Francis K.C. Hui

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Professional Experience (since 2015)

Associate Professor 2024-
Research School of Finance, Actuarial Studies & Statistics, Australian National University, Australia

Senior Lecturer 2020-2023
Research School of Finance, Actuarial Studies & Statistics, Australian National University, Australia

Lecturer 2019
Research School of Finance, Actuarial Studies & Statistics, Australian National University, Australia

Lecturer 2017-2018
Mathematical Sciences Institute, Australian National University, Australia

Fellow 2018-
The Higher Education Academy

Postdoctoral Fellow 2015-2016
Mathematical Sciences Institute, Australian National University, Australia
Supervisors: Prof Alan Welsh (ANU), Prof Samuel Mueller (USYD)

Achievements and Funding (since 2018)

Australian Grains Industry (AAGI) Project 2024-2027
Analytics for the Australian Grains Industry AAGI (Joint with Dr Emi Tanaka, Prof Eric Stone, and Prof Alan Welsh)
Grains Research and Development Corporation (GRDC), $3,250,000

Hansen Scandinavian Friendship Endowment 2024-2025
Cutting-edge statistical methods and software for restoration ecology (Joint with Dr Bert van de Veen)
Australian National University, $10,000

Discovery Project DP240100143 2024-
Modern statistical methods for clustering community ecology data (Joint with Dr Patricia Menendez, Prof David Warton, Dr Skipton Woolley and Dr Scott Foster)
Australian Research Council, $\sim \$401,000$

Discovery Project DP230101908 2023-
Reliable and accurate statistical solutions for modern complex data (Joint with Prof Samuel Mueller, Prof Alan Welsh, and Prof Eva Cantoni)
Australian Research Council, $\sim \$388,000$

Prize for Excellence in Research 2022

College of Business and Economics, The Australian National University

Christopher Heyde Medal   2022
For research in probability theory, statistical methodology and applications
Australian Academy of Science

President's Award for Leadership in Statistics   2022
Statistical Society of Australia

Discovery Early Career Research Award DE200100435   2020-2023
Modern statistical methods for complex multivariate longitudinal data.
Australian Research Council, $\sim \$365,000$

RSFAS Cross Disciplinary Grant Program   2019-2021
Fitting and interpreting models for discrete count data containing complete separation with
applications to linguistics and ecology (Joint with Dr. Robert Clark and Dr. Wade Blanchard)
ANU, $\sim \$20,000$

R Consortium Grant   2019
Symbolic formulae for linear mixed models (Joint with Dr. Emi Tanaka and Dr. Max Kuhn)
R Consortium, $\sim \$6,000$

RSFAS Cross Disciplinary Grant Program   2018-2020
Are more funds better than one? Evidence from common stock holdings in mutual funds (Joint
with Dr. Ding Ding and Dr. Tao Zou)
ANU, $\sim \$20,000$

Discovery Project DP180100836   2018-2021
Dimension reduction and model selection for statistically challenging data (Joint with Prof Samuel
Mueller and Prof Alan Welsh)
Australian Research Council, $\sim \$360,000$

Research Output

Referred Journal Articles

[1] Dong, M., Shang, H.L., **Hui, F.K.C.**, and Bruhn, A. (accepted 20/12/24). A compositional
approach to modelling cause-specific mortality with zero counts. *Annals of Actuarial Science*.

[2] Tho, Z.Y., **Hui, F.K.C.**, and Zou, Tao. (accepted 10/12/24). An Ising similarity regression
model for modeling multivariate binary data. *Statistica Sinica*.

- https://doi.org/10.5705/ss.202024.0021

[3] Nghiem, L.H. and **Hui, F.K.C.**. (accepted 10/10/24). Random effects model-based sufficient
dimension reduction for independent clustered data. *Journal of the American Statistical
Association*.

[4] Korhonen, P., **Hui, F.K.C.**, Niku, J., Taskinen, S., and van der Veen, B. (2024). A comparison
of joint species distribution models for percent cover data. *Methods in Ecology and Evolution*,
15, 2359–2372.

- https://doi.org/10.1111/2041-210X.14437

[5] **Hui, F.K.C.**, Dang, K-D, and Maestrini, L. (accepted 06/09/24). Simultaneous coefficient clustering and sparsity for multivariate mixed models. *Journal of Computational and Graphical Statistics*.

