

**Tsair-Chuan LIN 林財川**

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## **EDUCATION**

Ph.D.	1996	Northern Illinois University, U.S.A.	Mathematics /Statistics
M.S.	1993	Northern Illinois University, U.S.A.	Mathematics
M.S.	1992	Northern Illinois University, U.S.A.	Statistics
B.S.	1987	Chinese culture University, Taiwan	Applied Mathematics

## **SPECIALIZATION**

1. Time Series Analysis and Prediction Theory
2. Nonparametric Estimation
3. Signal Processing
4. System Identification
5. Data Analysis

## **PROFESSIONAL EXPERIENCE**

Professor	National Taipei University, Taiwan	2017~Pres.
Associate Professor	National Taipei University, Taiwan	2000~2017
Associate Professor	Chang-Gung University, Taiwan	1998~2000
Assistant Professor	Chang-Gung University, Taiwan	1997~1998
Associate Professor	Nan-Rong College, Taiwan	1996~1997

## **ACADEMECI SERVICE**

Chairperson, Department of Statistics	National Taipei University, Taiwan	2010~2013
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## HONOR, AWARDS, & PRIZES

National Science and Technology Commission-subsidized research awards for colleges and universities and awards for special outstanding research talents of National Taipei University	2023
Research reward of National Taipei University	2022
Research reward of National Taipei University	2021
Research reward of National Taipei University	2020
Research reward of National Taipei University	2017
Excellent student mentor, National Taipei University	2013
Research reward of Chang-Gung University	2000
Research reward of Chang-Gung University	1999

## TEACHING

- Courses Taught at Chang Gung University:
  1. Management Mathematics
  2. Applied Statistics
  
- Courses Taught at the National Taipei University:
  1. Calculus
  2. Linear Algebra
  3. Probability
  4. Statistical Inference
  5. Time Series
  6. Linear Models
  7. Advanced Statistics
  8. Nonparametric Regression

## PUBLICATIONS

### A. Journals

1. Shiu-keung TANG, Muhammad Mauz, **Tsair-Chuan LIN**, Kainam Thomas WONG, and Ho Ting NG, "Roadway traffic sound measured up on a high-rise building – the sound-level's statistical normality" , IEEE Access, 2022/October, vol. 10, pp.105031-105039.

2. P.-L. Hsieh, **T.-C. Lin**, H. Al-Nashash, H.S. Mir, M. Muaz, and K.T. Wong , " On the Statistical Normality Rate of EEG Ambient Signal of Healthy Subjects and Its Dependence on Data- Observation Duration" , *IEEE Sensors Journal* , Volume: 22, Issue: 22, 15 November 2022. pp. 21769 – 21779 [SCIE|IF=4.325; Q1]
3. L.-I. Chung, **T.-C. Lin**, and C.-C. Wang, "Semirecursive nonparametric algorithms for Hammerstein systems with stochastic autocorrelated input," *International Journal of Systems Science*, pp. 1-13, 2021/12. [SCI|IF=2.15; Q2]
4. **T. C. Lin** and K. T. Wong, "Hammerstein system with a stochastic input of arbitrary/unknown autocorrelation: Identification of the dynamic linear subsystem," *IET Signal Processing*, vol. 15, no. 5, pp. 291-300, 2021/04. 第一作者 [SCI|IF=1.81; Q1]
3. **T. C. Lin** and K. T. Wong, "Hammerstein system with a stochastic input of arbitrary/unknown autocorrelation–nonparametric estimator of the static nonlinear subsystem," *IET Signal Processing*, vol. 15, no. 5, pp. 301-313, 2021/04. April 2021. 第一作者 [SCI|IF=1.81; Q1]
4. Dominic Makaa Kitavi, Kainam Thomas Wong, **Tsair-Chuan Lin**, & Yue Ivan Wu, "Hybrid Cramer-Rao Bound of Direction Finding, Using a Triad of Cardioid Sensors That are Perpendicularly Oriented and Spatially Collocated", *Journal of Acoustical Society of America*, vol. 146(2), pp. 1099-1109, 2019/08.
5. Kainam Thomas Wong, Zakayo Ndiku Morris, Dominic Makaa Kitavi, & **Tsair-Chuan Lin**. A Uniform Circular Array of Isotropic Sensors That Stochastically Dislocate in 3D -- The Hybrid Cramer-Rao Bound of Direction-of-Arrival Estimation, *Journal of Acoustical Society of America*, 146(1), pp.150-163, 2019/07.
6. **Tsair-Chuan Lin**, Kainam Thomas Wong, Macario O. Cordel, & Joel Paz Ila, "Beamforming pointing error of a triaxial velocity sensor under gain uncertainties", *Journal of the Acoustical Society of America*, vol. 140(3), pp.1675-1685, 2016/09.
7. Dominic Makaa Kitavi, **Tsair-Chuan Lin**, Kainam Thomas Wong, & Yue Ivan Wu, "Direction finding with the sensors' gains suffering bayesian uncertainty —hybrid CRB and MAP estimation", *IEEE Transactions on Aerospace and Electronic Systems*, vol. 52(4), pp. 2037-2044, 2016/08.

