

張文豹先生講座講者資料

盧鴻興 (Horng-Shing Lu)

Education (學歷)

Ph.D. in Statistics, Cornell University, USA, 1994.

M.S. in Statistics, Cornell University, USA, 1990.

B.S. in Electric Engineering, National Taiwan University, Taiwan, 1986.

Positions Held (經歷)

Professor, Institute of Statistics, College of Science, National Chiao Tung University, Taiwan, 2002/2-present.

Vice President for Academic Affairs, National Chiao Tung University, Taiwan, 2016/1-present.

Director, Big Data Research Center, National Chiao Tung University, Taiwan, 2016/1-present.

Dean, College of Science, National Chiao Tung University, Taiwan, 2011/8- 2014/7.

Chairman, Interdisciplinary Sciences Degree Program, College of Science, National Chiao Tung University, Taiwan, 2008/2-2011/7.

Director, Institute of Statistics, College of Science, National Chiao Tung University, Taiwan, 2002/8-2005/7.

Associate Professor, Institute of Statistics, College of Science, National Chiao Tung University, Taiwan, 1994/8-2002/1.

Editorial Board, Journal of Applied Mathematics, International Scholarly Research Network, 2014-present. Reference Link

Board of Directors, International Chinese Statistical Association (ICSA) Board, 2012-2014. Reference Link

Co-editor for Handbook of Statistical Bioinformatics, Springer, 2011. Reference Link

Guest Editor for the Special Issue in International Journal of Systems and Synthetic Biology, 2010.

Guest Editor for the Special Issue in Journal of Data Science, July, 2008.

Associate Editor for Statistica Sinica, 2005-2008.

Associate Editor for Journal of the Chinese Statistical Association, 1995-1997, 2008-2010.

Teaching and Research Assistant, Cornell University, 1989-1994.

Visiting Scholar, Institute of Pure and Applied Mathematics, UCLA, fall, 2000.

Visiting Scholar, Department of Biostatistics, Harvard University, winter, spring and summer, 2001.

Visiting Scholar, Department of Ecology and Evolution, University of Chicago, USA, summer, 2002-2007, 2006/02-2007/01.

Honors/Awards (榮譽事蹟)

Elected member, International Statistical Institute (ISI), 2011.

Publication (著作)

1. Lu, H. H.-S., Wells, M. T., and Tiwari, R. C., "Inference for Functions in the Two-Sample Problem with Right Censored Data: With Applications" , Journal of the American Statistical Association , 89, 427, 1017-1026. 1994. (SCI) Reference Link
2. Chang, Y. L. C., Lander, L. C., Lu, H.-S., and Wells, M. T., "Bayesian Analysis for Fault Location in Distributed Systems" , IEEE Transactions on Reliability , 43, 3, 457-465. 1994. (SCI) Reference Link
3. Lu, H. H.-S., and Hsieh, F., "Transformation Models for Interval Scale Grouped Data with Applications" , Statistica Sinica , 7, 4, 841-854. 1997. (SCI) Reference Link
4. Lu, H. H.-S., Chen, C.-M., and Yang, I.-H., "Cross-Reference Weighted Least Square Estimates for Positron Emission Tomography" , IEEE Transactions on Medical Imaging , 17, 1, 1-8. 1998. (SCI) Reference Link
5. Lu, H. H.-S., "On the Random Number Generator in the Bootstrap" , Journal of the Chinese Statistical Association , 36, 2, 127-144, 1998 Reference Link
6. Chen, C.-M., Lu, H.-S., and Lin, Y.-C., "Evolutionary Snake Model for Ultrasound Image Segmentation: A Preliminary Study" , Biomedical Engineering-Applications, Basis and Communications, 10, 2, 110-118. 1998. (EI) Reference Link
7. Tu, K.-Y., Chen, T.-B., Lu, H. H.-S., Liu, R.-S., Chou, K.-L., and Chen, J.-C., "Iterative Image Reconstruction with Random Correction for PET Studies" , Annals of Nuclear Medicine and Sciences, 12, 4, 195-200. 1999. Reference Link
8. Chen, C.-M., Lu, H. H.-S., and Lin, Y.-C., "An Early Vision Based Snake Model for Ultrasound Image Segmentation" , Ultrasound in Medicine and Biology, 26, 2, 273-285. 2000. (SCI) Reference Link
9. Huang, S.-Y., and Lu, H. H.-S., "Bayesian Wavelet Shrinkage for Nonparametric Mixed-Effects Models" , Statistica Sinica, 10, 4, 1021-1040. 2000. (SCI) Reference Link
10. Chen, C.-M., and Lu, H. H.-S., "An Adaptive Snake Model for Ultrasound Image Segmentation: Modified Trimmed Mean Filter, Ramp Integration and Adaptive Weighting Parameters" , Ultrasonic Imaging, 22, 214-236. 2000. (SCI) Reference Link
11. Huang, S.-Y., and Lu, H. H.-S., "Extended Gauss-Markov Theorem for Nonparametric Mixed-Effects Models" , Journal of Multivariate Analysis, 76, 2, 249-266. 2001. (SCI) Reference Link
12. Chen, C.-M., Lu, H. H.-S., and Han, K.-C., "A Textural Approach Based on Gabor Functions for Texture Edge Detection in Ultrasound Images" , Ultrasound in Medicine and Biology, 27, 4, 513-534. 2001. (SCI) Reference Link
13. Huang, H.-C., Chen, C.-M., Wang, S.-D., and Lu, H. H.-S., "Adaptive Symmetric Mean Filter: A