- https://doi.org/10.1080/10618600.2024.2402904

[6] **Hui, F.K.C.**, Vu, Q., and Hooten, M.B. (2024). Spatial confounding in joint species distribution models. *Methods in Ecology and Evolution*, 15, 1906–1921.

- https://doi.org/10.1111/2041-210X.14420

[7] Ning, N., **Hui, F.K.C.**, and Welsh, A.H. (accepted 17/06/24). Asymptotic results for penalized quasi-likelihood estimation in generalized linear mixed models. *Statistica Sinica*.

[8] Chua, N.J.Y., **Hui, F.K.C.**, and Welsh, A.H. (2024). On the efficiency of composite likelihood estimation for Gaussian spatial processes. *Statistica Sinica*, 34, 547-565.

- https://doi.org/10.5705/ss.202020.0311

[9] Veen, B., O'Hara, R.B., **Hui, F.K.C.**, and Hovstad, K.A. (2024). Predicting niche overlap with model-based ordination. *Ecography*, 2024, e06938.

- https://doi.org/10.1111/ecog.06938

[10] Nghiem, L.H., **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. (2024). Likelihood-based surrogate dimension reduction. *Statistics and Computing*, 34, 51.

- https://doi.org/10.1007/s11222-023-10357-6

[11] Dong, M., Bruhn, A., Shang, H.L., and **Hui, F.K.C.**. (2024). Assessing the financial impact of climate risk stresses on life insurance portfolios. *Asia-Pacific Journal of Risk and Insurance*, 18, 87-114. **(Awarded Best ASJPRI paper in 2024)**

- https://doi.org/10.1515/apjri-2023-0010

[12] **Hui, F.K.C.**, Maestrini, L., and Welsh, A.H. (2024). Homogeneity pursuit and variable selection in regression models for multivariate abundance data. *Biometrics*, 80, ujad001.

- https://doi.org/10.1093/biomtc/ujad001

[13] Singh, A., Nitschke, C.R. **Hui, F.K.C.**, Baker, P.J., and Kasel, S. (2023). Soil seed banks provide a storage effect in post-logging regrowth forests of southeastern Australia. *Forest Ecology and Management*, 548, 121389.

- https://doi.org/10.1016/j.foreco.2023.121389

[14] Collins, S., Maestrini, L., **Hui, F.K.C.**, Stuart, B., Ueland, M. (2023). The use of generalized linear mixed models to investigate post-mortem lipids in textiles. *iScience*, 26, 107371.

- https://doi.org/10.1016/j.isci.2023.107371

[15] **Hui, F.K.C.**, Warton, D.I., Foster, S.D., and Haak, C.R. (2023) Spatio-temporal joint species distribution modelling: A basis function approach. *Methods in Ecology and Evolution*, 14, 2150-2164.

- https://doi.org/10.1111/2041-210X.14184

[16] Singh, A., Kasel, S., **Hui, F.K.C.**, Trouve, R., Baker, P.J., and Nitschke, C.R. (2023). Multiple factors shape plant assemblages in regrowth montane forests in southeastern Australia. *Forests*, 14, 1166.

- https://doi.org/10.3390/f14061166

[17] Zhang, X., Huang, F., **Hui, F.K.C.**, and Haberman, S. (2023). Cause-of-death mortality forecasting using adaptive penalized tensor decompositions. *Insurance: Mathematics and Economics*, 111, 193-213.

- https://doi.org/10.1016/j.insmatheco.2023.05.003

[18] Clark, R. G., Blanchard, W., **Hui, F.K.C.**, Tian, R., and Woods, H. (2023). Dealing with Complete Separation and Quasi-Complete Separation in Logistic Regression for Linguistic Data. *Research Methods in Applied Linguistics*, 2, 100044.

- https://doi.org/10.1016/j.rmal.2023.100044

[19] da Silva, J.P., Goncalves, D.V., Garcia-Raventos, A., Lopes-Lima, M., Varandas, S., Froufe, E., Teixeira, A., **Hui, F.K.C.**, and Filipe, A.F. (2023). Joint Species Distribution Models unveil co-occurrences between freshwater mussels and their fish hosts. *Journal of Biogeography*, 50, 730-742.

- https://doi.org/10.1111/jbi.14565

[20] Tho, Z.Y., Ding, D., **Hui, F.K.C.**, Welsh, A.H., and Zou, Tao. (accepted 18/01/23). On the Robust Estimation of Spatial Autoregressive Models. *Econometrics and Statistics*.

