PERSONAL INFORMATION

Hien Duy Nguyen

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ACADEMIC AND RESEARCH EMPLOYMENT

2023– **Professor**
Institute of Mathematics for Industry
Kyushu University, Fukuoka, Japan

2023– **Associate Professor**
Department of Mathematical and Physical Sciences
La Trobe University, Melbourne, Australia

2021–2023 **Senior Lecturer**
School of Mathematics and Physics
University of Queensland, Brisbane, Australia

2019–2021 **Senior Lecturer**
Department of Mathematics and Statistics
La Trobe University, Melbourne, Australia

2016–2020 **DECRA Research Fellow**
Australian Research Council (ARC) grant number: DE170101134.
La Trobe University, Melbourne, Australia

2016–2019 **Lecturer**
Department of Mathematics and Statistics
La Trobe University, Melbourne, Australia

2015–2016 **Postdoctoral Research Fellow**
School of Mathematics and Physics, and Centre for Advanced Imaging
University of Queensland, Brisbane, Australia

Predoctoral Positions

2010 **Vacation Research Scholar**
Diamantina Institute, University of Queensland, Brisbane, Australia

2009 **Research Assistant**
Commonwealth Scientific and Industrial Research Organisation, Australia

2008 **Vacation Research Scholar**
Commonwealth Scientific and Industrial Research Organisation, Australia

HONORARY, ADJUNCT, AND SERVICE APPOINTMENTS

2023– **Honorary Associate Professor**
School of Mathematics and Physics
University of Queensland, Brisbane, Australia

2021–2023 **Adjunct Senior Lecturer**
Department of Mathematics and Statistics
La Trobe University, Melbourne, Australia

2020–2021 **Deputy Head of Department**
Department of Mathematics and Statistics
La Trobe University, Melbourne, Australia

2018, 2019 **Visiting Research Fellow**
Statify (previously Mistis) Team
Inria Centre at the University Grenoble Alpes, France

2015, 2019 **Visiting Research Fellow**
SIMEXP Laboratory
Centre de Reserche de l'Institut Universitaire de Geriatrie de Montreal, Canada

2017, 2018 **Visiting Research and Teaching Fellow**
Lab of Mathematics: Nicolas Oresme
University of Caen, Normandy, France

TERTIARY EDUCATION

2011–2015 **PhD in Statistics** (Dean's Award for Outstanding RHD Theses)
University of Queensland, Brisbane, Australia

Supervisors: Prof Geoffrey McLachlan, Dr Ian Wood, and Dr Andrew Janke
Thesis title: Finite mixture models for linear regression data

2006–2011 **Bachelor of Science with First Class Honours in Statistics** (Mathematics and Statistics majors; University Medal)
University of Queensland, Brisbane, Australia

Supervisors: Dr Ian Wood and Dr Andrew George
Thesis title: Variable selection in linear models using metaheuristic algorithms with applications in genome-wide association studies

2010 **Study Abroad** (Scholarship; Spring Semester)
University of California, Berkeley, USA

2006–2010 **Bachelor of Economics**
University of Queensland, Brisbane, Australia

TEACHING AND COURSE COORDINATION

Teaching

2022, 2023 **Mathematics for Data Science 1** (MATH7501, University of Queensland; Undergraduate)

2022, 2023 **Problems and Applications in Modern Statistics** (STAT3500, University of Queensland; Undergraduate)

2021–2023 **Statistical Learning** (STAT3006, University of Queensland; Undergraduate/Postgraduate)

2020, 2021 **Models for bioinformatics** (STA5MB, La Trobe University; Postgraduate)

2016 **Experimental design** (STAT3003, University of Queensland; Undergraduate)

Coordination

2020, 2021 **Models for bioinformatics** (STA5MB, La Trobe University; Postgraduate)

2020 **Biostatistics** (STA2BS, La Trobe University; Undergraduate)

2020 **Engineering probability and statistics** (STM2EPS, La Trobe University; Undergraduate)

Predoctoral Teaching

2009–2014 **Tutor** (School of Economics, University of Queensland)

2007–2014 **Tutor** (School of Mathematics and Physics, University of Queensland)

PEER-REVIEWED PUBLICATIONS

Journal Articles

[1] Samad Roohi, Richard Skarbez, and Hien Nguyen. Enhancing the Reliability of Affect Recognition in Social Platforms with Conformal Prediction. *Intelligent Computing*, May 2026. Article in press; Article ID 0527.

[2] TrungTin Nguyen, Hien D. Nguyen, Faicel Chamroukhi, and Geoffrey J. McLachlan. Non-asymptotic oracle inequalities for the Lasso in high-dimensional mixture of experts. *Annals of the Institute of Statistical Mathematics*, 2026. Published online 16 October 2026. https://doi.org/10.1007/s10463-026-01007-5.

[3] Hien Duy Nguyen and Dan Wang. Statistical process control via p-values. *Statistical Papers*, 2026. Accepted for publication.

[4] Hien Duy Nguyen and TrungTin Nguyen. Modifications of the BIC for order selection in finite mixture models. *Annals of the Institute of Statistical Mathematics*, 2026. To appear.

[5] Hien Duy Nguyen, Mayetri Gupta, Jacob Westerhout, and TrungTin Nguyen. On the large-sample limits of some bayesian model evaluation statistics. *Econometrics and Statistics*, 2026. Article in press.

[6] Ka Long Keith Ho and Hien Duy Nguyen. Variable selection via thresholding. *Scandinavian Journal of Statistics*, 53(1):207–237, 2026.

[7] H Gao, D Wang, and H D Nguyen. An efficient online monitoring method for high-dimensional data based on interpoint distance algorithm: an online monitoring method for high-dimensional data. *Quality and Reliability Engineering International*, 42(3):1088–1115, 2026.

[8] G Fort, F Forbes, and H D Nguyen. Sequential Sample Average Majorization–Minimization. *Statistics and Computing*, 36(1):31, 2026.

[9] X V To, H D Nguyen, P Cumming, P Curpen, and F A Nasrallah. Contemporaneous Outcomes Multiple Imputation (KOMI) can communicate missing Glasgow Outcome Scale – Extended (GOSE) scores: A multi-domain imputation for GOSE in the transforming research and clinical knowledge in traumatic brain injury (TRACK-TBI) data. *Journal of the Neurological Sciences*, 475(123564):1–12, 2025.

[10] H Nguyen, T T Nguyen, J Arbel, and F Forbes. Revisiting concentration results for approximate Bayesian computation. *Bayesian Analysis*, pages 1–23, 2025. Advance online publication.

