

PUBLICATION LIST

FREDERICK KIN HING PHOA

Institute of Statistical Science
Academia Sinica
128 Academia Road, Section 2
Taipei City 115, Taiwan.
Phone: (886)-2-27875700
Update at 2023/09/01

Email: fredphoa@stat.sinica.edu.tw
DOB: 11th June, 1981
Citizenship: Hong Kong, USA, Taiwan
Website: <http://staff.stat.sinica.edu.tw/fredphoa/>
Language: fluent Cantonese, English and
Mandarin; basic French and Japanese.

1. Huang, E.C.H. and Phoa, F.K.H. (2023). Uniformly scattering neighboring nodes of an ego-centric network on a spherical surface for better network visualization. *Complex Networks and Their Applications XI*, SCI Volume **1078**, 97-107.
2. Ashouri, M. and Phoa, F.K.H. (2022). Interactive tool for clustering and forecasting patterns of Taiwan COVID-19 spread. *PLoS ONE*, **17(6)**, 0265477.
3. Jung, H., Phoa, F.K.H. and Ashouri, M. (2022). A leading author model for the popularity effect on scientific collaboration. *Complex Networks and Their Applications X*, SCI Volume **1015**, 424-437.
4. Singh, K., Liu, H.P., Phoa, F.K.H., Lin, S.P. and Chen-Burger, Y.H.J. (2022). Decentralized supply chain optimization via swarm intelligence. *Advances in Swarm Intelligence*, LNCS volume **13344**, 432-441.
5. Sun, W.H. and Phoa, F.K.H. (2022). Network community detection via an improved swarm intelligence approach. *Advances in Swarm Intelligence*, LNCS volume **13344**, 419-431.
6. Chang, L.L.N., Phoa, F.K.H. and Nakano, J. (2021). A generative model of article citation networks of a subject from a large-scale citation database. *Scientometrics* **126**, 7373-7395.
7. Jung, H. and Phoa, F.K.H. (2021). On the effects of capability and popularity on network dynamics with applications to Youtube and Twitch networks. *Physica A* **571**, 125663.
8. Jung, H. and Phoa, F.K.H. (2021). A mixture model of truncated zeta distributions with applications to scientific collaboration networks. *Entropy*, **23**, 502.
9. Lin, Y.L. and Phoa, F.K.H. (2021). Efficient experimental plans for second-order event-related functional magnetic resonance imaging. *Statistica Sinica* **31**, 157-171.
10. Phoa, F.K.H., Liu, H.P., Chen-Burger, Y.H. and Lin, S.P. (2021). Metaheuristic optimization on tensor-type solution via swarm intelligence and its application in the profit optimization in designing selling scheme. *Advances in Swarm Intelligence*, LNCS volume **12689**, 72-82.
11. Singh, K., Lin, S.P., Phoa, F.K.H. and Chen-Burger, Y.H.J. (2021). Swarm intelligence