- New Noise Reduction Approach Based on the Slope Facet Model" , *Applied Optics*, 40, 29, 5192-5205. 2001. (SCI) Reference Link
14. Tu, K. Y., Chen, T. B., Lu, H. H. S., Liu, R. S., Chen, K. L., Chen, C. M., and Chen, J. C., "Empirical Studies of Cross-Reference Maximum Likelihood Estimate Reconstruction for Positron Emission Tomography" , *Biomedical Engineering-Applications, Basis and Communications*, 13, 1, 1-7. 2001. (EI) Reference Link
 15. Chen, C.-M., Lu, H. H. S., and Hsu, Y.-P., "Cross-Reference Maximum Likelihood Estimate Reconstruction for Positron Emission Tomography" , *Biomedical Engineering-Applications, Basis and Communications*, 13, 4, 190-198. 2001. (EI) Reference Link
 16. Chen, C.-M., Lu, H. H.-S., and Hsiao, A.-T., "A Dual Snake Model of High Penetrability for Ultrasound Image Boundary Extraction" , *Ultrasound in Medicine and Biology*, 27, 12, 1651-1665. 2001. (SCI) Reference Link
 17. Gu, Z., Nicolae, D., Lu, H. H.-S., and Li, W.-H., "Rapid divergence in expression between duplicate genes inferred from microarray data" , *Trends in Genetics*, 18, 12, 609-613. 2002. (SCI) Reference Link
 18. Chen, C.-M., Lu, H. H.-S., and Huang, Y.-S., "Cell-Based Dual Snake Model: A New Approach to Extracting Highly Winding Boundaries in The Ultrasound Images" , *Ultrasound in Medicine and Biology*, 28, 8, 1061-1073. 2002. (SCI) Reference Link
 19. Chen, C.-M., Lu, H. H.-S., and Su, B.-S., "Cell-Based Region Competition for Ultrasound Image Segmentation" , *Journal of Medical and Biological Engineering*, 22, 2, 59-66, 2002. Reference Link
 20. Chen, C.-M., Lu, H. H.-S., and Chen, Y.-L., "A Discrete Region Competition Approach Incorporating Weak Edge Enhancement for Ultrasound Image Segmentation" , *Pattern Recognition Letters*, 24, 693-704. 2003. (SCI) Reference Link
 21. Lu, H. H.-S., Huang, S.-Y., and Lin, F.-J., "Generalized Cross-Validation for Wavelet Shrinkage in Nonparametric Mixed-Effects Models" , *Journal of Computational and Graphical Statistics*, 12, 3, 714-730. 2003. (SCI) Reference Link
 22. Qin, H., Lu, H. H.-S., Wu, W. B., and Li, W.-H., "Evolution of the yeast protein interaction network" , *PNAS (Proceedings of the National Academy of Sciences of the United States of America)*, 100, 22, 12820-12824. 2003. (SCI) Reference Link
 23. Wu, H.-M., and Lu, H. H.-S., "Supervised Motion Segmentation by Spatial-Frequential Analysis and Dynamic Sliced Inverse Regression" , *Statistica Sinica*, 14, 413-430. 2004. (SCI) Reference Link
 24. Chen, L., Lu, H. H.-S., and Chang, H.-C., "Utilization rates of preventive health services provided for children by the National Health Insurance Program, 1996-2001" , *Taiwan Journal of Public Health*, 23, 1, 37-44, 2004. Reference Link
 25. Zhang, L., Lu, H. H.-S., Chung, W.-Y., Yang, J., and Li, W.-H., "Patterns of Segmental Duplications in the Human Genome" , *Molecular Biology and Evolution*, 22, 1, 135-141. 2005. (SCI) Reference Link
 26. Li, L., and Lu, H. H.-S., "Explore Biological Pathways from Noisy Array Data by Directed