[11] A Hoe, E Freer, P K T Goh, D Ong, H Nguyen, and T Weir. Predictability of mesiodistal tip of maxillary central incisors in clear aligner therapy. *American Journal of Orthodontics and Dentofacial Orthopedics*, 167(5):568–577, 2025.

[12] P K T Goh, H Nguyen, and R Olive. Treatment duration for impacted maxillary canines: a comparison between surgical exposure and conservative non-surgical orthodontic space opening. *Australasian Orthodontic Journal*, 41(1):392–405, 2025.

[13] Natasha Clarke, Sebastian Urchs, Hien Duy Nguyen, Clara Moreau, Christian Dansereau, Angela Tam, Alan C. Evans, and Lune Bellec. High-precision machine learning identifies a reproducible functional connectivity signature of autism spectrum diagnosis in a subset of individuals. *GigaScience*, 14:giaf091, September 2025.

[14] K Chan, T Weir, E Freer, D Ong, and H Nguyen. Predictability of incisal labiolingual inclination, overjet, and overbite changes, and the prevalence of open gingival embrasures in patients with mandibular incisor extraction treated with Invisalign: A retrospective cohort study. *American Journal of Orthodontics and Dentofacial Orthopedics*, 168(2):199–209, 2025.

[15] L Truong, T Weir, H Nguyen, E Freer, and D Ong. Mesiodistal tip expression of mandibular anterior teeth in patients with mandibular incisor extraction treated with Invisalign aligners. *American Journal of Orthodontics and Dentofacial Orthopedics*, 166(6):538–548, 2024.

[16] S Roohi, R Skarbez, and H D Nguyen. Reliable uncertainty estimation in emotion recognition in conversation using conformal prediction framework. *Natural Language Processing*, 31(5):1163–1186, 2024.

[17] T T Nguyen, F Forbes, J Arbel, and H D Nguyen. Bayesian nonparametric mixture of experts for inverse problems. *Journal of Nonparametric Statistics*, pages 1–60, 2024. Advance online publication.

[18] H Nguyen. PanIC: consistent information criteria for general model selection problems. *Australian and New Zealand Journal of Statistics*, 66(4):441–466, 2024.

[19] S Grot, S Smine, S Potvin, M Darcey, V Pavlov, S Genon, H Nguyen, and P Orban. Label-based meta-analysis of functional brain dysconnectivity across mood and psychotic disorders. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 131(110950), 2024.

[20] P K T Goh, A Pulemotov, H Nguyen, N Pinto, and R Olive. Treatment duration by morphology and location of impacted maxillary canines: a CBCT investigation. *American Journal of Orthodontics and Dentofacial Orthopedics*, 166:160–170, 2024.

[21] Q Duong, H Gilbert, and H Nguyen. A novel framework for crash frequency prediction: Geographic support vector regression based on agent-based activity models in Greater Melbourne. *Accident Analysis and Prevention*, 207(107747):1–19, 2024.

[22] M Chiu Chong, H D Nguyen, and TT Nguyen. Risk bounds for mixture density estimation on compact Domains via the h-lifted Kullback–Leibler divergence. *Transactions of Machine Learning Research*, (OpenReview: lAKvQO4vHj), 2024.

[23] F Almasi, M J Stear, M Khansefid, H Nguyen, A Desai, and J E Pryce. Innovative use of sensor technology to study grazing behaviour and its associations with parasitic resistance in sheep. *Small Ruminant Research*, 232(107223), 2024.

[24] T P Wallis, A Jiang, K Young, H Hou, K Kudo, A J McCann, N Durisic, M Joensuu, D Oelz, H Nguyen, R S Gormal, and F A Meunier. Super-resolved trajectory-derived nanoclustering analysis using spatiotemporal indexing. *Nature Communications*, 14:3353, 2023.

[25] T T Nguyen, F Chamroukhi, H D Nguyen, and G J McLachlan. Approximation of probability density functions via location-scale finite mixtures in Lebesgue spaces. *Communications in Statistics - Theory and Methods*, 52:5048–5059, 2023.

[26] H D Nguyen and M Gupta. Finite sample inference for empirical Bayesian methods. *Scandinavian Journal of Statistics*, 50:1616–1640, 2023.

[27] H D Nguyen, D Fryer, and G J McLachlan. Order selection with confidence for finite mixture models. *Journal of the Korean Statistical Society*, 52:154–184, 2023.

[28] R Navarathna, D T Le, A R Hamann, H D Nguyen, T M Stace, and A Fedorov. Passive superconducting circulator on a chip. *Physical Review Letters*, 130:037001, 2023.

[29] J Arbel, S Girard, H D Nguyen, and A Usseglio-Carleve. Multivariate expectile-based distribution: properties, Bayesian inference, and applications. *Journal of Statistical Planning and Inference*, 225:146–170, 2023.

[30] F Almasi, M Stear, M Khansefid, H Nguyen, A Desai, and J E Pryce. The repeatability and heritability of traits derived from accelerometer sensors associated with grazing and rumination time in an extensive sheep farming system. *Frontiers in Animal Science*, 4(1154797), 2023.

[31] S Urchs, A Tam, P Orban, C Moreau, Y Benhajali, H D Nguyen, A C Evans, and P Bellec. Subtypes of functional connectivity associate robustly with ASD diagnosis. *eLife*, 11:e56257, 2022.

[32] R Sohi, A Carroll, H Nguyen, Z Almasi, J Miller, J Trompf, A Bervan, B I Godoy, M Stear, A Desai, and M Jois. Determination of ewe behaviour around lambing time and prediction of parturition seven days prior to lambing by tri-axial accelerometer sensors in an extensive farming system. *Animal Production Science*, 62:1729–1738, 2022.

[33] D C Phan, L T Truong, H D Nguyen, and R Tay. Modelling the safety effects of train commuters' access modes. *Journal of Advanced Transportation*, 2022:3473397, 2022.

[34] T T Nguyen, H D Nguyen, F Chamroukhi, and F Forbes. A non-asymptotic approach for model selection via penalization in high-dimensional mixture of experts. *Electronic Journal of Statistics*, 16:4742–4822, 2022.

[35] H D Nguyen and F Forbes. Global implicit function theorems and the online expectation–maximisation algorithm. *Australian and New Zealand Journal of Statistics*, 64:255–281, 2022.

[36] J Gao, D A Burgard, B J Tscharke, F Y Lai, J W O'Brien, H D Nguyen, Q Zheng, J Li, P Du, X Li, D Wang, S Castiglioni, C Cruz-Cruz, J A Baz-Lomba, V Yargeau, E Emke, K V Thomas, J F Mueller, and P K Thai. Refining the estimation of amphetamine consumption by wastewater-based epidemiology. *Water Research*, 225:119182, 2022.