- https://doi.org/10.1016/j.ecosta.2023.01.004

[21] Veen, B., **Hui, F.K.C.**, Hovstad, K.A., and O'Hara, R.B. (2023) Concurrent ordination: simultaneous unconstrained and constrained latent variable modeling. *Methods in Ecology and Evolution*, 14, 683-695.

- https://doi.org/10.1111/2041-210X.14035

[22] Ning, N., **Hui, F.K.C.**, and Welsh, A.H. (2023) A double fixed rank kriging approach to spatial regression models with covariate measurement error. *Environmetrics*, 34, e2771.

- https://doi.org/10.1002/env.2771

[23] Nghiem, L.H., **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. (2023) Screening methods for linear errors-in-variables models in high dimensions. *Biometrics*, 79, 926–939.

- https://doi.org/10.1111/biom.13628

[24] Korhonen, P., **Hui, F.K.C.**, Niku, J., and Taskinen, S. (2023) Fast and universal estimation of latent variable models using extended variational approximations. *Statistics and Computing*, 33, 26.

- https://doi.org/10.1007/s11222-022-10189-w

[25] Kidzinski, L., **Hui, F.K.C.**, Warton, D.I., and Hastie, T. (2022) Generalized matrix factorization: efficient algorithms for fitting generalized linear latent variable models to large data arrays. *Journal of Machine Learning Research*, 23, 1–29.

- https://www.jmlr.org/papers/volume23/20-1104/20-1104.pdf

[26] Dong Y., Frees, E.W., Huang, Fei, and **Hui, F.K.C.**. (2022) Multi-state modelling of customer churn. *ASTIN Bulletin - The Journal of the International Actuarial Association*, 52, 735–764.

- https://doi.org/10.1017/asb.2022.18

[27] Stoklosa, J., Blakey, R.V., and **Hui, F.K.C.** (2022). An overview of modern applications of negative binomial modelling in ecology and biodiversity. *Diversity*, 14, 320.

- https://doi.org/10.3390/d14050320

[28] **Hui, F.K.C.** (2022) GEE-assisted forward regression for spatial latent variable models. *Journal of Computational and Graphical Statistics*, 31, 1013–1024.

- https://doi.org/10.1080/10618600.2022.2058002

[29] **Hui, F.K.C.**, and Bondell, H.D. (2022) Spatial confounding in generalized estimating equations. *The American Statistician*, 76, 238-247

- https://doi.org/10.1080/00031305.2021.2009372

[30] Nghiem, L.H., **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. (2022) Estimation of graphical models for skew continuous data. *Scandinavian Journal of Statistics*, 49, 1811–1841.

- https://doi.org/10.1111/sjos.12569

[31] **Hui, F.K.C.**, Hill, N.A., and Welsh, A.H. (2022). Assuming independence in spatial latent variable models: consequences and implications of misspecification. *Biometrics*, 78, 85-99.

- https://doi.org/10.1111/biom.13416

[32] **Hui, F.K.C.** and Nghiem, L.H. (2022) Sufficient dimension reduction for clustered data via finite mixture modeling. *Australian and New Zealand Journal of Statistics*, 64, 133-157. **(Special issue)**

- https://doi.org/10.1111/anzs.12349

[33] Popovic G. C., **Hui, F.K.C.**, and Warton, D. I. (2022). Fast model-based ordination with copulas. *Methods in Ecology and Evolution*, 13, 194-202.

- https://doi.org/10.1111/2041-210X.13733

[34] Nghiem, L.H., **Hui, F.K.C.**, Mueller, S., and Welsh A.H. (2022). Sparse sliced inverse regression via Cholesky matrix penalization. *Statistica Sinica*, 32, 2431-2453. **(Online special issue)**

- https://www3.stat.sinica.edu.tw/LatestART/SS-2020-0406_fp.pdf

[35] Chevallier, A., Broitman, B.R., Barahona, N., Vicencio-Estay, C., **Hui, F.K.C.**, Inchausti, P., and Stotza, W.B. (2021). Diversity of small-scale fisheries in Chile: environmental patterns and biogeography can inform fisheries management *Environmental Science and Policy*, 124, 33-34.

- https://doi.org/10.1016/j.envsci.2021.06.002

[36] **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. (2023). GEE-assisted variable selection for latent variable models with multivariate binary data. *Journal of the American Statistical Association*, 118, 1252-1263.