- Acyclic Boolean Networks" , *Journal of Computational Biology*, 12, 2, 170-185. 2005.
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27. Tsai, H.-K., Lu, H. H.-S., and Li, W.-H., "Statistical methods for identifying yeast cell cycle transcription factors" , *PNAS (Proceedings of the National Academy of Sciences of the United States of America)*, 102, 38, 13532-13537. 2005. (SCI) Reference Link
 28. Ho, J., Hwang, W.-L., Lu, H. H.-S., and Lee, D. T., "Gridding Spot Centers of Smoothly Distorted Microarray Images" , *IEEE Transactions on Image Processing* , 15, 2, 342-354. 2006. (SCI) Reference Link
 29. Tsai, H.-K., Huang, G. T.-W., Chou, M.-Y., Lu, H. H.-S., and Li, W.-H., "Method for identifying transcription factor binding sites in yeast" , *Bioinformatics*, 22, 14, 1675 – 1681. 2006. (SCI) Reference Link
 30. Wu, H.-M., and Lu, H. H.-S., "Iterative Sliced Inverse Regression for Segmentation of Ultrasound and MR Images" , *Pattern Recognition*, 40, 12, 3492-3502 2007. (SCI) Reference Link
 31. Chen, T.-B., Chen, J.-C., Lu, H. H.-S., and Liu, R.-S., "MicroPET Reconstruction with Random Coincidence Correction via a Joint Poisson Model" , *Medical Engineering & Physics*, 30, 6, 680-686. 2008. (SCI) Reference Link
 32. Tzeng, J., Lu, H. H.-S., and Li, W.-H., "Multidimensional Scaling for Large Genomic Data Sets" , *BMC Bioinformatics*, 9:179. 2008. (SCI) Reference Link
 33. Chen, T.-B., Lu, H. H.-S., Lee, Y.-S., and Lan, H.-J., "Segmentation of cDNA Microarray Images by Kernel Density Estimation" , *Journal of Biomedical Informatics*, 41, 1021 – 1027. 2008. (SCI) Reference Link
 34. Lu, H. H.-S., Chen, C.-M., Huang, Y.-M., and Wu, J.-S., "Computer-Aided Diagnosis of Liver Cirrhosis by Simultaneous Comparisons of the Ultrasound Images of Liver and Spleen" , *Journal of Data Science*, 6, 429-448, 2008. Reference Link
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 39. Cheng, J. H., Wang, Y., Chen, P. Y., Chen, T.-B., Chen, C.-J., Li, G.-C., and Lu, H. H.-S., "Mine Barcode of Life: Information Visualization and Fusion for the Environment and Society" , *International Journal of Systems and Synthetic Biology*, 1(1), 63-70. 2010. Reference Link