[37] F Forbes, H D Nguyen, T T Nguyen, and J Arbel. Approximate Bayesian computation with surrogate posteriors. *Statistics and Computing*, 32:85, 2022.

[38] J-B Durand, F Forbes, C D Phan, L Truong, H D Nguyen, and F Dama. Bayesian nonparametric spatial prior for traffic crash risk mapping: a case study of Victoria, Australia. *Australian and New Zealand Journal of Statistics*, 64:171–204, 2022.

[39] F Almasi, H Nguyen, D Heydarian, R Sohi, S Nikbin, C J Jenvey, E Halliwell, E N Ponnampalam, A Desai, M Jois, and M J Stear. Quantification of behavioural variation among sheep grazing on pasture using accelerometer sensors. *Animal Production Science*, 62:1527–1538, 2022.

[40] H D Nguyen, T T Nguyen, F Chamroukhi, and G McLachlan. Approximations of conditional probability density functions in Lebesgue spaces via mixture of experts models. *Journal of Statistical Distributions and Applications*, 8(13), 2021.

[41] D V Fryer, I Strümke, and H Nguyen. Model independent feature attributions: Shapley values that uncover non-linear dependencies. *PeerJ Computer Science*, 7(e582), 2021.

[42] D Fryer, I Strümke, and H Nguyen. Shapley values for feature selection: the good, the bad, and the axioms. *IEEE Access*, 9:144352 – 144360, 2021.

[43] M Vladimirova, S Girard, H Nguyen, and J Arbel. Sub-Weibull distributions: generalizing sub-Gaussian and sub-Exponential properties to heavier-tailed distributions. *Stat*, 9:e318, 2020.

[44] E Redivo, H Nguyen, and M Gupta. Bayesian clustering of skewed and multimodal data using geometric skew normal distributions. *Computational Statistics and Data Analysis*, 152:107044, 2020.

[45] T T Nguyen, H D Nguyen, F Chamroukhi, and G J McLachlan. Approximation by finite mixtures of continuous density functions that vanish at infinity. *Cogent Mathematics and Statistics*, 7:1750861, 2020.

[46] H D Nguyen, F Forbes, and G J McLachlan. Mini-batch learning of exponential family finite mixture models. *Statistics and Computing*, 30:731–748, 2020.

[47] H D Nguyen, J Arbel, H Lü, and F Forbes. Approximate Bayesian computation via the energy statistic. *IEEE Access*, 8:131683–131698, 2020.

[48] D V Fryer, I Strümke, and H D Nguyen. Shapley value confidence intervals for attributing variance explained. *Frontiers in Applied Mathematics and Statistics*, 6:587199, 2020.

[49] J Bagnall, A Jones, N Karavarsamis, and H Nguyen. The fully-visible Boltzmann machine and the Senate of the 45th Australian Parliament in 2016. *Journal of Computational Social Science*, 3:55–81, 2020.

[50] J Arbel, O Marchal, and H D Nguyen. On strict sub-Gaussianity, optimal proxy variance and symmetry for bounded random variables. *ESAIM: Probability and Statistics*, 24:39–55, 2020.

[51] L Truong, H Nguyen, H Nguyen, and H Vu. Pedestrian overpass use and its relationship with digital and social distractions, and overpass characteristics. *Accident Analysis and Prevention*, 131:234–238, 2019.

[52] H D Nguyen, Y Yee, G J McLachlan, and J P Lerch. False discovery rate control for grouped or discretely supported p-values with application to a neuroimaging study. *SORT*, 43:1–22, 2019.

[53] H D Nguyen and G J McLachlan. On approximation via convolution-defined mixture models. *Communications in Statistics - Theory and Methods*, 48:3945–3955, 2019.

[54] H D Nguyen, F Chamroukhi, and F Forbes. Approximation results regarding the multiple-output mixture of linear experts model. *Neurocomputing*, 366:208–214, 2019.

[55] H D Nguyen. Asymptotic normality of the time-domain generalized least squares estimator for linear regression models. *Stat*, 8(e248), 2019.

[56] A T Jones, J J Bagnall, and H D Nguyen. BoltzMM: an R package for maximum pseudolikelihood estimation of fully-visible Boltzmann machines. *Journal of Open Source Software*, 4:1193, 2019. https://doi.org/10.21105/joss.01193.

[57] D Fryer, H Nguyen, and P Orban. studentlife: tidy handling and navigation of a valuable mobile-health dataset. *Journal of Open Source Software*, 4(40), 2019.

[58] F Chamroukhi and H D Nguyen. Model-based clustering and classification of functional data. *WIREs Data Mining and Knowledge Discovery*, e1298, 2019.

[59] P Orban, C Dansereau, L Desbois, V Mongeau-Perusse, C-E Giguere, H Nguyen, A Mendrek, E Stip, and P Bellec. Multisite generalizability of schizophrenia diagnosis classification based on functional brain connectivity. *Schizophrenia Research*, 192:167–171, 2018.

[60] H D Nguyen, D H Wang, and G J McLachlan. Randomized mixture models for probability density approximation and estimation. *Information Sciences*, 467:135–148, 2018.

[61] H D Nguyen, G J McLachlan, J F P Ullmann, V Voleti, W Li, E M C Hillman, D C Reutens, and A L Janke. Whole-volume clustering of time series data from zebrafish brain calcium images via mxiture modeling. *Statistical Analysis and Data Mining*, 11:5–16, 2018.

[62] H D Nguyen and G J McLachlan. Some theoretical results regarding the polygonal distribution. *Communications in Statistics - Theory and Methods*, 47:5083–5095, 2018.

[63] H D Nguyen and G J McLachlan. Chunked-and-averaged estimators for vector parameters. *Statistics and Probability Letters*, 137:336–342, 2018.

[64] H D Nguyen, A T Jones, and G J McLachlan. Stream-suitable optimization algorithms for some soft-margin support vector machine variants. *Japanese Journal of Statistics and Data Science*, 1:81–108, 2018.

[65] H D Nguyen and F Chamroukhi. An introduction to the practical and theoretical aspects of mixture-of-experts modeling. *WIREs Data Mining and Knowledge Discovery*, e1246, 2018.

[66] H D Nguyen. Near universal consistency of the maximum pseudolikelihood estimator for discrete models. *Journal of the Korean Statistical Society*, 47:90–98, 2018.

[67] L R Lloyd-Jones, H D Nguyen, and G J McLachlan. A globally convergent algorithm for lasso-penalized mixture of linear regression models. *Computational Statistics and Data Analysis*, 119:19–38, 2018.

[68] A T Jones, H D Nguyen, and G J McLachlan. logKDE: log-transformed kernel density estimation. *Journal of Open Source Software*, 3:870, 2018.