- optimization algorithms and their applications in a complex layer-egg supply chain. *Agents and Multi-agent Systems: Technologies and Applications*, SIST volume **241**, 39-51.
12. Weng, P.C.Y. and Phoa, F.K.H. (2021). Perturbation analysis and condition numbers of rational Riccati equations. *Annals of Mathematical Sciences and Applications* **6**, 25-49.
 13. Yen, P.C. and Phoa, F.K.H. (2021). Traveling salesman problem via swarm intelligence. *Advances in Swarm Intelligence*, LNCS volume **12689**, 106-115.
 14. Akhtar, Y. and Phoa, F.K.H. (2020). Cost-efficient mixed-level covering designs for testing experiments. *Journal of Statistical Theory and Practice* **14**:6.
 15. Chang, L.L.N., Phoa, F.K.H. and Nakano, J. (2020). Citations of Academic Articles and Statistical Articles in Fields of Sciences. *Proceedings of the Institute of Statistical Mathematics* **68**, 247-264.
 16. Jung, H. and Phoa, F.K.H. (2020). Analysis of a finite mixture of truncated zeta distributions for degree distribution. *Complex Networks and Their Applications IX*, SCI Volume **944**, 497-507.
 17. Lukusa, M.T. and Phoa, F.K.H. (2020). A note on the weighting-type estimations of the zero-inflated Poisson regression model with missing data in covariates. *Statistics and Probability Letters* **158**, 108654.
 18. Lukusa, M.T. and Phoa, F.K.H. (2020). A Horvitz-type estimation on incomplete traffic accident data analyzed via a zero-inflated Poisson model. *Accident Analysis and Prevention* **134**, 105235.
 19. Lukusa, M.T. and Phoa, F.K.H. (2020). Semiparametric weighting estimations of a zero-inflated Poisson regression with missing in covariates. *Nonparametric Statistics*, Springer Volume **339**, 329-339.
 20. Phoa, F.K.H., Lai, H.Y., Chang, L.L.N. and Honda, K. (2020). A two-step deep learning approach to data classification and modeling and a demonstration on subject type relationship analysis in the Web of Science. *Scientometrics* **125**, 851-863.
 21. Phoa, F.K.H. and Tsai, T.C. (2020). A two-step approach to the search of minimum energy designs via swarm intelligence. *Advances in Swarm Intelligence*, Springer volume **12145**, 37-45.
 22. Wang, T.C. and Phoa, F.K.H. (2020). A generalized framework for detecting social network communities by the scanning method. *Complex Networks and Their Applications*, SCI volume **881**, 250-261.
 23. Weng, P.C.Y. and Phoa, F.K.H. (2020). Perturbation analysis of continuous-time linear time-invariant systems. *Advances in Pure Mathematics* **10**, 155-173.
 24. Mizukami, Y., Honda, K. Phoa, F.K.H. and Nakano, J. (2019). Quantitatively analyze the

- capability of the organization: Estimating the capability to induce innovation based on co-author information of articles. *Proceeding of ISI WSC 2019: Special Topic Sessions*, Volume **2**, 1-10.
25. Chang, L.L.N., Phoa, F.K.H. and Nakano, J. (2019). A new metric for the analysis of the scientific article citation network. *IEEE Access* **7**, 132027-132032.
 26. Lin, F.P.C. and Phoa, F.K.H. (2019). Runtime estimation and scheduling on parallel processing supercomputers via instance-based learning and swarm intelligence. *International Journal of Machine Learning and Computations* **9**, 592-598.
 27. Hsu, T.C. and Phoa, F.K.H. (2018). A smart initialization on the swarm intelligence based method for efficient search of optimal minimum energy design. *Advances in Swarm Intelligence*, Springer Volume **10941**, 78-87.
 28. Weng, P.C.Y. and Phoa, F.K.H. (2018). Calibrating linear continuous-time dynamical systems via perturbation analysis. *Filomat* **32**, 1909-1915.
 29. Lin, F.P.C. and Phoa, F.K.H. (2017). An efficient construction of confidence regions via swarm intelligence and its application in target localization. *IEEE Access* **6**, 8610-8618.
 30. Lin, Y.L., Phoa, F.K.H. and Kao, M.H. (2017). Optimal design of fMRI experiments using circulant (almost-)orthogonal arrays. *Annals of Statistics* **45**, 2483-2510.
 31. Phoa, F.K.H. (2017). A swarm intelligence based (SIB) method for optimization in designs of experiments. *Natural Computing* **16**, 597-605.
 32. Lin, Y.L., Phoa, F.K.H. and Kao, M.H. (2017). Circulant partial Hadamard matrices: construction via general difference sets and its application to fMRI experiments. *Statistica Sinica* **27**, 1715-1724.
 33. Wang, T.C. and Phoa, F.K.H. (2017). Community detection under exponential random graph model: a metaheuristic approach. *Advances in Swarm Intelligence*, Springer Volume **10386**, 87-98.
 34. Chang, L.L.N. and Phoa, F.K.H. (2017). A study of the article citation network in statistics research community. *Proceedings of DSIR 2017*, 134-137.
 35. Lin, Y.L. and Phoa, F.K.H. (2017). Dominating centrality set: a new measure on the network coverage of influential center nodes. *Proceedings of DSIR 2017*, 138-141.
 36. Wang, T.C., Phoa, F.K.H. and Lin, Y.L. (2017). Network exploration by complement graph with graph coloring. *Journal of Advanced Statistics* **2**, 78-95.
 37. Yang, C.Y., Phoa, F.K.H. and Chiang, Y.S. (2017). A statistical evaluation and modeling on the social transitivity behavior. *Asian Journal of Humanities and Social Studies* **5**, 122-130.
 38. Lin, F.P.C. and Phoa, F.K.H. (2017). A performance study of parallel programming via CPU and GPU on swarm intelligence based evolutionary algorithm. *Proceedings of ISMSI 2017* 1-

