



# Tsung-I Lin

## Curriculum Vitae

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### **Institute of Statistics**

#### **National Chung Hsing University**

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**Birthday** May 22, 1970

### **Education**

2003 Ph.D. Statistics, National Chiao Tung University, Taiwan

1997 M.A. Statistics, National Tsing Hua University, Taiwan

1993 B.S. Applied Mathematics, National Chung Hsing University, Taiwan

### **Professional Experience**

2020/8-present **Distinguished Professor** of Department of Applied Mathematics and Institute of Statistics, National Chung Hsing University, Taiwan

2015/8-present **Professor** of Department of Applied Mathematics and Institute of Statistics, National Chung Hsing University, Taiwan

2013/8-2015/7 **Professor and Chair** of Department of Applied Mathematics, National Chung Hsing University, Taiwan

2013/8-2015/7 **Director** of Institute of Statistics, National Chung Hsing University, Taiwan

2011/2-2013/8 **Professor**, Department of Applied Mathematics, National Chung Hsing University, Taiwan

2011/2-present **Adjunct Professor**, Department of Public Health, Chian Medical University, Taiwan

2007/8-2009/7 **Associate Professor**, Department of Applied Mathematics, National Chung Hsing University, Taiwan

2005/8-2007/7 Assistant Professor, Department of Applied Mathematics, National Chung Hsing University, Taiwan

2003/8-2005/7 Assistant Professor, Department of Statistics, Tunghai University, Taiwan

### **Research Interest**

Multivariate analysis

Computational statistics

Bayesian analysis

Financial statistics

High-dimensional data analysis

Incomplete data analysis

### **Awards and Honors**

- [1] **Elected member of International Statistical Institute (2021)**
- [2] H-index Paper Award, National Chung Hsing University (2020)
- [3] HiCi Paper Award, National Chung Hsing University (2014)
- [4] Excellent Research Award for Young Scientist from National Chung Hsing University (2009)
- [5] Excellence College Project Award from Ministry of Education, Taiwan (2008 and 2009)

### **Service and Committees**

- [1] **Associate Editor, Computational Statistics & Data Analysis**, 2015-present
- [2] Scientific Committee for 24<sup>th</sup> International Conference on Computational Statistics (COMPSTAT 2022, August 23-26, 2022 at Bologna, Italy)
- [3] **Co-Chair** for the 1st International Conference on Econometrics and Statistics (EcoSta 2017, Hong Kong, HKUST)
- [4] Scientific Committee for the 2st International Conference on Econometrics and Statistics (EcoSta 2018, Hong Kong)
- [5] **Co-Organizer and Coordinator**, the 3rd International Conference on Econometrics and Statistics (EcoSta 2019, Taiwan)
- [6] Scientific Committee, the 4th International Conference on Econometrics and Statistics (**EcoSta 2021**)
- [7] Guest Editor, Computational Statistics & Data Analysis (4rd Special Issue on ADVANCES IN MIXTURE MODELS), 2017-present
- [8] Guest Editor, Econometrics and Statistics (Special Issue on MIXTURE MODELS), 2015-2016
- [9] Guest Editor, Econometrics and Statistics (Special Issue on MIXTURE MODELS), 2020-present
- [10] Guest Editor, Computational Statistics & Data Analysis (3rd Special Issue on ADVANCES IN MIXTURE MODELS), 2014-2015  
<https://www.sciencedirect.com/science/article/pii/S0167947315002029>
- [11] Guest Editor, Computational Statistics & Data Analysis (4th Special Issue on ADVANCES IN

MIXTURE MODELS), 2017-2018

<https://www.sciencedirect.com/science/article/pii/S0167947318302858>

- [12] Organizer Committee, 9<sup>th</sup> Cross-Strait Conference on Probability and Statistics, Taiwan, 2014/5
- [13] Scientific Committee, Mathematics Research Promotion Center, Taiwan (2011-2014)
- [14] Scientific Committee, International Chinese Statistical Association, Taiwan (2013-2017)
- [15] Scientific Committee, International Conference on Socio-Economic Challenges and Sustainable Solutions, India, 2013/12
- [16] Scientific Committee, MBC<sup>2</sup> - Workshop on Model Based Clustering and Classification, Italy, 2014/9
- [17] Referees for the following international journals:
  - Advances in Data Analysis and Classification
  - Annals of Applied Statistics
  - Biometrics
  - Biometrika
  - BMC Bioinformatics
  - Biostatistics
  - Biometrical Journal
  - Communication in Statistics: Theory and Methods
  - Canadian Journal of Statistics
  - Computational Statistics
  - Computational Statistics and Data Analysis
  - Journal of the American Statistical Association
  - Journal of Computational and Applied Mathematics
  - Journal of Statistical Planning and Inference
  - Journal of Multivariate Analysis
  - Statistics
  - Statistics in Medicine
  - Statistical Papers
  - Statistica Sinica
  - TEST
  - and others