[69] C Oyarzun, A Sanjurjo, and H Nguyen. Response functions. *European Economic Review*, 98:1–31, 2017.

[70] H D Nguyen, G J McLachlan, P Orban, P Bellec, and A L Janke. Maximum pseudolikelihood estimation for a model-based clustering of time series data. *Neural Computation*, 29:990–1020, 2017.

[71] H D Nguyen and G J McLachlan. Progress on a conjecture regarding the triangular distribution. *Communications in Statistics - Theory and Methods*, 46:11261–11271, 2017.

[72] H D Nguyen. An introduction to MM algorithms for machine learning and statistical estimation. *WIREs Data Mining and Knowledge Discovery*, 7(e1198), 2017.

[73] H D Nguyen and I A Wood. Asymptotic normality of the maximum pseudolikelihood estimator for fully visible Boltzmann machines. *IEEE Transactions on Neural Networks and Learning Systems*, 27:897–902, 2016.

[74] H D Nguyen and I A Wood. A block successive lower-bound maximization algorithm for the maximum pseudolikelihood estimation of fully visible Boltzmann machines. *Neural Computation*, 28:485–492, 2016.

[75] H D Nguyen, G J McLachlan, and I A Wood. Mixtures of spatial spline regressions for clustering and classification. *Computational Statistics and Data Analysis*, 93:76–85, 2016.

[76] H D Nguyen, G J McLachlan, J F P Ullmann, and A L Janke. Spatial clustering of time-series via mixture of autoregressions models and Markov Random Fields. *Statistica Neerlandica*, 70:414–439, 2016.

[77] H D Nguyen, G J McLachlan, J F P Ullmann, and A L Janke. Laplace mixture autoregressive models. *Statistics and Probability Letters*, 110:18–24, 2016.

[78] H D Nguyen and G J McLachlan. Maximum likelihood estimation of triangular and polygonal distributions. *Computational Statistics and Data Analysis*, 106:23–36, 2016.

[79] H D Nguyen and G J McLachlan. Linear mixed models with marginally symmetric nonparametric random-effects. *Computational Statistics and Data Analysis*, 106:151–169, 2016.

[80] H D Nguyen and G J McLachlan. Laplace mixture of linear experts. *Computational Statistics and Data Analysis*, 93:177–191, 2016.

[81] H D Nguyen, L R Lloyd-Jones, and G J McLachlan. A universal approximation theorem for mixture-of-experts models. *Neural Computation*, 28:2585–2593, 2016.

[82] H D Nguyen, L R Lloyd-Jones, and G J McLachlan. A block minorization-maximization algorithm for heteroscedastic regression. *IEEE Signal Processing Letters*, 23:1031–1135, 2016.

[83] L R Lloyd-Jones, H D Nguyen, G J McLachlan, W Sumpton, and Y-G Wang. Mixture of time dependent growth models with an application to blue swimmer crab length-frequency data. *Biometrics*, 72:1255–1265, 2016.

[84] H D Nguyen and G J McLachlan. Maximum likelihood estimation of Gaussian mixture models without matrix operations. *Advances in Data Analysis and Classification*, 9:371–394, 2015.

[85] H D Nguyen, G J McLachlan, N Cherbuin, and A L Janke. False discovery rate control in magnetic resonance imaging studies via Markov random fields. *IEEE Transactions on Medical Imaging*, 33:1735–1748, 2014.

[86] L R Lloyd-Jones, H D Nguyen, Y-G Wang, and M F O'Neill. Improved estimation of size-transition matrices using tag-recapture data. *Canadian Journal of Fisheries and Aquatic Sciences*, 71:1385–1394, 2014.

[87] D Chen, A Shah, H Nguyen, D Loo, K Inder, and M Hill. Online quantitative proteomics p-value calculator for permutation-based statistical testing of peptide ratios. *Journal of Proteomics Research*, 13:4184–4191, 2014.

[88] H D Nguyen, M M Hill, and I A Wood. A robust permutation test for quantitative SILAC proteomics experiments. *Journal of Integrated OMICS*, 2(80-93), 2012.

[89] K L Inder, Y Z Zheng, M J Davis, H Moon, D Loo, H Nguyen, J A Clements, R G Parton, L J Foster, and M M Hill. Expression of PRTF in PC-3 cells modulated cholesterol dynamics and actin cytoskeleton impacting secretion pathways. *Molecular and Cellular Proteomics*, 11(M111.012245), 2012.

Conference Papers

[90] Samad Roohi, Richard Skarbez, and Hien Nguyen. Conformal affective text prediction: Estimating uncertainty in emotion and valence intensity. In *Proceedings of the 13th International Conference on Affective Computing and Intelligent Interaction (ACII 2025)*. IEEE, 2025.

[91] J Westerhout, T T Nguyen, X Guo, and H D Nguyen. On the asymptotic distribution of the minimum empirical risk. In *Forty-first International Conference on Machine Learning*, 2024.

[92] S Roohi, R Skarbez, and H D Nguyen. Beyond Factualism: a study of LLM calibration through the lens of conversational emotion recognition. In *Proceedings of the 37th Australasian Joint Conference on Artificial Intelligence*, 2024.

[93] D Fryer, D Lowing, I Strümke, and H Nguyen. Multi-choice Solutions for Feature and Parameter Importance. In *Proceedings of the 22nd Australasian Data Science and Machine Learning Conference*, pages 48–62, 2024.

[94] F Forbes, H D Nguyen, and T T Nguyen. Bayesian likelihood free inference using mixtures of experts. In *Proceedings of the International Joint Conference on Neural Networks*, 2024.

[95] S Roohi, R Skarbez, and H Nguyen. Reliable emotion recognition in conversation: quantifying and communicating uncertainty. In *IJCNN Workshop on Trustworthy and Responsible AI: theory, applications and challanges*, 2023.

[96] TT Nguyen, D N Nguyen, H D Nguyen, and F Chamroukhi. A non-asymptotic risk bound for model selection in high-dimensional mixture of experts via joint rank and variable selection. In *Proceedings of the Australasian Jount Conference on Artificial Intelligence (AJCAI)*. Springer, 2023.

[97] D Fryer, D Lowing, I Strümke, and H Nguyen. Multi-choice Explanations: a new cooperative game structure for XAI. In *IJCNN Workshop on Trustworthy and Responsible AI: theory, applications and challanges*, 2023.

[98] L Truong and H D Nguyen. Traffic congestion and road safety in urban areas: an analysis of Melbourne. In *Australasian Transport Research Forum (ATRF), 43rd, 2022, Adelaide, South Australia, Australia*, 2022.