8. **Tsair-Chuan Lin** & Kainam Thomas Wong, "Nonparametric identification of a Wiener system using a stochastic excitation of arbitrarily unknown spectrum", *Signal Processing*, vol. 120, pp. 422-437, 2016/01.
9. **Tsair-Chuan Lin** & Daniel W. Law, "The Effects of the Credit Crisis on the Shanghai Composite Index Using the Hilbert-Huang Transformation", *International Journal Statistics & Economics*, vol. 13, no. 1, pp. 1-18, 2014.
10. 李美杏, 紀怡婷, 廖憲文 & **林財川**, "債報酬相關性與總體經濟因素關係之探討", *統計與資訊評論*, vol. 13, no. 1, pp. 15-32, 2013.
11. 朱希平, **林財川**, 李美杏, 施葦 & 雷淑儀, "瞬時相位於金融危機過後之股價研究", *統計與資訊評論*, vol. 14, pp. 1-16, December 2012.
12. **Tsair-Chuan Lin** & S. Amanda Chang, "An instantaneous frequency analysis to stock returns in a financial crisis", *The International Journal of Intelligent Technologies and Applied Statistics*, vol. 4, no. 1, pp. 85-94, 2011.
13. **Tsair-Chuan Lin**, "Enhancement of Non-stationary Time-Series Clustering Analysis Using Projection Pursuit Regression Method", *International Journal of Information and Management Studies*, vol. 5, no. 2, pp. 59-67, August 2010.
14. 蘇建郎 & **林財川**, "一個考慮交乘項作用的非穩定型時間序列資料分群法", *Journal of Statistics and Computing*, vol. 10, pp. 1-18, 2008.
15. 陳玉芳 & **林財川**, "以非參數估計方法探討台灣地區奧肯法則", *統計與資訊評論*, vol. 9, 2007.
16. **Tsair-Chuan Lin**, "Some Properties and a case study of estimation for autoregressive moving-average coefficients in the presence of a regression trend", *International Journal of Information and Management Sciences*, vol. 17, no. 4, pp. 67-81, 2006.
17. **Tsair-Chuan Lin**, "Bayesian clustering analysis: a case study for personal income of USA", *The Journal of Global Business Management*, vol. 2, no. 3, pp. 4-11, 2006.
18. **Tsair-Chuan Lin**, "Using equivalent degree of freedom to determine the structure for neural models", *Journal of Statistics and Computing*, pp. 1-15, 2005.
19. **Tsair-Chuan Lin**, "The study of nonparametric models with the p-th autoregressive time series errors", *Journal of Probability and Statistical Science*, vol. 3, no. 1, pp. 105-120, 2005.

20. 林財川, 洪駿源, "利用重覆抽樣方法於轉換函數模型之模式鑑定之大樣本理論", *朝陽商管評論*, vol. 4, no. 1, pp. 23-40, 2004.
21. **Tsair-Chuan Lin**, "Asymptotic efficient estimation in a nonparametric regression model with autoregressive moving-average errors", *Journal of Statistics and Computing*, vol. 7, pp.29-42, 2004.
22. 林財川, "中華航空公司國際航線旅客量之預測" *台灣本土企業個案集*, 五南出版社, pp. 428-439, 2002.
23. **Tsair-Chuan Lin**, Mohsen Pourahmadi & Anton Schick, "Regression models with time series errors", *Journal of Time Series Analysis*, vol. 20, no. 4, pp. 425-433, 1999.
24. **Tsair-Chuan Lin** & Mohsen Pourahmadi, "Data mining, data perturbation and degrees of freedom of a nonparametric regression model", *Computing Science and Statistics*, vol. 29 no. 10 pp. 164-173, 1998.
25. **Tsair-Chuan Lin** & Mohsen Pourahmadi, "Nonparametric and nonlinear models and data mining in time series: A case study on the Canadian lynx data", *Journal of the Royal Statistical Society. Series C (Applied Statistics)*, vol. 47, no. 2, pp. 187-201, 1998.

## B. Conferences

1. 受邀 2021 年統計學術研討會暨台、日、韓國際統計學術研討會 (輔仁大學 2021/12/10) 論文發表。The semirecursive nonparametric algorithms for financial data (共同作者:鍾麗英副教授、汪群超副教授)。
2. Zakayo N. Morris, Kainam Thomas Wong, **Tsair-Chuan Lin**, and The hybrid Cramer-Rao bound of direction finding by a uniform circular array of isotropic sensors that suffer stochastic dislocations, **October 2017**, 174<sup>th</sup> Meeting, New Orleans, Louisiana, USA. The Journal of the Acoustical Society of America 142(4):2554-2554, DOI10.1121/1.5014336, <http://acousticalsociety.org/sites/default/files/fullweek.pdf>
3. M. Muaz, S. Tang, **Tsair-Chuan LIN**, H. T. Ng, Fitting bad urban roadside motor traffic sound level to skewed distribution models, INTER-NOISE 2017, 46<sup>th</sup> International Congress and Exposition on Noise Control Engineer, Hong-Kong, august 27-30, **2017**.