### **Conference Talk Invitation, Session Chair, Session Organizer**

- [1] 5th International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM 2012) (Oviedo, Spain)
- [2] 6th International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM 2013) (London, UK)
- [3] International Conference on Socio-Economic Challenges and Sustainable Solutions, Hyderabad India, 2013/12

- [4] The International Conference on Trends and Perspectives in Linear Statistical Inference (LinStat2014), Linkoping, Sweden
- [5] The third meeting of the IMS meeting series, IMS-APRM 2014 (IMS Asia Pacific Rim Meetings), Taipei, Taiwan
- [6] 7th International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM 2014 Dec) (Pisa, Italy)
- [7] Workshop of XIV School of Regression Models (2015 March) (Univ. Campinas, Brazil)
- [8] 8th International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM 2015 Dec) (London, UK)
- [9] 13th Iranian Statistical Conference (2016 Aug), Shahid Bahonar University of Kerman, Iran
- [10] 9th International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM 2016) (Servilla, Spain)
- [11] The 1st International Conference on Econometrics and Statistics (EcoSta 2017), HKUST, HK
- [12] Conference of the International Federation of Classification Societies (IFCS 2017 Aug), Tokai University, Tokyo
- [13] 10th International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM 2017 Dec) (London, UK)
- [14] The 2nd International Conference on Econometrics and Statistics (EcoSta 2018), CityU, HK
- [15] 14th Iranian Statistical Conference (2018 Aug), Shahrood University of Technology, Iran
- [16] 11th International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM 2018 Dec) (Pisa, Italy)
- [17] The 3rd International Conference on Econometrics and Statistics (EcoSta 2019), NCHU, Taiwan
- [18] The 4th International Conference on Econometrics and Statistics (EcoSta 2021), Hong Long
- [19] The 1<sup>st</sup> International Symposium in Statistics and Biostatistics (ISBS 2019, July), University of Pretoria, South Africa University
- [20] 12th International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM 2019 Dec) (London, UK)
- [21] 14th International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM 2021 Dec) (London, UK, hybrid virtual meeting)

### **Publications (2003-present)**

<http://amath2.nchu.edu.tw/tilin/publications.html> (Full publication list)

<https://scholar.google.com/citations?hl=en&user=p1Zss4sAAAAJ> (Google Citations)

- [1] Wang, WL and **Lin TI\*** (2021) Robust clustering via mixtures of t factor analyzers with incomplete data. *Advances in Data Analysis and Classification*  
<https://doi.org/10.1007/s11634-021-00453-8>

- [2] Wang, WL and **Lin TI\*** (2021) Robust clustering of multiply censored data via mixtures of t factor analyzers. *TEST* <https://doi.org/10.1007/s11749-021-00766-y>
- [3] Galarza CE, **Lin, TI**, Wang WL and Lachos VH\* (2021) On moments of folded and truncated multivariate Student-t distributions based on recurrence relations. *Metrika* 84(6), 825-850
- [4] Mahdavi A, Amirzadeh V, Jamalizadeh A and **Lin TI\*** (2021) A multivariate flexible skew-symmetric-normal distribution: scale-shape mixtures and parameter estimation via selection representation. *Symmetry* 13, 1343
- [5] Mahdavi A, Amirzadeh V, Jamalizadeh A and **Lin TI\*** (2021) Maximum likelihood estimation for scale-shape mixtures of flexible generalized skew normal distributions via selection representation. *Computational Statistics* 36(3), 2201-2230
- [6] Lee, SX, **Lin, TI**, and McLachlan GJ\* (2021) Mixtures of factor analyzers with fundamental skew symmetric distributions. *Advances in Data Analysis and Classification* 15(2), 481-512
- [7] Taavoni, M, Arashi, M\*, Wang, WL and **Lin, TI** (2021) Multivariate t semiparametric mixed-effects model for longitudinal data with multiple characteristics. *Journal of Statistical Computation and Simulation* 91(2) 260-281
- [8] Wang, WL, Castro, LM, Hsieh, WC and **Lin TI\*** (2021) Mixtures of factor analyzers with covariates for modeling multiply censored dependent variables. *Statistical Papers* 62(5), 2119-2145
- [9] Naderi, M, Jamalizadeh, A, Wang, WL and **Lin TI\*** (2020) Evaluating risk measures using the normal mean-variance Birnbaum-Saunders distribution. Springer series- Computational and Methodological Statistics and Biostatistics - Contemporary Essays in Advancement, pp. 187-209  
**(Book Chapter)**
- [10] Garay AM, Medina, FL\*, Cabral CRB and **Lin, TI** (2020) Bayesian analysis of the p-order integer valued AR process with zero-inflated Poisson innovations. *Journal of Statistical Computation and Simulation* 90(11) 1943-1964
- [11] Yang YC, **Lin, TI**, Castro, LM and Wang, WL\* (2020) Extending finite mixtures of t linear mixed-effects models with concomitant covariates. *Computational Statistics and Data Analysis* 148, 106961, 1-20
- [12] Wang, WL and **Lin TI\*** (2020) Automated learning of mixtures of factor analysis models with missing information. *TEST* 29(4), 1098-1124