- https://doi.org/10.1080/01621459.2021.1987251

[37] Lai, H.R., Craven, D, Hall, J., **Hui, F.K.C.**, van Breugel, M. (2021). Successional syndromes of saplings in tropical secondary forests emerge from environment-dependent trait-demography relationships. *Ecology Letters*, 24, 1776-1787.

- https://doi.org/10.1111/ele.13784

[38] Niku, J., **Hui, F.K.C.**, Taskinen, S., and Warton D.I. (2021) Analysing Environmental-Trait Interactions in Ecological Communities with Fourth-Corner Latent Variable Models. *Environmetrics*, 32, e2683. **(Special issue)**

- https://doi.org/10.1002/env.2683

[39] Veen, B., **Hui, F.K.C.**, Hovstad, K.A., Solbu, E.B., and O'Hara, R.B. (2021) Model-based ordination for species with unequal niche widths. *Methods in Ecology and Evolution*, 12, 1288-1300.

- https://doi.org/10.1111/2041-210X.13595

[40] **Hui, F.K.C.**, and Bondell, H.D. (2021) A Shared Parameter Mixture Model for Longitudinal Income Data with Missing Responses and Zero Rounding. *Australian and New Zealand Journal of Statistics*, 63, 221-240.

- https://doi.org/10.1111/anzs.12323

[41] **Hui, F.K.C.** (2021). On the use of penalized quasi-likelihood information criterion for generalized linear mixed models. *Biometrika*, 108, 353-365.

- https://doi.org/10.1093/biomet/asaa069

[42] **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. (2021). Random effects misspecification can have severe consequences for random effects inference in linear mixed models. *International Statistical Review*, 89, 186-206. **(Top cited articles in ISR, 2021-2022)**

- https://doi.org/10.1111/insr.12378

[43] Renner, I.W., **Hui, F.K.C.**, and Warton, D.I. (2021). What is the effective sample size of a spatial point process? *Australian and New Zealand Journal of Statistics*. **(Special issue)**

- https://doi.org/10.1111/anzs.12337

[44] Damgaard, C., Hansen, R.R., and **Hui, F.K.C.** (2020). Model-based ordination of pin-point cover data: effect of management on dry heathland. *Ecological Informatics*, 60, 101155.

- https://doi.org/10.1016/j.ecoinf.2020.101155

[45] Kurosawa, T., **Hui, F.K.C.**, Welsh, A.H., Shinmura, K., and Eshima, N. On goodness-of-fit measures for Poisson regression models. (2020) *Australian and New Zealand Journal of Statistics* 62, 340–366.

- https://doi.org/10.1111/anzs.12303

[46] **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. (2020). The LASSO on Latent Indices for Regression Modeling with Ordinal Categorical Predictors. *Computational Statistics and Data Analysis*, 149, 106951.

- https://doi.org/10.1016/j.csda.2020.106951

[47] Wepfer, P.H., Nakajima, Y., Mitarai, S., and **Hui, F.K.C.**. (2020). Metacommunity ecology of Symbiodiniaceae hosted by the coral *Galaxea fascicularis*. *Marine Ecology – Progress Series* 633, 71–87.

- https://doi.org/10.3354/meps13177

[48] Haak, C.R., **Hui, F.K.C.**, Cowles, G.W., and Danylchuk, A.J. (2020). Positive interspecific associations consistent with social information use shape juvenile fish assemblages. *Ecology* 101, e02920.

- https://doi.org/10.1016/j.csda.2020.106951

[49] Niku J., **Hui, F.K.C.**, Taskinen, S., and Warton, D.I. (2019). `gllvm`: Fast analysis of multivariate abundance data with generalized linear latent variable models in `R`. *Methods in Ecology and Evolution* 10, 2173–2182.

- https://doi.org/10.1111/2041-210X.13303

[50] **Hui, F.K.C.**, You, C., Shang H.L., and Mueller, S. (2019). Semiparametric regression using variational approximations. *Journal of the American Statistical Association*, 114, 1765–1777.

- https://doi.org/10.1080/01621459.2018.1518235

[51] Astarloa, A., Louzao, M., Boyra1, G., Martinez1, U., Rubio, A., Irigoien X., **Hui, F.K.C.**, Chust, G. (2019). Identifying main interactions in marine predator-prey networks of the Bay of Biscay. *ICES Journal of Marine Science*, 76, 2247-2259.

