國立宜蘭大學教師個人基本資料表

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最高學歷/起迄：國立台灣科技大學電機博士**(1997-2001)**

現職/起迄：國立宜蘭大學電機工程學系副教授 **(2005.8~)**

到任年月份(宜蘭)：2005.8

研究領域：網路通訊、統計學習理論、智慧型計算、電子商務、微處理機

莊鎮嘉

Chen-Chia Chuang

■研究

近五年研究成果

一、期刊論文：

(若期刊屬於 SCI、EI、SSCI、TSSCI、EconLit 或 A&HCI 等時，請註明)

[1] Chen-Chia Chuang and Jin-Tsong Jeng, “CPBUM neural networks for modeling with outliers and noise,” *Applied Soft Computing*, 2006. (accepted) [**SCI**/**EI**]

[2] Chen-Chia Chuang, Jin-Tsong Jeng* and Tsu-Tian Lee, “Robust adaptive tracking control via CPBUM neural network for MIMO nonlinear systems,” *International Journal of Electrical Engineering*, Vol. 12, no. 4, pp. 313-324, 2005. **[EI]**

[3] Chen-Chia Chuang, Jin-Tsong Jeng*, and Yung-Cheng Lee, “DISCRETIZING CONTINUOUS-TIME CONTROLLERS WITH FUZZY LOGIC SYSTEMS AND ITS STABILITY ANALYSIS,” *Asian Journal of Control, Vol. 6, No. 4, pp. 529-538, December 2004.* **[SCI/EI]**

[4] Jin-Tsong Jeng* and Chen-Chia Chuang, “Selection of Initial Structures with Support Vector Regression for Fuzzy Neural Networks,” *International Journal of Fuzzy Systems*, Vol. 6, No. 2, pp. 63-70, 2004. **(*EI*)**

[5] Chih-Ching Hsiao, Shun Feng Su*, Tsu-Tian Lee and Chen-Chia Chuang, “Hybrid Compensation Control for Affine TSK Fuzzy Control Systems,” *IEEE Trans. on SMC Part B*, vol. 34, no. 4, 2004. **(*SCI/EI*)**

[6] Chen-Chia Chuang*, Jin-Tsong Jeng and Pao-Tsun Lin, “Annealing Robust Radial Basis Function Networks for Function Approximation with Outliers,” Neurocomputing, vol. 56, pp. 123-139,2004. **(*SCI/EI*)**

[7] Chen-Chia Chuang*, Jin-Tsong Jeng and Shun Feng Su, “Support Vector Interval Regression Networks for Interval regression analysis,” Fuzzy Sets and Systems, vol. 138, issue 2, pp. 283-300,2003. **(*SCI/EI*)**

[8] Chen-Chia Chuang, Shun-Feng Su*, Jin-Tsong Jeng, and Chih-Ching Hsiao “Robust Support Vector Regression Networks for Function Approximation with Outliers,” *IEEE Trans. on Neural Networks*, vol. 13, no. 6, 2002. **(*SCI/EI*)**

[9] Chen-Chia Chuang and Shun-Feng Su*, "Robust TSK Fuzzy Modeling for

Function Approximation with Outliers," *IEEE Trans. Fuzzy Systems*, vol. 9, no. 6, pp. 810-821, 2001. **(*SCI/EI*)**

[10] Jin-Tsong Jeng* and Chen-Chia Chuang, "New Fuzzy Modeling Based on Input-Output Pseudolinearization and Its Digital Approximation via Walsh Functions," *International Journal of Fuzzy Systems*, Vol. 3, No. 3, pp. 503-511, 2001. **(*EI*)**

[11] Shun-Feng Su*, Sheng-Hsiung Hsieh and Chen-Chia Chuang, " On the study of embedding fuzzy concept in reinforcement learning schemes," *Journal of The Chinese Institute of Engineers*, 2001. **(*SCI/EI*)**

