1999 to July 2000).
- Principal Investigator, “Educational Promotion Project on the Integrated Manufacturing and e-Commerce Technology (I) (II) (III) (IV) (V) (VI)”, Projects Funded by the Ministry of Education, Taiwan (January 2001 to December 2006).
- Principal Investigator, “Moving Model Control and Its Application to Anti-Missile System Design”, Project Funded by the National Science Council, Taiwan (August 2001 to July 2002).
- Principal Investigator, “Identifying the Main Factors of Eddy Current Testing Using Experimental Design Method”, Project Funded by the Chinese Petroleum Corporation, Taiwan (February 2002 to April 2002).
- Principal Investigator, “Robustness Analysis of Fuzzy Control Systems with Both Premise and Consequent Parameter Uncertainties”, Project Funded by the National Science Council, Taiwan (August 2002 to July 2003).
- Principal Investigator, “Intelligent Eddy Current Testing Systems”, Project Funded by the Chinese Petroleum Corporation, Taiwan (December 2002 to November 2003).
- Principal Investigator, “Robust Controllability and Integrity of Linear Singular Systems”, Project Funded by the National Science Council, Taiwan (August 2003 to July 2004).
- Principal Investigator, “Development Project for Teaching and Research Special Features on the Integration Technologies of the Wireless Broadband and the Opto-Mechatronics (I) (II) (III)”, Projects Funded by the Ministry of Education, Taiwan (January 2005 to December 2007).
- Principal Investigator, “Variable Structure Tracking Control of Nonlinear Dynamic Systems With Input Constraint via Linear Sequential Model”, Project Funded by the National Science Council, Taiwan (August 2005 to July 2006).
- Principal Investigator, “Robust Intelligent Optimization Algorithms with Applications to Systems and Control Problems (1/3) (2/3) (3/3)”, Projects Funded by the National Science Council, Taiwan (August 2004 to July 2007).

- Principal Investigator, “Robust Quadratic Optimal Finite-Horizon Control of Nonlinear Dynamic Systems”, Project Funded by the National Science Council, Taiwan (August 2006 to July 2007).
- Principal Investigator, “Robust Quadratic Optimal Finite-Horizon Control of Nonlinear Time-Delay Dynamic Systems”, Project Funded by the National Science Council, Taiwan (August 2007 to July 2008).
- Principal Investigator, “Development of Hybrid Immune-Genetic Algorithm and Its Applications (1/3) (2/3) (3/3)”, Project Funded by the National Science Council, Taiwan (August 2007 to July 2010).
- Principal Investigator, “Signal Transmission and Control of Integrating Wireless, RFID and PLC for the High-Corrosive Place”, Project Funded by the San-Tai System Ltd., Taiwan (November 2009 to April 2010).
- Principal Investigator, “Design of Optimal Controllers for Nonlinear Uncertain Dynamic Systems by Fusing Soft and Hard Computing”, Project Funded by the National Science Council, Taiwan (August 2009 to July 2010).
- Principal Investigator, “Evolutionary Computation for Multiobjective Automatic Manufacturing of Industry Robot Arms Under Collision-Free Constraints (1/2) (2/2)”, Project Funded by the National Science Council, Taiwan (August 2010 to July 2012).
- Principal Investigator, “Orthogonal-Sliding-Level-Based Differential Evolution and Its Applications to System Optimization and Control (1/3) (2/3) (3/3)”, Project Funded by the National Science Council, Taiwan (August 2010 to July 2013).
- Principal Investigator, “Robust Controllability of Interval Systems with State/Input Delays”, Project Funded by the National Science Council, Taiwan (August 2012 to July 2013).
- Principal Investigator, “Counseling Program on Value-Added Innovation for Yacht Industry”, Project Funded by the Department of Industrial Technology, Ministry of Economic Affairs, Taiwan (June 2013 to November 2013).
- Principal Investigator, “Process Parameters Optimization of Transparent Conductive Film on the Substrate”, Project Funded by the Metal Industries Research and Development Centre, Taiwan (August 2014).
- Principal Investigator, “Vending Machine Intelligent Multimedia User Interface Software”, Project Funded by the Yu-Wang Ltd., Taiwan (September 2014).
- Principal Investigator, “Optimal Control Technology for Roll-to-Roll System”, Project Funded by the Metal Industries Research and Development Centre, Taiwan (December 2014).
- Principal Investigator, “Research, Development and Promotion Team of Automation Program (1/3) (2/3) (3/3)”, Project Funded by the Ministry of Science and Technology, Taiwan (January 2013 to December 2015).
- Principal Investigator, “Dynamic Property Analysis, Performance Improvement, and Multiobjective-Design Application of Swarm Intelligence Optimizer (1/3) (2/3) (3/3)”, Project Funded by the Ministry of Science and Technology, Taiwan (August 2013 to July 2016).
- Principal Investigator, “Special Project on the Research and Development of the Advanced Technology and Value-Added Software Development of Machine Tool Control Systems”, Project Funded by the Ministry of Science and Technology, Taiwan (January 2016 to December 2016).



- Principal Investigator, “Identification of Mechanical and Electrical Integration Technology Capability of Electric Vehicle”, Project Funded by the Industrial Technology Research Institute, Taiwan (November 2016 to December 2016).
- Principal Investigator, “Intelligent Modelling of Sputtering Columnar Target Source Process”, Project Funded by the Metal Industries Research and Development Centre, Taiwan (December 2016).
- Principal Investigator, “System Software for the Water Quality Parameter Analysis and Modelling”, Project Funded by the CONNEXION Technology Corporation and the Smart Microsystem Technology Center of Industrial Technology Research Institute, Taiwan (April 2017).
- Principal Investigator, “Smart Manufacturing of Metal Fastener”, Project Funded by the Industrial Technology Research Institute and the Ching-Chan Optical Technology Company, Taiwan (April 2017 to September 2017).
- Principal Investigator, “Optimization of System Integration Parameters”, Project Funded by the Industrial Technology Research Institute, Taiwan (October 2016 to December 2017).
- Principal Investigator, “Parameters Effect Analysis and Performance Improvement of Fractional Particle Swarm Optimization (1/3) (2/3) (3/3)”, Project Funded by the Ministry of Science and Technology, Taiwan (August 2016 to July 2019).
- Principal Investigator, “Intelligent Service Robots with Deep Learning Capability for Shopping in a Mega Supermarket (1/3) (2/3) (3/3)”, Project Funded by the Ministry of Science and Technology, Taiwan (November 2016 to October 2019).
- Principal Investigator, “Special Project on the Advanced Control Technology and Value-Added Software Development of Single Machine or Cell (1/3) (2/3) (3/3)”, Project Funded by the Ministry of Science and Technology, Taiwan (June 2017 to May 2020).
- Principal Investigator, “Controllability Analysis of Fractional Particle Swarm Optimization and Its Application to Smart Manufacturing (1/3) (2/3) (3/3)”, Project Funded by the Ministry of Science and Technology, Taiwan (August 2018 to July 2021).