[99] T T Nguyen, F Chamroukhi, H D Nguyen, and F Forbes. Model selection by penalization in mixture of experts models with a non-asymptotic approach. In *53emes Journees de Statistique de la Societe Française de Statistique (SFdS)*, 2022.

[100] H Nguyen, F Forbes, G Fort, and O Cappe. An online Minorization–Maximization Algorithm. In *Proceedings of the International Federation of Classification Societies*, 2022.

[101] F Forbes, H D Nguyen, T T Nguyen, and J Arbel. Mixture of expert posterior surrogates for approximate Bayesian computation. In *53emes Journees de Statistique de la Societe Francaise de Statistique (SFdS)*, Lyon, France, 2022.

[102] F Almasi, M Khansefid, H Nguyen, A Desai, J E Pryce, and M Stear. Repeatability estimates of grazing and rumination activity of Merino sheep measured using wearable sensors. In *Proceedings of the World Congress on Genetics Applied to Livestock Production*, 2022.

[103] D C Phan, L T Truong, H D Nguyen, and R Tay. Can walking and cycling for train access improve road safety? In *Australian Road Safety Conference (ARSC2021)*, 2021.

[104] D Fryer, H Nguyen, and P Castellazzi. k-means on positive definite matrices, and an application to clustering in radar image sequences. In *Proceedings of the IEEE Symposium Series on Computational Intelligence*, 2020.

[105] H D Nguyen. An introduction to approximate Bayesian computation. In *Proceedings of the Research School on Statistics and Data Science (RSSDS)*, 2019.

[106] F Chamroukhi, F Lecocq, and H D Nguyen. Regularized estimation and feature selection in mixtures of Gaussian-gated experts models. In *Proceedings of the Research School on Statistics and Data Science (RSSDS)*, 2019.

[107] H D Nguyen, A T Jones, and G J McLachlan. Positive data kernel density estimation via the logKDE package for R. In *Proceedings of the Sixteenth Australasian Data Mining Conference*, 2018.

[108] H D Nguyen and G J McLachlan. Iteratively-reweighted least-squares fitting of support vector machines: a majorization-minimization algorithm approach. In *Proceedings of the 2017 Future Technologies Conference (FTC)*, 2017.

[109] H D Nguyen. A two-sample Kolmogorov-Smirnov-like test for Big Data. In *Proceedings of the Fifteenth Australasian Data Mining Conference*, 2017.

[110] H D Nguyen and G J McLachlan. Asymptotic inference for hidden process regression models. In *Proceedings of the IEEE Statistical Signal Processing Workshop*, 2014.

[111] H D Nguyen, A L Janke, N Cherbuin, G J McLachlan, P Sachdev, and K J Anstey. Spatial false discovery rate control for magnetic resonance imaging studies. In *Proceedings of the 2013 Digital Imaging: Techniques and Applications (DICTA) Conference*, 2013.

[112] H D Nguyen and I A Wood. Variable selection in statistical models using population-based incremental learning with applications to genome-wide association studies. In *Proceedings of the 2012 IEEE Congress on Evolutionary Computation (CEC)*, 2012.

Book Chapters

[113] G J McLachlan, S K Ng, and H D Nguyen. EM Algorithm. In *Wiley StatsRef: Statistics Reference Online*. Wiley, Chichester, 2021.

[114] H D Nguyen and A T Jones. Big data-appropriate clustering via stochastic approximation and Gaussian mixture models. In *Data Analytics: Concepts, Techniques, and Applications*. CRC Press, 2018.

[115] H D Nguyen, G J McLachlan, and M M Hill. Statistical evaluation of labeled comparative profiling proteomics experiments using permutation test. In *Proteome bioinformatics*. Springer, 2017.

OTHER PUBLICATIONS

[116] H Nguyen, editor. *Statistics and Data Science: Proceedings of the 2019 Research School on Statistics and Data Science (RSSDS)*, Singapore, 2019. Springer.

[117] H D Nguyen. Contribution to the discussion of paper by I Waudby-Smith and A. Ramdas. *Journal of the Royal Statistical Society B*, 86, 2024.

[118] H Nguyen, S Lee, and F Forbes. A Festschrift for Geoff McLachlan. *Australian and New Zealand Journal of Statistics*, 64:111–116, 2022.

[119] H D Nguyen, J Bagnall-Guerreiro, and A T Jones. Universal inference with composite likelihoods. In *Proceedings of the 63rd ISI World Statistics Congress*, 2021.

[120] H D Nguyen. Finite sample inference for generic autoregressive models. In *Proceedings of FMfI 2021*, Math-for-Industry Lecture Notes. Institute of Mathematics for Industry, Kyushu University, 2021.

[121] R Gray, H Nguyen, D Bressington, M Jones, and D Thompson. Comment on - Mothers' voices and white noise on premature infants' psychological reactions in a neonatal intensive care unit: A multi-arm randomised controlled trial. *International Journal of Nursing Studies*, (104050), 2021.

[122] A T Jones, H D Nguyen, and J J Bagnall. BoltzMM: Boltzmann Machines with MM Algorithms. Software published in the Comprehensive R Archive Network, 2019. https://CRAN.R- project.org/package=BoltzMM.

[123] H D Nguyen, A T Jones, and G J McLachlan. logKDE: Computing log-transformed kernel density estmates for positive data. Software published in the Comprehensive R Archive Network, 2018. https://CRAN.R-project.org/package=logKDE.

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[125] H D Nguyen. A novel algorithm for clustering of data on the unit sphere via mixture models. In *JSM Proceedings: Statistical Computing Section*, 2017.

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FUNDING

2026–2028 **Australia's Economic Accelerator (AEA) Innovate Program** (2,085,000 AUD; IV240100099)

Australian Government Department of Education

Co-investigators: Professor Aniruddha Desai (La Trobe University), Krishnakumar Santhanam (Robo Jedi Pty Ltd), Lalit Yagnik (Robo Jedi Pty Ltd), A/Prof Mark Jois (La Trobe University), Erik van Vulpen (La Trobe University), Aidin Bervan (La Trobe University), Dr Shanmuga Sundar Dhanabalan (La Trobe University), and Dr Phat Huynh (La Trobe University)

Project: Fully integrated digital technology solution for enhanced dairy farm management

2026–2027 **LISAF/LBS/SCEMS Seed Funding** (10,000 AUD)

La Trobe University (GRDC research challenges; funding through June 2027)

Participants: Ali Zia (lead), Ali Bajwa, Taseer Ahmad, Hien Nguyen, Ing Kong, Nadeem Shuakat, Wei Xiang, and Ernesto Valenzuela Dominguez (La Trobe University)

Project: Fine-Grained Spectral Intelligence for Early Herbicide-Resistance Detection (SpectraResist-AI)

2025–2027 **Discovery Project** (531,000 AUD; DP250100860)