[12] Chen-Chia Chuang, Shun-Feng Su* and Chin-Ching Hsiao, "The Annealing Robust Backpropagation (ARBP) Learning Algorithm," *IEEE Trans. Neural Networks*, vol. 11, no. 5, pp. 1067-1078, 2000. **(*SCI/EI*)**

[13] Jin-Tsong Jeng*, Jeen-Fong Lin, and Chen-Chia Chuang, "Discretization of Dynamic Output Feedback Controller via Recurrent Neural Networks," *Smart Engineering System Design*, Vol. 2, pp. 169-176, 2000. **(*EI*)**

二、研討會論文：

[1] C. W. Tao, T. H. Su, Chen-Chia Chuang and J. T. Jeng, "Support Vector Regression for Controller Approximation," 2006 IEEE Congress on Computational Intelligent.

[2] Chen-Chia Chuang, Jin-Tsong Jeng and Shun-Feng Su, "Dimension Reduction with Support Vector Regression for Ovarian Cancer Microarray Data," 2005 IEEE International Conference on System, Man, Cybernetics, pp. 1048-1052, 2005.

[3] Jin-Tsong Jeng and Chen-Chia Chuang, "Annealing Robust Walsh Function Networks for Modeling with Outliers and Digital Implementation," 2005 IEEE International Symposium on Circuit and Systems, pp. 2498-2501, 2005.

[4] Chen-Chia Chuang, Jin-Tsong Jeng, and Mei Lang Chan, "A Study on the Support Vector Regression with Interval Input," Proceedings of 2005 CACS Automatic Control Conference, Nov 18-19, 2005.

[5] Chen-Chia Chuang, Y.C. Lee and Jin-Tsong Jeng, "Discretizing Continuous-Time Controllers via Robust Neural Fuzzy Networks," 2005 The 13th National Conference on Fuzzy Theory and Its Applications, 2005.

[6] Song-Shyong Chen, Chen-Chia Chuang and Jin-Tsong Jeng, "Arrrbf Neural Networks for Modeling of Nonlinear Dynamic Systems with Outlier," The 12th International Conference on Neural Information Processing (ICONIP), 2005.

[7] Chih-Ching Hsiao, Shun-Feng Su and Chen-Chia Chuang, "Robust Proper Clustering Structure Fuzzy Modeling for Function Approximation," The 12th International Conference on Neural Information Processing (ICONIP), 2005.

[8] Chen-Chia Chuang and Jin-Tsong Jeng, "Support Vector Regression with Adaptive Kernel Functions for Noise and Outlier Data," *2004 Automatic Control Conference*, Taiwan.

[9] Chen-Chia Chuang and Jin-Tsong Jeng, "A soft Computing Techinique for Noise Data with Outliers," *IEEE International Conference on Networking Sensing and Control*, Taipei, Taiwan, 2004.

[10] Chih-Ching Hsiao, Shun Feng Su and Chen-Chia Chuang, "A sliding manner Compensation Control for Affine TSK Fuzzy Control Systems," *2004 International Conference on Machine Learning and Cybernetics*, Shanghai, China.

[11] Chen-Chia Chuang and Chih-Ching Hsiao, "Fuzzy Systems in the Support Vector Regression," 2004 *National conference on Fuzzy Theory and its Application*, Taiwan.

[12] Chen-Chia Chuang, Jin-Tsong Jeng and Tsu-Tian Lee, " Robust Adaptive Tracking Control via CPBUM Neural Networks for MIMO Nonlinear Systems," *2004 International Conference on Machine Learning and Cybernetics, Shanghai, China.*

[13] Chen-Chia Chuang, Yung-Cheng Lee and Jin-Tsong Jeng, "A New Annealing Robust Fuzzy Basis Function for Modeling with Outliers," *IEEE International Conference on Systems, Men & Cybernetics*, USA, 2003.

[14] Chen-Chia Chuang, Chih-Ching Hsiao and Jin-Tsong Jeng, "Adaptive Fuzzy Regression Clustering Algorithm for TSK Fuzzy Modeling," *5th IEEE International Symposium on Computational Intelligence in Robotics and Automation (CIRA 2003)*, Japan, 2003.