- 5.
39. Cheng, C.S., Kao, M.H. and Phoa, F.K.H. (2017). Optimal and efficient designs for functional brain imaging experiments. *Journal of Statistical Planning and Inference* **181**, 71-80.
40. Chatterjee, K., Ou, Z., Phoa, F.K.H. and Qin, H. (2017). Uniform four-level designs from two-level designs: a new look. *Statistica Sinica* **27**, 171-186.
41. Wang, T.C. and Phoa, F.K.H. (2016). Focus statistics for testing the degree centrality in social networks. *Network Science* **4**, 460-473.
42. Phoa, F.K.H. and Chang, L.L.H. (2016). A multi-objective implementation in swarm intelligence with applications in designs of computer experiments. *Proceedings of ICNC-FSKD 2016*, 253-258.
43. Phoa, F.K.H., Weng, P.C.Y. and Chang, Y.S. (2016) A mathematical model on the propagation of node attributes on a social network, *IEEE Transactions on Engineering Sciences*, 104-117.
44. Weng, P.C.Y. and Phoa, F.K.H. (2016). Small-sample condition estimation of large-scale generalized eigenvalue problems. *Journal of Computational and Applied Mathematics* **298**, 24-39.
45. Wang, T.C. and Phoa, F.K.H. (2016). A scanning method for detecting clustering pattern of both attribute and structure in social networks. *Physica A* **445**, 295-309.
46. Phoa, F.K.H., Chen, R.B., Wang, W.C. and Wong, W.K. (2016). Optimizing two-level supersaturated designs via swarm intelligence techniques. *Technometrics* **58**, 43-49.
47. Lin, Y.L. and Phoa, F.K.H. (2016). Constructing near-Hadamard designs with (almost) D-optimality by General Supplementary Difference Sets. *Statistica Sinica* **26**, 413-427.
48. Phoa, F.K.H., Wang, T.C. and Lin, S.C. (2016). A search of maximum generalized resolution Quaternary-code designs via integer linear programming. *Statistics and Computing* **26**, 277-283.
49. Cheng, S.L., Lin, W.H., Phoa, F.K.H., Hwang, J.S. and Liu, W.C. (2015). Analysing the unequal effects of positive and negative information on the behaviour of users of a Taiwanese on-line bulletin board. *PLoS ONE* **10(9)**: 0137842.
50. Phoa, F.K.H. and Lin, D.K.J. (2015). A systematic approach to the construction of definitive screening designs. *Statistica Sinica* **25**, 853-862.
51. Weng, P.C.Y., Phoa, F.K.H. and Chang, Y.S. (2015). A general attribute diffusion mechanism on social networks. (Best Paper Award) *Proceedings of the World Congress on Engineering 2015*, Volume **2**, 676-679.
52. Wang, T.C., Phoa, F.K.H. and Hsu, T.J. (2015). Power-law distribution in community detection. *Social Network Analysis and Modeling* **5**: 1-10.
53. Phoa, F.K.H., Wang, T.C. and Lin, Y.L. (2014). Using swarm intelligence to search for