- https://doi.org/10.1093/icesjms/fsz140

[52] Popovic G. C., Warton, D. I., Thomson , F. J., **Hui, F.K.C.**, Moles, A. T. (2019). Untangling direct species associations from indirect mediator species effects with graphical models. *Methods in Ecology and Evolution* 10, 1571–1583.

- https://doi.org/10.1111/2041-210X.13247

[53] Niku J., Brooks, W., Herliansyah, R., **Hui, F.K.C.**, Taskinen, S., and Warton, D.I. (2019). Efficient estimation of generalized linear latent variable models. *PLoS One* 14, e0216129.

- https://doi.org/10.1371/journal.pone.0216129

[54] Tobler, M.W., Kery, M., **Hui, F.K.C.**, Guillera-Arroita, G., Knaus, P., and Sattler, T. (2019). Joint species distribution models with species correlations and imperfect detection. *Ecology*, 100, e02754.

- https://doi.org/10.1002/ecy.2754

[55] Norberg, A., Abrego, N., Blanchet, F. G., Adler, F. R., Anderson, B. J., Anttila, J., Araujo, M. B.; Dallas, T., Dunson, D., Elith, J.; Foster, S. D.; Fox, R., Franklin, J., Godsoe, W., Guisan, A., O'Hara, B.; Hill, N. A.; Holt , R. D., **Hui, F. K. C.**, Husby, M., Kalas, J., Lehikoinen, A., Luoto, M., Mod, H. K., Newell, G., Renner, I., Roslin, T., Soininen, J., Thuiller, W., Vanhatalo, J., Warton, D., White, M., Zimmermann, N. E., Gravel, D., Ovaskainen, O. (2019). A comprehensive evaluation of predictive performance of 33 species distribution models at species and community levels. *Ecological Monographs*, 89, e01370. **(Top cited article in Ecological Monographs 2019-2020)**

- https://doi.org/10.1002/ecm.1370

[56] **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. (2019). Testing random effects in linear mixed models: another look at the F-test (with discussion). *Australian and New Zealand Journal of Statistics* 61, 61–84. **(Selected for inaugural ANZJS Discussion Paper)**

- https://doi.org/10.1111/anzs.12256

[57] Foster, S., Feutry, P., Grewe, P., Berry, O., **Hui, F.K.C.**, and Davies, C. (2018). Reliably discriminating stock structure with genetic markers: Mixture models with robust and fast computation. *Molecular Ecology Resources* 18, 1310–1325.

- https://doi.org/10.1111/1755-0998.12920

[58] Bjork, J., **Hui, F.K.C.**, O'Hara, R., Montoya, J. (2018). Uncovering the drivers of host-associated microbiota with joint species distribution modeling. *Molecular Ecology* 27, 2714–2724.

- https://doi.org/10.1111/mec.14718

[59] **Hui, F.K.C.**, Tanaka, E., and Warton, D.I. (2018). Order selection and sparsity in latent variable models via the ordered factor LASSO. *Biometrics* 74, 1311-1319.

- https://doi.org/10.1111/biom.12888

[60] Popovic G. C., **Hui, F.K.C.**, and Warton, D.I. (2018). A general algorithm for covariance modelling of discrete data. *Journal of Multivariate Analysis* 165, 86–100.

- https://doi.org/10.1016/j.jmva.2017.12.002

[61] Nabe-Nielsen, J., Normand, S., **Hui, F.K.C**, Stewart, L., Bay, C., Nabe-Nielsen, L., Schmidt, N. (2017). Plant community composition and species richness in the High Arctic tundra: from the present to the future. *Ecology and Evolution* 7, 10233–10242.

- https://doi.org/10.1002/ece3.3496

[62] **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. (2018). Sparse pairwise likelihood estimation for multivariate longitudinal mixed models. *Journal of the American Statistical Association*, 113, 1759–1769.

- https://doi.org/10.1080/01621459.2017.1371026
- ABDC Journal Ranking: A* (Statistics); Scimajo Journal Ranking: Quartile 1 (Statistics and Probability); H-index: 209.

[63] Niku J., Warton, D.I., **Hui, F.K.C.**, and Taskinen, S. (2017). Generalized linear latent variable models for multivariate abundance data in ecology. *Journal of Agricultural, Biological, and Environmental Statistics* 22, 498–522. **(Voted best paper in JABES in 2017)**.