Australian Research Council

Co-investigators: Professor Shu-Kay Angus Ng (Griffith University), Dr Florence Forbes (Inria Centre at the University Grenoble Alpes), and A Prof Liming Xiang (Nanyang Technological University, Singapore)

Project: Advancing statistical models for clustering data with structured dependence

2024–2026 **STARFISH Activity** (388,175 AUD)

STARFISH Program (Telethon Kids Institute)

Co-investigator: Dr Rebecca Chisholm (La Trobe University), Dr Mark Davies (Telethon Kids Institute), Dr Tim Barnett (Telethon Kids Institute), Dr David Price (University of Melbourne), Dr Trish Campbell (University of Melbourne), and A/Prof Joel Miller (La Trobe University)

Project: Optimising targeted investigations of Strep A transmission and Environmental Health Initiatives (EHIs) assessment: a model-based approach

2023–2026 **Inria Associate Teams** (48,000 EURO)

Co-investigator: Dr Florence Forbes (Inria Centre at the University Grenoble Alpes)

Project: Variance-reduced Optimization Methods and Bayesian Approximation Techniques for scalable inference (WOMBAT)

2023–2025 **Discovery Project** (360,000 AUD; DP230100905)

Australian Research Council

Co-investigators: Dr Xin Guo (University of Queensland), Dr Florence Forbes (Inria Centre at the University Grenoble Alpes), and A Prof Gersende Fort (CNRS)

Project: Stochastic majorization–minimization algorithms for data science

2021–2023 **Australian Government Road Safety Innovation Fund** (101,248 AUD)

Co-investigator: Dr Long Truong (La Trobe University)

Project: Development of planning-stage crash prediction tools for use at the planning stages

2019–2021 **Inria Associate Teams** (36,000 EURO)

Co-investigator: Dr Florence Forbes (Inria Centre at the University Grenoble Alpes)

Project: Latent analysis, adversarial networks, and DimEnsionality Reduction (LANDER)

2018–2021 **Discovery Project** (242,194 AUD; DP180101192)

Australian Research Council

Co-investigators: Prof Geoffrey McLachlan (University of Queensland) and Dr Sharon Lee (University of Queensland)

Project: Classification methods for providing personalised and class decisions

2017–2020 **Discovery Early Career Research Award** (360,000 AUD; DE170101134)

Australian Research Council

Project: Feasible algorithms for big inference

2018 **AFRAN Call for Initiatives** (3,000 AUD)

Australian-French Association for Research and Innovation

Project: Research School on Statistics and Data Science

2018 **FASIC RESEARCHERS Program** (2,545 EURO)

Ministry of Europe and Foreign Affairs, and Ministry of Higher Education, Research and Innovation (France)

Co-awardee: Dr Florence Forbes (Inria Centre at the University Grenoble Alpes)
Project: Latent analysis, adversarial networks, and dimensionality reduction

2017–2019 **Start Up Grant** (15,000 AUD)
La Trobe University

SCHOLARSHIPS AND PRIZES

2015 **AK Head Travelling Scholarship** (13,000 AUD)
Australian Academy of Science

2011–2014 **ASPREE-ENVISION Scholarship** (21,000 AUD)
Australian National University

2011–2014 **Advantage RHD Scholarship** (17,500 AUD)
University of Queensland

2011–2014 **Australian Postgraduate Award** (87,000 AUD)
University of Queensland

2010 **Honours Research Scholarship** (5,000 AUD)
Commonwealth Scientific and Industrial Research Organization

2010 **Summer Research Scholarship** (3,000 AUD)
University of Queensland

2009 **Economics Jubilee Scholarship** (8,000 AUD)
University of Queensland

2009 **National Priority Scholarship** (2,000 AUD)
University of Queensland

2008 **Vacation Research Scholarship** (8,500 AUD)
Commonwealth Scientific and Industrial Research Organization

2008 **Elizabeth Norsworthy Power Industry Bursary** (7,500 AUD)
Stanwell Corporation Limited

2008 **Prize for Third Year Statistics** (500 AUD)
Department of Education, Employment and Workplace Relations

2007, 2008 **Undergraduate Scholarship** (8,000 AUD)
Australian Bureau of Statistics

2006, 2007 **Commonwealth Educational Cost Scholarship** (4,000 AUD)
University of Queensland

2006 **Kenneth Swanwick Memorial Prize** (100 AUD)
University of Queensland

2006 **John Black Prize** (100 AUD)
University of Queensland

TEACHING AWARDS

2013, 2014 **Distinguished Teaching Award**
School of Economics, University of Queensland

2012 **Excellence in Tutoring Award**
School of Mathematics and Physics, University of Queensland

POST-DOCTORAL SUPERVISION

2026– **Samad Roohi** (La Trobe University)
Co-supervised with Prof Aniruddha Desai and Dr Shanmuga Sundar Dhanabalan, La Trobe University
Project: Fully integrated digital technology solution for enhanced dairy farm management

2026– **Tam Le Minh** (Griffith University)
Co-supervised with Prof Shu–Kay Ng, Griffith University
Project: Advancing statistical models for clustering data with structured dependence

2023–2025 **Trung Tin Nguyen** (University of Queensland)
Co-supervised with Dr Xin Guo, University of Queensland
Project: Stochastic optimization algorithms for mixtures of experts

2021–2023 (Inria Centre at the University of Grenoble Alpes)
Co-supervised with Dr Florence Forbes, Inria Centre at the University Grenoble Alpes
Project: Non-asymptotic methods for Bayesian computation

STUDENT SUPERVISION

2023–2026 **Samad Roohi** (PhD, La Trobe University)
Co-supervised with Dr Richard Skarbez, La Trobe University
Project: Natural language models for affective conversation systems

2025– **Tung Doan** (Griffith University)
Co-supervised with Prof Shu-Kay (Angus) Ng, Griffith University
Project: Developments in the construction of mixture model methods for complex data analysis

2024– **Jiading Liu** (PhD, University of Queensland)
Co-supervised with Dr Xin Guo, University of Queensland
Project: Kernel learning methods

2024– **Jacob Westerhout** (PhD, University of Queensland)
Co-supervised with Dr Xin Guo, University of Queensland
Project: Weak convergence of empirical processes and the delta method

2023 (Honours, University of Queensland)
Project: Asymptotic distributions of optimal values arising from sample averaging processes

2022–2024 **Vu Xuan Quynh Duong** (La Trobe University)
Co-supervised with Dr Hulya Gilbert, La Trobe University
Project: A novel framework for crash frequency prediction: Geographic support vector regression based on agent-based activity models in Greater Melbourne