- [13] Hashemia, F, Naderi, M, Jamalizadeh, A and **Lin, TI\*** (2020) A skew factor analysis model based on the normal mean-variance mixture of Birnbaum-Saunders distribution. *Journal of Applied Statistics* 47(16), 3007-3029
- [14] Wang, WL, Jamalizadeh A and **Lin, TI\*** (2020) Finite mixtures of multivariate scale-shape mixtures of skew-normal distributions. *Statistical Papers* 61(6), 2643-2670
- [15] **Lin, TI** and Wang, WL\* (2020) Multivariate-t linear mixed models with censored responses, intermittent missing values and heavy tails. *Statistical Methods in Medical Research* 29(5), 1288-1304
- [16] Wang, WL, Castro, LM, Lachos, VH and **Lin, TI\*** (2019) Model-based clustering of censored data via mixtures of factor analyzers. *Computational Statistics and Data Analysis* 140, 104-121
- [17] Naderia M, Hung WL\*, **Lin, TI** and Jamalizadeh A (2019) A novel mixture model using the multivariate normal mean-variance mixture of Birnbaum-Saunders distributions and its application to extrasolar planets. *Journal of Multivariate Analysis* 171, 126-138
- [18] Tamandi M, Jamalizadeh A and **Lin, TI\*** (2019) Shape mixtures of skew-t-normal distributions: characterizations and estimation. *Computational Statistics* 34, 323-347
- [19] Matos LA, Lachos VH\*, **Lin, TI** and Castro LM (2019) Heavy-tailed longitudinal regression models for censored data: A robust parametric approach. *TEST* 28(3), 844-878
- [20] Wang, WL, Castro, LM, Chang, YT and **Lin, TI\*** (2019) Mixtures of restricted skew-t factor analyzers with common factor loadings. *Advances in Data Analysis and Classification* 13(2), 445-480
- [21] **Lin, TI**, Lachos, VH and Wang, WL\* (2018) Multivariate longitudinal data analysis with censored and intermittent missing responses. *Statistics in Medicine* 37, 2822-2835
- [22] Wang, WL\*, **Lin, TI** and Lachos, VH (2018) Extending multivariate-t linear mixed models for multiple longitudinal data with censored responses and heavy tails. *Statistical Methods in Medical Research* 27, 48-64
- [23] **Lin, TI\***, Wang, WL, McLachlan GJ and Lee, SX (2018) Robust mixtures of factor analysis models using the restricted multivariate skew-t distribution. *Statistical Modelling* 28, 50-72
- [24] Roozegar R, Jamalizadeh A\*, Amiri M and **Lin TI\*** (2018) On the exact distribution of order statistics arising from a doubly truncated bivariate elliptical distribution. *METRON* 76, 99-114