[15] Chen-Chia Chuang and Jin-Tsong Jeng, "Annealing Robust CPBUM Neural Networks for Function Approximation with Outliers and Noise," *2003 Automatic Control Conference*, Taiwan, 2003.

[16] Jin-Tsong Jeng, Chen-Chia Chuang and Yu-Jen Lee, " Annealing Robust Nonlinear Adaptive Inverse Control with FNNBSVR for Magnetic Bearing Systems," *5th IEEE International Symposium on Computational Intelligence in Robotics and Automation (CIRA 2003)*, Japan, 2003.

[17] Chen-Chia Chuang, Chih-Ching Hsiao and Jin-Tsong Jeng, "A Novel Approach for TSK fuzzy modeling with outliers," *The Second International Conference on Machine Learning and Cybernetics (ICMLC 2003)*, China, 2003.

[18] Shao-I Chiu and Chen-Chia Chuang, "Stability Analysis of Discretizing Continuous-Time Controllers via Fuzzy Logic Conttrol System," 4th Asia Control Conference, 2002, Singapore.

[19] Chen-Chia Chuang and Jin-Tsong Jeng, "Support Vector Regression for Fuzzy and Neural Network," 2002 ICONIP, Singapore.

[20] Chen-Chia Chuang, Chih-Ching Hsiao and Jin-Tsong Jeng "Support Vector Regression for Image Filter and Image Compression," *The Senventh Conference on Artificial Intelligence and Applications, 2002.*

[21] Chen-Chia Chuang, Jin-Tsong Jeng and, Chih-Ching Hsiao **"**Robust Neuro-Fuzzy Networks with Outliers Based on Support Vector Regression," *2002 Automatic Control Conference*, 2002.

[22] Chen-Chia Chuang and Jin-Tsong Jeng, "Constructing an Influence Function of Robust Learning Algorithm Based on Error Distributions for the Neural Networks," *2002 International Joint Conference on Neural Networks.*

[23] Jin-Tsong Jeng and Chen-Chia Chuang, **"**Annealing Nonlinear Adaptive Inverse Neural Network Control for Magnetic Bearing Systems," *2002 Automatic*

Control Conference, 2002.

[24] Jin-Tsong Jeng, Chen-Chia Chuang, "A Novel Approach for the Hyperparameters of Support Vector Regression," *2002 International Joint Conference on Neural Networks.*

[25] Chen-Chia Chuang, Jin-Tsong Jeng and Pao-Tsun Lin, "Annealing Robust Radial Basis Function Networks for Modeling with Outliers," *Proceedings of National Computer Symposium Republic of China, 2001.*

[26] Chen-Chia Chuang, Chih-Ching Hsiao and Jin-Tsong Jeng "Robust Support Vector Regression Networks for Modeling with Outliers," *The Sixth Conference on Artificial Intelligence and Applications, 2001.*

[27] Chen-Chia Chuang, Jin-Tsong Jeng and Chih-Ching Hsiao, "Interval regression analysis with support vector regression networks," *2001 Ninth National Conference on Fuzzy Theory and Its Applications, 2001.*

[28] Jin-Tsong Jeng, Chen-Chia Chuang and Chih-Ching Hsiao, "Support vector machine for annealing robust fuzzy neural network with outlier," *2001 Ninth National Conference on Fuzzy Theory and Its Applications, 2001.*

[29] Jin-Tsong Jeng and Chen-Chia Chuang, "The Design of Magnetoresistive Random Access Memory (MRAM) Based Neural Network," *ISPMM/ISAMT2001, 2001.*

[30] Chen-Chia Chuang and Shun-Feng Su, "Robust Fuzzy Modeling for Function Approximation with Outliers," *2000 Automatic Control Conference*, 2000.