2019–2024 **Daniel Fryer** (PhD, University of Queensland)
Co-supervised with Prof Geoffrey McLachlan and Dr Ian Wood, University of Queensland
Project: Interpretable methods in AI and statistics

2019–2024 **Fazel Almasi** (PhD, La Trobe University)
Co-supervised with Profs Michael Stear, Jennie Pryce, Aniruddha Desai, and Drs Markandeya Jois and Eric Ponnampalam, La Trobe University
Project: Parasitological and behavioral study of lambs using sensor technology

2023 **Qingyuan Zhang** (Honours, University of Queensland)
Project: Determination of optimal constraints for regularization problems in the Ivanov form

2022–2023 **Mark Chiu Chong** (Honours, University of Queensland)
Project: Risk bounds for mixture density estimation on compact sets via Bregman divergences

2022 **Callum Macfarlane** (Honours, University of Queensland)
Co-supervised with Em Prof Alan Mark and Dr Martin Stroet, University of Queensland
Project: Optimisation methods of refined point charge fitting for molecular modelling forcefields

2021–2022 **Nicholas Williams** (Honours, University of Queensland)
Co-supervised with Dr Ramiro Lafuente, University of Queensland
Project: Links between maximum likelihood estimation and geometric invariant theory

2019–2022 **Cong Duc Phan** (M Engineering, La Trobe University)
Co-supervised with Dr Long Truong, La Trobe University
Project: Exploring the Network-wide Road Safety Impacts of Public Transport Usage and Congestion Levels

2018–2021 **Trung Tin Nguyen** (PhD, University of Caen, Normandy)
Co-supervised with Prof Faicel Chamroukhi, University of Caen, Normandy
Project: Learning and approximation theory of mixture models and mixture of experts

2020 **Nauvoo Perez** (AMSI Vacation Scholar, La Trobe University)
Project: Statistical learning for time-to-relapse of colorectal cancer patients

Talks

2025 **When does the variational measure converge given a convergent measure sequence?**

Conference: AustMS Annual Conference
Location: Melbourne, Australia

2025 **New results for statistical process control via p-values**

Conference: IASC–ARS
Location: Ho Chi Minh City, Vietnam

2025 **A Generalized Functional Delta Method with Applications to Bayesian Inference**

Conference: BayesComp
Location: Singapore

2024 **Lp approximation rates for location-scale mixture densities and other matters**

Conference: Joint Meeting of the NZMS, AustMS and AMS
Location: Auckland, New Zealand

2024 **Bayesian Likelihood Free Inference using Mixtures of Experts**

Conference: International Society for Bayesian Analysis World Meeting
Location: Venice, Italy

2023 **PanIC: an information criterion approach for generic model selection problems**

Conference: Australian Statistical Conference
Location: Wollongong, Australia

2023 **A non-asymptotic risk bound for model selection in a high-dimensional mixture of experts via joint rank and variable selection**

Conference: Australasian Joint Conference for Artificial Intelligence
Location: Brisbane, Australia

2023 **Convergence of Bayesian posterior statistics and related quantities**

Conference: Sequential Monte Carlo Down Under
Location: Brisbane, Australia

2022 $(\textbf{SAM})^2$**: a family of sequential sample averaging algorithms via majorization–minimization**

Conference: CSDA and EcoSta Workshop on Statistical Data Science
Location: Bologna, Italy (Delivered online)

2022 **An online MM algorithm**

Conference: 17th conference of the International Federation of Classification Societies
Location: Porto, Portugal

2021 **Finite sample inference for nonlinear autoregressive models**

Conference: 15th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM-Statistics)
Location: London, UK (Delivered online)

2021 **Universal inference with composite likelihoods**

Conference: ISI World Statistics Congress
Location: Online

2021 **Distance-based ABC procedures**

Conference: ABC in Svalbard
Location: Melbourne, Australia (Delivered onsite and online)

2020 **Global implicit function theorems and the online EM algorithm**

Conference: 14th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM-Statistics)
Location: London, UK (Delivered online)

2019 **Mixture of autoregressive moving average models**

Conference: 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM-Statistics)
Location: London, UK

2019 **Approximate Bayesian computation with discrepancy measurements**

Conference: Research School on Statistics and Data Science (RSSDS2019)
Location: Melbourne, Australia

2019 **Mixtures of local logistic regressions for nonlinear classification when data are heterogeneous**

Conference: 3rd International Conference on Econometrics and Statistics (EcoSta 2019)
Location: Taichung, Taiwan

2018 **Fast Gaussian mixture model estimation using online EM algorithms**

Conference: 11th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM-Statistics)
Location: Pisa, Italy

2018 **On approximations via convolution-defined mixture models**

Conference: 2nd Italian-French Statistical Seminar
Location: Grenoble, France

2017 **Stream-suitable optimization algorithms for some soft-margin support vector machines**

Conference: 10th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM-Statistics)
Location: London, UK

2017 **Iteratively-reweighted least-squares fitting of support vector machines: a majorization-minimization algorithm approach** (Best Paper Award)

Conference: 2nd Future Technologies Conference
Location: Vancouver, Canada

2017 **A two-sample Kolmogorov-Smirnov-like test for Big Data**

Conference: 15th Australasian Data Mining Conference
Location: Melbourne, Australia

2017 **Novel algorithm for clustering of data on the unit sphere via mixture models**

Conference: Joint Statistics Meeting
Location: Baltimore, USA

2016 **Fast model-based clustering of functional data via Gaussian mixture models**

Conference: 9th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM-Statistics)
Location: Seville, Spain

2015 **Spatial clustering of time-series via mixtures of autoregressive models and Markov random fields**

Conference: 8th International Conference of the ERCIM WG on Computational and Methodological Statistics (CM-Statistics)
Location: London, UK

2013 **Spatial false discovery rate control for magnetic resonance imaging studies**

Conference: International Conference on Digital Image Computing: Techniques and Applications (DICTA)
Location: Hobart, Australia

2012 **Variable selection in statistical models using population-based incremental learning with applications to genome-wide association studies**

Conference: IEEE Congress on Evolutionary Computation
Location: Brisbane, Australia

Posters

2026 **Consistency of variational approximations under bounded Kullback--Leibler divergence**

Conference: International Society for Bayesian Analysis World Meeting
Location: Nagoya, Japan

2014 **Asymptotic inference for hidden process regression models**

Conference: IEEE Statistical Signal Processing Workshop

Location: Gold Coast, Australia

INVITED PRESENTATIONS AND WORKSHOPS

2025 **When does the variational measure converge given a convergent measure sequence?** (Sydney Workshop on Mathematics of Data Science, University of Sydney)

Location: Sydney, Australia

2025 **New results for statistical process control via p-values** (International Workshop on Interdisciplinary Research of Information Science and Seismology, University of Tokyo)