- [25] Wang, WL, Castro, LM and **Lin, TI\*** (2017) Automated learning of t factor analysis models with complete and incomplete data. *Journal of Multivariate Analysis* **161**, 157-171
- [26] Wang, WL, Min Liu and **Lin, TI\*** (2017) Robust skew-t factor analysis models for handling missing data. *Statistical Methods and Applications* **26**, 649-672
- [27] **Lin, TI** and Wang, WL\* (2017) Multivariate-t nonlinear mixed models with application to censored multi-outcome AIDS studies. *Biostatistics* **18**, 666-681
- [28] Naderia M, Arabpour, A, **Lin, TI\*** and Jamalizadeh, A\* (2017) Nonlinear regression models based on the normal mean-variance mixture of Birnbaum-Saunders distribution. *Journal of the Korean Statistical Society* **46**, 476-485
- [29] Wang, WL and **Lin, TI\*** (2017) Flexible clustering via extended mixtures of common t-factor analyzers. *Advances in Statistical Analysis* **101**, 227–252
- [30] Jamalizadeh, A and **Lin, TI\*** (2017) A general class of scale-shape mixtures of skew-normal distributions: properties and estimation. *Computational Statistics* **32**, 451–474
- [31] Wang, WL\* and **Lin, TI** (2016) Maximum likelihood inference for the multivariate t mixture model. *Journal of Multivariate Analysis* **149**, 54-64
- [32] Garay, AW\*, Lachos, VH. and **Lin, TI** (2016) Nonlinear censored regression models with scale mixtures of normal distributions. *Statistics and its Interface* **9**, 281-293
- [33] **Lin, TI\***, McLachlan GJ and Lee, SX (2016) Extending mixtures of factor models using the restricted multivariate skew-normal distribution. *Journal of Multivariate Analysis* **143**, 398-413
- [34] Wang, WL and **Lin, TI\*** (2015) Robust model-based clustering via mixtures of skew-t distributions with missing information. *Advances in Data Analysis and Classification* **9**, 423-445
- [35] **Lin, TI\***, Wu, PH, McLachlan GJ and Lee, SX (2015) A robust factor analysis model using the restricted skew-t distribution. *TEST* **24**, 510-531
- [36] Liu, M and **Lin, TI\*** (2015) Skew-normal factor analysis models with incomplete data. *Journal of Applied Statistics* **42**, 789-805
- [37] Wang, WL\* and **Lin, TI** (2015) Bayesian analysis of multivariate t linear mixed models with missing responses at random. *Journal of Statistical Computation and Simulation* **85**, 3594-3612
- [38] **Lin, TI\*** (2014) Learning from incomplete data via parameterized t mixture models through eigenvalue decomposition. *Computational Statistics and Data Analysis* **71**, 183-195

- [39] Wang, WL and **Lin, TI (2014)** Multivariate t nonlinear mixed-effects models for multi-outcome longitudinal data with missing values. *Statistics in Medicine* 33, 3029-3046
- [40] **Lin, TI\***, Ho, HJ and Lee CR (2014) Flexible mixture modelling using the multivariate skew-t-normal distribution. *Statistics and Computing* 24, 531-546
- [41] **Lin, TI\***, McNicholas, PD and Ho, HJ (2014) Capturing patterns via parsimonious mixture models. *Statistics and Probability Letters* 88, 80-87
- [42] Liu, M and **Lin, TI (2014)** A skew-normal mixture regression model. *Educational and Psychological Measurement* 74, 139-162
- [43] **Lin, TI\* (2014)** Learning from incomplete data via parameterized t mixture models through eigenvalue decomposition. *Computational Statistics and Data Analysis* 71, 183-195
- [44] **Lin, TI** and Wang, WL\* (2013) Multivariate skew-normal linear mixed models for multi-outcome longitudinal data. *Statistical Modelling* 13, 199-221
- [45] Wang, WL and **Lin, TI\* (2013)** An efficient ECM algorithm for maximum likelihood estimation in mixtures of t-factor analyzers *Computational Statistics* 28, 751-769
- [46] Ho, HJ, **Lin, TI**, Chang, HH, Haase, HB, Huang, S and Pyne S (2012) Parametric modeling of cellular state transitions as measured with flow cytometry different tissues. *BMC Bioinformatics* 13 (Suppl 5):S5
- [47] Ho, HJ, Pyne, S and **Lin, TI\* (2012)** Maximum likelihood inference for mixtures of skew Student-t-normal distributions through practical EM-type algorithms. *Statistics and Computing* 22, 287-299
- [48] Ho, HJ, **Lin, TI**, Chen, HY and Wang, WL (2012) Some results on the truncated multivariate t distribution. *Journal of Statistical Planning and Inference* 142, 25-40
- [49] Rossin, E, **Lin, TI**, Ho, HJ, Mentzer, SJ and Pyne, S (2011) A framework for analytical characterization of monoclonal antibodies based on reactivity profiles in different tissues. *Bioinformatics* 27, 2746-2753
- [50] **Lin, TI\*** and Lin, TC (2011) Robust statistical modelling using the multivariate skew t distribution with complete and incomplete Data *Statistical Modelling* 11, 253-277
- [51] **Lin, TI\*** and Wang, WL (2011) Bayesian inference in joint modelling of location and scale parameters of the t distribution for longitudinal data. *Journal of Statistical Planning and Inference*