- https://doi.org/10.1007/s13253-017-0304-7

[64] Warton, D.I., and **Hui, F.K.C.** (2017). The central role of mean-variance relationships in the analysis of multivariate abundance data. *Methods in Ecology and Evolution* 8, 1408–1414.

- https://doi.org/10.1111/2041-210X.12843

[65] **Hui, F.K.C.**, Warton, D.I., Ormerod, J.T., Haapaniemi, V., and Taskinen, S. (2017). Variational approximations for generalized linear latent variable models. *Journal of Computational and Graphical Statistics* 26, 35–43.

- https://doi.org/10.1080/10618600.2016.1164708

[66] **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. Joint selection in mixed models using regularized PQL. (2017). *Journal of the American Statistical Association* 112, 1323–1333.

- https://doi.org/10.1080/01621459.2016.1215989

[67] **Hui, F.K.C.** (2017). Model-based simultaneous clustering and ordination of multivariate abundance data in ecology. *Computational Statistics and Data Analysis* 105, 1–10.

- https://doi.org/10.1016/j.csda.2016.07.008

[68] **Hui, F.K.C.**, Mueller, S., and Welsh, A.H. Hierarchical selection of fixed and random effects in generalized linear mixed models. (2017). *Statistica Sinica* 27, 501–518

- https://doi.org/10.5705/ss.202015.0329

[69] Warton D.I., Blanchet, F.G., O'Hara, R., Ovaskainen, O., Taskinen, S., Walker, S.C., and **Hui, F.K.C.** (2016). Extending joint models in community ecology. *Trends in Ecology and Evolution* 31, 737–738.

- https://doi.org/10.1016/j.tree.2016.07.007

[70] Mackenzie, B.D.E., Auld, T.D., Keith, D.A., **Hui, F.K.C.**, and Ooi, M.K.J. (2016). The effect of seasonal ambient temperatures on fire-stimulated germination of species with physiological dormancy: A case study using *Boronia* (Rutaceae) *PLoS One* 11, e0156142.

- https://doi.org/10.1371/journal.pone.0156142

[71] **Hui, F.K.C.** (2016). `boral` – Bayesian ordination and regression analysis of multivariate abundance data in `R`. *Methods in Ecology and Evolution* 7, 744–750. **(Special issue)**

- https://doi.org/10.1111/2041-210X.12514

[72] Kunstler G., Falster, D., Coomes, D.A., **Hui, F.K.C.**, Kooyman, R.M., Laughlin, D.C., Poorter, L., Vanderwel, M., Vieilledent, G., Wright, S.J., Aiba, M., Baraloto, C., Caspersen, J., Cornelissen, J.H.C., Gourlet-Fluery, S., Hanewinkel, M., Herault, B., Kattge, J., Kurokawa, H., Onoda, Y., Penuelas, J., Poorter, H., Uriarte, M., Richardson, S., Ruiz-Benito, P., Sun, I-F., Stahl, G., Swenson, N.G., Thompson, J., Westerlund, B., Wirth, C., Zavala, M.A., Zeng, H., Zimmerman, J.K., Zimmermann, N.E., and Westoby, M. (2016). Plant functional traits have globally consistent effects on competition. *Nature* 529, 204–207.

- https://doi.org/10.1038/nature16476

[73] Letten, A, Keith, D., Tozer, M., **Hui, F.K.C.** (2015). Fine-scale hydrological niche differentiation through the lens of multi-species co-occurrence models. *Journal of Ecology* 103, 1264–1275.

- https://doi.org/10.1111/1365-2745.12428

[74] **Hui, F.K.C.**, Warton, D.I., and Foster, S.F. (2015). Tuning parameter selection for the adaptive Lasso using ERIC. *Journal of the American Statistical Association* 110, 262–269.

- https://doi.org/10.1080/01621459.2014.951444

[75] Warton D.I., Blanchet, F.G., O'Hara, R., Ovaskainen, O., Taskinen, S., Walker, S.C., and **Hui, F.K.C.** (2015). So many variables: Joint modeling in community ecology. *Trends in Ecology and Evolution* 30, 766–779. **(ISI highly cited paper)**

- https://doi.org/10.1016/j.tree.2015.09.007

[76] **Hui, F.K.C.**, Warton, D.I., Foster, S.F. (2015). Order selection in mixture models: Complete or observed information criterion? *Biometrika*, 102, 724–730.