4. D. M. Kitavi, K. T. Wong, L. Yeh & **T.-C. Lin**, "Cramer-Rao Bound for Direction Finding at a Tri-Axial Velocity-Sensor of an Acoustic Event Having an AR(1) Temporal Auto-Correlation," To be presented at the 173rd Meeting of the Acoustical Society of America, Boston, Massachusetts, USA, June 25 – 29, **2017**.
5. D. M. Kitavi, **T.-C. Lin** & K. T. Wong, "A Tetrahedral Array of Isotropic Sensors, Each Suffering a Random Complex Gain – The Resulting Hybrid Cramer-Rao Bound for Direction Finding," 2016 IEEE National Aerospace and Electronics Conference (NAECON) and Ohio Innovation Summit (OIS), pp. 412 – 415, July 2016.   
<http://ieeexplore.ieee.org/document/7856840/>
6. 李怡嬌 & **林財川**, "頭頸癌患者放射線治療對產生口乾症分析-以台灣某教學醫院資料為例", 第二十二屆南區統計研討會暨 中華機率統計學會年會及學術研討會, 高雄大學, June 2013.
7. **Tsair-Chuan Lin**, Shih Wei & S.-Y. Lei, "Instantaneous Phase to Stock Index Returns in a Financial Crisis", 第二十一屆南區研討會暨 國際應用統計研討會, 輔仁大學, June 2012.
8. Chien Kao, **Tsair-Chuan Lin**, Wei Shih & Lei S.-Y, "Multivariate time series clustering using coherence analysis", 第二十一屆南區研討會暨 國際應用統計研討會, 輔仁大學, June 2012.
9. Chih-Chieh Lee, **Tsair-Chuan Lin**, Wei Shih & Lei S.-Y, "Multivariate time series clustering using spectral analysis", 第二十一屆南區研討會暨 2012 國際應用統計研討會, 輔仁大學, June 2012.
10. **Tsair-Chuan Lin** & Daniel W. Law, "A study of the Effects of the Credit Crisis on the Shanghai Composite Index Using the Hilbert-Huang Transformation", Academic and Business Research Institute International Conference, Orlando USA, January 2012.
11. 劉倍齊 & **林財川**, "利用希爾柏—黃轉換法和狀態空間模型之瞬時頻率分析", 國際應用統計學術研討會, 台灣:新北市, May 2011.
12. 朱希平 & **林財川**, "線性預估倒頻譜系數方法與瞬時頻率於金融危機過後之計量與金融研究", 國際應用統計學術研討會, 台灣:新北市, May 2011.
13. **Tsair-Chuan Lin** & S. M. Chang, "Instantaneous frequency to stock returns in a financial crisis", *Workshop on Econometric and Financial Studies after Crisis*, Taipei Taiwan, June 2010.

14. 張佑璋 & 林財川, "利用類經驗模態分解於時間序列 ARMA 模型係數估計之探討" 兩岸應用統計學術研討會, 台灣:新北市, May 2010.
15. 蔡孟翔 & 林財川, "利用希爾伯特-黃轉換及多尺度熵於心電圖資料之探討", 兩岸應用統計學術研討會, 台灣:新北市, May 2010.
16. 丁玟甄, 彭建文 & 林財川, "屋齡對住宅價格之影響-以台北市為例", 年住宅學會研討會, 台北, December 2008.
17. 楊詩韻, 彭建文 & 林財川, "參數法、半參數法於不動產估價應用之比較", 年住宅學會研討會, 台北, December 2008.
18. **Tsair-Chuan Lin**, "Nonparametric clustering algorithm with an application in financial time-series data", *Joint Conference of Workshop on Economics with Heterogeneous Interacting Agents & International Conference on Computational Intelligence in Economics and Finance*, Kainan University, Taoyuan, Taiwan, December 5-7, 2008.
19. **Tsair-Chuan Lin**, "A semi-supervised Bayesian clustering with autoregressive model based for time series data", *Joint conference on information science*, USA, July 18-24, 2007.
20. **Tsair-Chuan Lin**, "Bayesian cluster analysis for personal income of USA Dynamics", *Management International Conference (MIC)*, Slovenia, November 23-25, 2006.
21. **Tsair-Chuan Lin**, "The theory of nonparametric models with autoregressive time series errors with an application in stock markets" *Proceedings of 21st Century Conference on Management Theory and Practice*, Taiwan, 2004.
22. **Tsair-Chuan Lin**, "The parameter estimation and conditional forecast error of stationary first order autoregressive model", *The First Sino-International Symposium on Probability, Statistics and Quantitative Management*, Taiwan, 2004.
23. Mohsen Pourahmadi & **Tsair-Chuan Lin**, "Data mining, data perturbation and degree of freedom of projection regression", *The Proceeding of Interface*, USA, 1997.