40. Lu, H. H.-S., and Wu, H. M., "Visualization, Screening, and Classification of Cell Cycle-Regulated Genes in Yeast" , International Journal of Systems and Synthetic Biology, 1(2), 185-198, 2010.
41. Wang, H., Lu, H. H.-S., Chueh, T.-H., "Constructing Biological Pathways by a Two-Step Counting Approach" , PLoS ONE 6(6): e20074, 2011. (SCI) Reference Link
42. Deng, L.-Y. , Shiao, J.-J. H., and Lu, H. H.-S., "Large-order multiple recursive generators with modulus $2^{31}-1$ " , INFORMS Journal on Computing, Published online before print, October 17, 2011. Published in Vol. 24, No. 4, Fall 2012, pp. 636 – 647. (SCI) Reference Link
43. Deng, L.-Y. , Shiao, J.-J. H., and Lu, H. H.-S., "Efficient computer search of large-order multiple recursive pseudo-random number generators" , Journal of Computational and Applied Mathematics, 236, 3228 – 3237, 2012. (SCI) Reference Link
44. Chiang, S, Swamy, K. B., Hsu, T. W., Tsai, Z. T., Lu, H. H.-S., Wang, D., Tsai, H. K., "Analysis of the association between transcription factor binding site variants and distinct accompanying regulatory motifs in yeast" , Gene. 2012 Jan 10;491(2):237-45. Epub 2011 Sep 16. (SCI) Reference Link
45. Chueh, T.-H., and Lu, H. H.-S., "Inference of Biological Pathway from Gene Expression Profiles by Time Delay Boolean Networks" , PLoS ONE 7(8): e42095, 2012. (SCI) Reference Link
46. Suen, S., Lu, H. H.-S., and Yeang, C. H., "Evolution of domain architectures and catalytic functions of enzymes in metabolic systems" , Genome Biology and Evolution, 2012. (SCI) [Epub ahead of print] Reference Link
47. Chen, T.-B, Chen, J.-C., and Lu, H. H.-S., "Segmentation of 3D microPET Images of the Rat Brain via the Hybrid Gaussian Mixture Method with Kernel Density Estimation" , Journal of X-ray Science and Technology, 2012, 20, 339-349. (SCI) Reference Link
48. Chueh, T. H., Chen, T.-B., Lu, H. H.-S., Ju, S.-S., Tao, T.-H., and Shaw, J. H., "Statistical Prediction of Emotional States by Physiological Signals with MANOVA and Machine Learning" , International Journal of Pattern Recognition and Artificial Intelligence, 2012, 26, 1250008. (SCI) Reference Link
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51. Hung, H., Liu, C.-Y., Lu, H. H.-S. 2015 "Sufficient dimension reduction with additional information." , To appear in Biostatistics. (SCI) Reference Link
52. Lin, C.-M., Chang, Y.-J., Liu, C.-K., Yu, C.-S., Lu, H. H.-S., "Role of Extracranial Carotid Duplex and Computed Tomography Perfusion Scanning in Evaluating Perfusion Status of Pericarotid Stenting" , BioMed Research International, vol. 2016, Article ID 7051856, 7 pages, 2016. doi:10.1155/2016/7051856. (SCI) Reference Link

53. Yu, C.-S., Lin, C.-M., Liu, C.-K., Lu, H. H.-S., "Impact of baseline characteristics on outcomes of carotid artery stenting in acute ischemic stroke patients" , *Therapeutics and Clinical Risk Management*, 2016:12 495 – 504. (SCI) [Reference Link](#)
54. Lin, C.-M., Chang, Y.-J., Liu, C.-K., Yu, C.-S., Lu, H. H.-S., "First-ever ischemic stroke in elderly patients: predictors of functional outcome following carotid artery stenting" , *Clinical Interventions in Aging*, 2016, 11:985-995. (SCI) [Reference Link](#)
55. Chen, S., Deng, L.-Y., Bowman, D., Shiau, J.-J. H., Wong, T.-Y., Madahian, B., Lu, H. H.-S., "Phylogenetic tree construction using trinucleotide usage profile (TUP)" , *BMC Bioinformatics*, Accepted. (SCI)
56. Chen, C.-H., Tu, C.-C., Kuo, H.-Y., Zeng, R.-F., Yu, C.-S., Lu, H. H.-S., Liou, M.-L., "Dynamic change of surface microbiota with different environmental cleaning methods between two wards in a hospital" , *Applied Microbiology and Biotechnology*. (SCI)