- https://doi.org/10.1093/biomet/asv027
- ABDC Journal Ranking: A* (Statistics); Scimajo Journal Ranking: Quartile 1 (Statistics and Probability); H-index: 127.

[77] **Hui, F.K.C.**, Warton, D.I., Foster, S.F. (2015). Multi-species distribution modeling with penalized mixture of regressions. *Annals of Applied Statistics* 9, 866–882.

- https://doi.org/10.1214/15-AOAS813

[78] Dalrymple, R.L., **Hui, F.K.C.**, Moreno, H.B., Kemp, D.J., and Moles, A.T. (2014). Roses are red, violets are blue – so how much replication should you do? An assessment of variation in the colour of flowers and birds. *Biological Journal of the Linnean Society* 114, 69–81.

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Software

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[2] **Hui, F.K.C.**. (2023). `HPGEE`: Homogeneity pursuit and variable selection in regression models for multivariate abundance data. https://github.com/fhui28/HPGEE.

[3] **Hui, F.K.C.**, and Haak, C. (2022). `CBFM`: Spatio-temporal joint species distribution modeling using community-level basis functions. https://github.com/fhui28/CBFM.

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http://CRAN.R-project.org/package=rpql.

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http://CRAN.R-project.org/package=boral. Check out the youtube video on
https://www.youtube.com/watch?v=vyMsgyytcUI and
https://www.youtube.com/watch?v=XmrVVMG1HXI!

Book Chapters

[1] Tanaka, E., and **Hui, F.K.C.** (2019). Symbolic Formulae for Linear Mixed Models. In: Nguyen H. (eds) *Statistics and Data Science*. Communications in Computer and Information Science 1150, 3–21.

Conferences, Workshops and Seminars (since 2020)

Invited Talk   2025
School of Physics, Mathematics and Computing, University of Western Australia

Distinguised Lecture Series   2024
International Biometrics Society, Online

Invited Talk   2024
International Conference on Computational Statistics (COMPSTAT), Germany

Invited Talk   2024
School of Mathematics and Statistics, University of Sydney

Contributed talk, Session Chair, and Selection panel for student talks   2023
International Biometric Society Australasian Region Conference, Australia

Discussant   2023
Joint Statistical Meeting Topic-Contributed Paper session, Canada

Plenary Talk   2022
Australasian Applied Statistics Conference, Australia

Invited Talk	2022
Departmnent of Econometrics and Business Statistics, Monash University	
Invited Talk	2022
Research Center for Statistics, University of Geneva, Online	
Invited Talk	2022
ISM Symposium on Environmental Statistics, Online	
Invited Talk	2021
Department of Agriculture and Fisheries, Queensland Government, Online (Joint with Prof Alan Welsh)	
Invited Talk	2021
Latrobe University, Online	
Invited Talk (co-presented with Dr. Fei Huang)	2021
School of Risk and Actuarial Studies, UNSW Sydney, Online	
Invited Talk	2021
School of Mathematics and Statistics, University of Melbourne, Online	
Chair	2021
Australian and New Zealand Statistical Conference, Online	
Chair	2021
ANU-ISM Workshop on Data Science, Online	
Invited Talk	2021
Spatial and Temporal Statistics Symposium, Online	
Invited Talk	2020
Statistical Society of Australia Webinar Series, Online (Joint with Prof Alan Welsh)	
Invited Talk	2020
School of Mathematics and Statistics, University of New South Wales, Online	

SUPERVISION

Staff

1. **Quan Vu** 2023-
   Postdoctoral Fellow co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

2. **Luca Maestrini** 2022-2023
   Postdoctoral Fellowprimary supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

3. **Dilinie Seimon** 2021
   Research Assistant primary supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

4. **Linh Nghiem** 2019-2021
Postdoctoral Fellow co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

Higher Degree Research

1. **Zhining Wang** 2025-
PhD primary supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

2. **K.A.N.K. (Nishan) Karunarathna** 2024-
PhD co-supervisor, School of Veterinary Science, University of Queesland

3. **Maggie Ma** 2024-
PhD co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

4. **Piumi Perera** 2024-
PhD co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

5. **Nelson Chua** 2023-
PhD primary supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

6. **Michelle Dong** 2022-
PhD (Part time) co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

7. **Pekka Korhonen** 2021-2025
PhD co-supervisor, Faculty of Mathematics and Science, University of Jyvaskyla