- circulant partial Hadamard matrices. *Advances in Swarm Intelligence*, Springer Volume **8794**, 158-165.
54. Wang, T.C. and Phoa, F.K.H. (2014). Scanning network communities with power-law-distributed attributes, *Proceedings of ASONAM 2014*, 204-207.
55. Phoa, F.K.H. (2014). A graphical user interface platform of the Stepwise Response Refinement Screener for screening experiments. *Proceedings of COMPSTAT 2014*, 69-79.
56. Phoa, F.K.H. (2014). The Stepwise Response Refinement Screener (SRRS). *Statistica Sinica* **24**, 197-210.
57. Phoa, F.K.H. (2013). Quaternary-code designs: a better design choice for experimentations. *Proceedings of 59th ISI World Statistics Congress*, 3905-3909.
58. Phoa, F.K.H. and Liu, W.C. (2013). High-quality winners take more: modeling non-scale-free bulletin forums with content variations. *Journal of Data Science* **11**, 559-573.
59. Phoa, F.K.H. and Sanchez, J. (2013). The browsing behavior of world wide web users: an academia website. *Open Journal of Statistics* **3**, 145-154.
60. Phoa, F.K.H. and Chen, H.W. (2013). Desirability function approach on the optimization of multiple Bernoulli-distributed responses. *Proceedings of the 2nd ICPRAM*, 127-132.
61. Phoa, F.K.H. (2013). The Stepwise Response Refinement Screener (SRRS) and its Applications to Analysis of Factorial Experiments. *Pattern Recognition-Applications and Methods*, Springer Volume **204**, 13-22.
62. Phoa, F.K.H. (2013). A highly efficient design for experimentation: Quaternary-code designs. *NSC Natural Science News* **25**, 27-29. (Chinese).
63. Phoa, F.K.H. (2012). A code arithmetic approach for Quaternary code designs and its application to (1/64)th-fractions. *Annals of Statistics* **40**, 3161-3175.
64. Phoa, F.K.H., Mukerjee, R., and Xu, H. (2012). One-eighth- and one-sixteenth-fraction Quaternary code designs with high resolution. *Journal of Statistical Planning and Inference* **142**, 1073-1080.
65. Latorre Carmona, P., Sotoca, J.M., Pla, F., Phoa, F.K.H. and Bioucas Dias, J. (2011). Feature selection in regression tasks using conditional mutual information. *Pattern Recognition and Image Analysis*, Springer Volume **6669**, 224-231.
66. Zhang, R., Phoa, F.K.H., Mukerjee, R., and Xu, H. (2011). A trigonometric approach to Quaternary code designs with application to one-eighth and one-sixteenth fractions. *Annals of Statistics* **39**, 931-955.
67. Phoa, F.K.H. and Xu, H. (2009). Quarter-fraction factorial design constructed via Quaternary codes. *Annals of Statistics* **37**, 2561-2581.
68. Phoa, F.K.H., Wong, W.K. and Xu, H. (2009). The need of considering the interactions in the

- analysis of screening designs. *Journal of Chemometrics* **23**, 545-553.
69. Phoa, F.K.H., Xu, H. and Wong, W.K. (2009). The use of nonregular fractional factorial designs in combination toxicity studies. *Food and Chemical Toxicology* **47**, 2183-2188.
70. Phoa, F.K.H., Pan, Y.H. and Xu, H. (2009). Analysis of supersaturated designs via Dantzig selector. *Journal of Statistical Planning and Inference* **139**, 2362-2372.
71. Xu, H., Phoa, F.K.H. and Wong, W.K. (2009). Recent developments in nonregular fractional factorial designs. *Statistics Surveys* **3**, 18-46.
72. Walls, J.D., Phoa, F.K.H. and Lin, Y.Y. (2004). Spin dynamics at very high spin polarization. *Physical Review B* **70**, 174410.