141, 1543-1553

- [52] Ho, HJ and **Lin, TI\*** (2010) Robust linear mixed models using the skew t distribution with application to schizophrenia data. *Biometrical Journal* 52, 449-469
- [53] Lin TC and **Lin, TI\*** (2010) Supervised learning of multivariate skew normal mixture models with missing information. *Computational Statistics* 25, 183-201 (SCI)
- [54] **Lin, TI\*** (2010) Robust mixture modeling using multivariate skew t distributions. *Statistics and Computing* 20, 343-356
- [55] **Lin, TI\***, Ho, HJ and Chen, CL (2009) Analysis of multivariate skew normal models with incomplete data. *Journal of Multivariate Analysis* 100, 2337-2351
- [56] Pyne, S, Hu, X, Wang, K, Rossin, E, **Lin, TI**, Maier, LM, Baecher-Allan, C, McLachlan, GJ, Tamayo, P, Hafler, DA, De Jager, PL and Mesirov, JP (2009) Automated high-dimensional flow cytometric data analysis, *Proceedings of the National Academy of Sciences (PNAS) USA* 106, 8519-8524
- [57] **Lin, TI\*** and Wang, YJ (2009) A robust approach to joint modeling of mean and scale covariance for longitudinal data. *Journal of Statistical Planning and Inference* 139, 3013-3026
- [58] **Lin, TI\***, Ho, HJ, and Shen, PS (2009) Computationally efficient learning of multivariate t mixture models with missing information. *Computational Statistics* 24, 375-392
- [59] **Lin, TI\*** (2009) Maximum likelihood estimation for multivariate skew normal mixture models. *Journal of Multivariate Analysis* 100, 257-265
- [60] **Lin, TI\*** (2008) Longitudinal data analysis using t linear mixed models with autoregressive dependence structures. *Journal of Data Science* 6, 333-355
- [61] Hsu, YL, **Lin, TI**, and Lee, CF (2008) Constant Elasticity of Variance (CEV) Option Pricing Model: Integration and Detailed Derivations. *Mathematics and Computers in Simulation* 79, 60-71
- [62] **Lin, TI\***, and Lee, JC (2008) Estimation and prediction in linear mixed models with skew normal random effects for longitudinal data. *Statistics in Medicine* 27, 1490-1507
- [63] **Lin, TI\***, and Ho, HJ (2008) A simplified approach to inverting the autocovariance matrix of a general ARMA(p,q) process. *Statistics & Probability Letters* 78, 36-41
- [64] **Lin, TI\*** and Lee, JC and Hsieh WJ (2007) Robust mixture modeling using the skew t distribution. *Statistics and Computing* 17, 81-92

- [65] **Lin, TI\*** and Lee, JC (2007) Bayesian analysis of hierarchical linear mixed modeling using the multivariate t distribution. *Journal of Statistical Planning and Inference* 137, 484-495
- [66] **Lin, TI\***, Lee, JC and Yen, SY (2007) Finite mixture modelling using the skew normal distribution. *Statistica Sinica* 17, 909-927
- [67] **Lin, TI\***, Lee, JC, and Ho, Hj (2006) On fast supervised learning for normal mixture models with missing information. *Pattern Recognition* 39, 1177-1187
- [68] **Lin, TI\*** and Lee, JC (2006) A robust approach to t linear mixed models applied to multiple sclerosis data. *Statistics in Medicine* 25,1397-1412
- [69] Lee, JC\*, **Lin, TI**, Lee, KJ and Hsu, YL (2005) Bayesian analysis of Box-Cox transformed linear mixed models with ARMA(p,q) dependence. *Journal of Statistical Planning and Inference* 133, 435-451
- [70] Lee, JC\*, Lee, CF, Wang, RS and **Lin, TI** (2004) Binomial and multinomial option pricing models: review and integration. *Advance in Quantitative Finance and Accounting* 1, 271- 295
- [71] **Lin, TI\***, Lee, JC and Ni, HF (2004) Bayesian analysis of mixture modelling using the multivariate t distribution. *Statistics and Computing* 14, 119-130.
- [72] **Lin, TI\*** and Lee, JC (2003) On modelling data from degradation sample paths over time. *Australian and New Zealand Journal of Statistics* 45, 257-270.