8. **Anna Andrianatos** 2021-2025
MPhil (Part time) primary supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

9. **Yumo Dong** 2020-2024
PhD co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

10. **Nickson Ning** 2020-2024
PhD primary supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

11. **Wei Li** 2020-2025
PhD co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

12. **Zhi Yang Tho** 2019-2024
PhD co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

13. **Bert van der Veen** 2019-2022
PhD co-supervisor, Department of Mathematical Sciences, Norway University of Science and Technology

14. **Ziyang Lyu** 2017-2019
PhD co-supervisor, Mathematical Sciences Institute, Australian National University

15. **Gordana Popovic** 2015-2016
PhD co-supervisor, School of Mathematics and Statistics, University of New South Wales

Honours

1. **Pramo Samarasinghe** 2025
Honours co-supervisor, School of Computing, Australian National University

2. **Yuelin Ye** 2024
Honours co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

3. **Jordan Nicholaeff** 2020
Honours co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

4. **Xuanming Zhou** 2019-2020
Honours co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

5. **Geoffrey Liu** 2019
Honours co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

6. **Nelson Chua** 2018
Honours co-supervisor, Research School of Finance, Actuarial Studies & Statistics, Australian National University

Teaching History (since 2019)

Course Convener – STAT8130 Generalised Linear Models, Research School of Finance, Actuarial Studies & Statistics, ANU

- 2024 (9 weeks; intensive course)
- 2025 (12 weeks)

Course Convener – STAT6038 Regression Modelling, Research School of Finance, Actuarial Studies & Statistics, ANU

- 2022 (9 weeks; intensive course)
- 2023 (9 weeks; intensive course)
- 2024 (9 weeks; intensive course)

Course Convener – STAT6039 Principle of Mathematical Statistics, Research School of Finance, Actuarial Studies and Statistics, ANU

- 2021 (9 weeks; intensive course)

Course Convener – BIOL2001 Introduction to Quantitative Biology, Research School of Biology, ANU

- 2020 (12 weeks)
- 2019 (12 weeks)

Lecturing – MATH2307 Bioinformatics and Biological Modelling, Mathematical Sciences Institute, ANU

- 2019 (6 weeks)

PROFESSIONAL SERVICE AND OUTREACH

Review Panel 2024
Scientific Committee, International Whaling Commission

Program Committee 2023
ANU RSFAS Summer Camp, Australia

Program Committee
2023 Joint Statistical Meeting, American Statistical Association 2022-2023

Discussion panel
Australian Junior Science Olympiad Spring School 2022

Associate Editor
Australian & New Zealand Journal of Statistics 2019-

Guest Subject Matter Editor 2019-2020
Ecological Applications

Statistical Society of Australia Canberra Branch
Interim President	2024
Vice President	2021-2023
President	2019-2021
Secretary	2017-2018
Interim Vice President	2016

Selection Committee Membership (student-related)
Masters and PhD top-up scholarships, Statistical Society of Australia	2022
Chris Heyde & Joe Gani Scholarship, Mathematical Sciences Institute	2021-
Honours Admission, ANU Research School of Finance, Actuarial Studies and Statistics	2019-2022
PhD Admission, ANU Research School of Finance, Actuarial Studies and Statistics	2019-
Johnstone Family Scholarship, ANU Mathematical Sciences Institute	2019-2024

Selection Committee Membership (staff-related)

ANU Research School of Finance, Actuarial Studies and Statistics for Level B positions   2023
ANU Research School of Finance, Actuarial Studies and Statistics for Postdoctoral fellowship
positions   2021, 2023
ANU Biological Data Science Institute for Level A positions   2020
ANU School of Demography Selection Committee for Level A positions   2018
ANU Research School of Finance, Actuarial Studies and Statistics for Level A positions 2016-2018
ANU Mathematical Sciences Institute for postdoc+toral fellow positon   2018 ANU Mathematical
Sciences Institute Liason Committee   2016-2017

Presentation panel

STEMM Indigenous Students Workshop, Australia   2016-2018

Expert Assessor

New Zealand Marsden Fund   2020, 2022
Australian Research Council   2017-

Society Membership

American Statistical Association   2023-
Statistical Society of Australia   2012-
International Biometrics Society   2011-

Fire Warden

ANU Research School of Finance, Actuarial Studies and Statistics   2019-
ANU Mathematical Sciences Institute   2017-2018

REFEREES

Upon request