三、其他著作：

[1] Chen-Chia Chuang, "The Regression Type of Fuzzy Clustering Algorithm and Its Application to TSK fuzzy Modeling Approach," 2002. **[91-2213-E-146-003-]**

[2] Chen-Chia Chuang, "Practical Selection of SVR Parameters for Modeling and Interval Regression Analysis with Outliers," 2003. **[92-2213-E-424-004-]**

[3] Chen-Chia Chuang, "Computational Intelligence Approaches on Dynamic Functional Clustering Algorithm, Clusters of Interval Regression Analysis and Distance-Based Outliers Detection of Microarray Data for Ovarian Cancer (I)," 2004. **[93-2213-E-146-002-]**

[4] Chen-Chia Chuang, "Computational Intelligence Approaches on Dynamic Functional Clustering Algorithm, Clusters of Interval Regression Analysis and Distance-Based Outliers Detection of Microarray Data for Ovarian Cancer (II)," 2004. **[94-2213-E-146-002-]**

[5] 莊鎮嘉等著，"**MATLAB 進階（含 Simulink）**"，全華書局出版，八十六年三月。

[6] 莊鎮嘉等著，**MATLAB 程式設計－進階**，全華科技圖書公司，2004/8/16。

四、研究計畫：

起迄年月	研究計畫名稱	主持人/共同主持人	計畫經費	補助單位
95 年 8 月～96 年 7 月	智慧型系統在卵巢癌晶片之分子演化與控制--子計畫三：智慧型計算之動態函數聚集、聚集區域回歸分析與距離基準之離異點偵測應用於卵巢癌的微陣列資料(III)	主持人		國科會
94 年 8 月～95 年 7 月	智慧型系統在卵巢癌晶片之分子演化與控制--子計畫三：智慧型計算之動態函數聚集、聚集區域回歸分析與距離基準之離異點偵測應用於卵巢癌的微陣列資料(II)	主持人	NT$356,000	國科會
93 年 8 月～94 年 7 月	智慧型計算之動態函數聚集、聚集區域回歸分析與距離基準之離異點偵測應用於卵巢癌的微陣列資料(I)	主持人	NT$324,100	國科會
92 年 8 月～93 年 7 月	支援向量回歸參數選擇及其應用於含有離異點資料之塑模和區域回歸分析	主持人	NT$316,500	國科會
91 年 8 月～92 年 7 月	回歸式模糊聚集法則及其應用於 TSK 模糊系統之建模	主持人	NT$311,100	國科會

■ 教學

五、三年內開授課程：

學年度	課程名稱(必/選)	選修人數
94	計算機程式(必)	
94	人工智慧(選)	
94	專題討論(必)	
94	電子學(1) (必)	
94	自動控制(1) (必)	
94	微處理機 (必)	
94	計算機概論 (必)	

六、三年內指導研究生狀況：

學年度	碩士班(人)	博士班(人)	畢業人數 碩士	博士
94	2			
95	1			

■ 服務

七、三年內校內校、院、系(所、科及中心)各級公共事務參與：

年月	校/院/系級	項目

八、三年內專業學術服務工作項目：

年月	校內/校外	項目
2005	校外	模糊理論及其應用研討會－網路付費系統之建置。
2005	校外	碩士班口試委員(交大、台灣科大、高雄第一科大)
2004	校外	系統學會－網路付費系統之建置。
2004	校外	模糊理論及其應用研討會－網路付費系統之建置。
2004	校外	碩士班口試委員(台北科大、台灣科大、高雄第一科大)
2004	校外	Session Chair－International Conference on Machine Learning and Cybernetics, 2004.
2003	校外	碩士班口試委員(台北科大、台灣科大、海洋大學)
2002	校外	碩士班口試委員(台北科大、台灣科大)
2002	校外	Session Chair－4th Asia Control Conference, 2002.

■ 教學與研究獎勵

九、三年內之教學與研究獎勵事蹟：

學年度	校內/校外	項目
94	校內	論文獎勵 1 篇