Location: University of Tokyo, Japan

2025 **A Generalized Functional Delta Method with Applications to Bayesian Model Selection** (VIASM, Bayesian modeling, computation and applications workshop)

Location: University of Economics, Ho Chi Minh City, Vietnam

2025 **Universal inference without measurability** (BIRS-CMI Workshop)

Location: Chennai Mathematical Institute, India

2025 **Approximation and estimation of density functions by finite mixture models** (I2CNER-IMI Joint International Workshop)

Location: Kyushu University, Japan

2024 **Lp approximation rates for location-scale mixture densities and other matters** (Sydney Workshop on Mathematics of Data Science)

Location: University of Sydney, Australia

2024 **The limits of some Bayesian model evaluation statistics** (VIASM, Workshop on Bayesian learning and network analysis)

Location: VIASM Hanoi, Vietnam

2024 **The limits of some Bayesian model evaluation statistics** (Kyushu University, Statistical Science Seminar)

Location: Kyushu University, Japan

2024 **MM Algorithms for Optimization of Statistical Models** (4-day Intensive Course for the Joint Graduate School of Mathematics for Innovation)

Location: Kyushu University, Japan

2023 **PanIC at the Boathouse**

Conference: ANU RSFAS Summer Research Camp

Location: Canberra, Australia

2022 **Asymptotic concentration of the ABC posterior estimator without identifiability** (ICASM)

Location: University of Economics, Ho Chi Minh City, Vietnam (Delivered online)

2021 **Finite sample inference for generic autoregressive models** (Math for Industry Forum)

Location: VIASM, Hanoi, Vietnam (Delivered online)

2021 **Approximate Bayesian computation** (Intellectual Climate Fund Seminar)

Location: La Trobe University, Melbourne (Delivered online)

2021 **Universal inference with composite likelihoods** (Research School of Finance, Actuarial Studies and Statistics Seminar)

Location: Australian National University, Canberra (Delivered online)

2021 **Order selection with confidence for mixture models** (Department of Mathematics and Statistics Colloquium)

Location: Macquarie University, Sydney (Delivered online)

2020 **Machine learning for statistical analysis – it's just a game!** (AgriBio, Intellectual Climate Fund talk)

Location: La Trobe University, Melbourne (Delivered online)

2020 **Multivariate analyses—A normal approach** (AgriBio, Intellectual Climate Fund talk)

Location: La Trobe University, Melbourne (Delivered online)

2020 **The multiple testing problem in high-throughput biology** (AgriBio Lectures in Mathematical Biology)

Location: La Trobe University, Melbourne (Delivered online)

2020 **Approximate Bayesian computation via the energy statistic** (One World Approximate Bayesian Computation (ABC) Seminar)

Location: University of Warwick, UK (Delivered online)

2020 **Shapley values for linear regression models and its application to explainable AI**

Location: University of Sydney, Australia

2019 **Approximation by finite mixtures of continuous density functions that vanish at infinity**

Location: University of Glasgow, Scotland

2019 **Approximate Bayesian computation using the energy statistic** (CDAC Seminar)

Location: La Trobe University, Australia

2018 **Optimization theory for statistics and machine learning** (4-week course)

Location: University of Caen, France

2018 **Minibatch and incremental learning of exponential family mixtures**

Location: RMIT, Australia

2018 **Minibatch and incremental learning of exponential family mixtures, and the soft k-means clustering problem**

Location: Inria Centre at the University Grenoble Alpes, France

2018 **The fully-visible Boltzmann machine, maximum pseudolikelihood estimation, and the Senate of the 45th Australian Parliament** (Monash Econometrics and Business Statistics Seminar)

Location: Monash University, Australia

2018 **A maximum likelihood oddity** (Statistics Seminar)

Location: La Trobe University, Australia

2018 **MM algorithms for statistical inference and machine learning problems** (S4D)

Location: University of Caen, France

2018 **Theory of statistical inference: a lazy approach to obtaining asymptotic results in parametric models** (S4D)

Location: University of Caen, France

2017 **False discovery rate control under rounding of p-values**

Location: Centre de Reserche de l'Institut Universitaire de Geriatrie de Montreal, Canada

2017 **The Stone-Weierstrass theorem and neural networks** (Kyushu-Latrobe Joint Seminar)

Location: La Trobe University, Australia

2017 **False discovery rate control under rounding of p-values**

Location: Inria Centre at the University Grenoble Alpes, France

2017 **Majorization–minimization (MM) algorithms for statistical inference and machine learning problems** (Research Summer School in Statistics and Big Data Science)

Location: University of Caen, France

2017 **Chunked-and-averaged estimators for statistically embarrassingly parallel computation and online learning** (Workshop on Big Data Analysis)

Location: La Trobe University, Australia

2016 **Whole-volume clustering of calcium imaged zebrafish brains via model-based functional data analysis**

Location: La Trobe University, Australia

2016 **A novel approach to clustering time series data in large spatial arrays** (Centre for Advanced Imaging Seminar Series)

Location: University of Queensland, Australia

2016 **Model-based methods for clustering of spatial time series data** (3-day Invited Workshop for the School of Computer Science and Software Engineering)

Location: University of Western Australia, Australia

2015 **Finite mixture models and false discovery rate control in MRI studies** (Mouse Imaging Research Centre)

Location: Toronto Centre for Phenogenomics, Canada

2015 **Finite mixture models and false discovery rate control in MRI studies** (Feindel Brain Imaging Lecture Series at the McConnell Brain Imaging Centre)

Location: McGill University, Canada

2013 **Spatial false discovery rate control for magnetic resonance imaging studies** (Neuroimaging and Brain Lab)

Location: Australian National University, Australia

2010 **The beginner's guide to genetic algorithms** (General Interest/Lay Audience Seminar at the School of Mathematics and Physics)

Location: University of Queensland, Australia

PROFESSIONAL SERVICE

2026– **Elected Member of the Academic Board** (Previously 2020–2021)
Levels C/D Representative

Institution: La Trobe University, Australia

2026– **Member of the Board of Graduate Research**

Institution: La Trobe University, Australia

2024– **Member of ACAMI**
Australian Centre for Artificial Intelligence in Medical Innovation

Institution: La Trobe University, Australia

2024– **Member of the Graduate Program of Mathematics for Innovation**
Joint Graduate School of Mathematics for Innovation

Institution: Kyushu University, Japan

2024– **La Trobe–Kyushu Joint Seminar Administrator**
Institute of Mathematics for Industry

Institution: Kyushu University, Japan

2022–2023 **Chair of Engagement, Advancement and Internationalization**
School of Mathematics and Physics

Institution: University of Queensland, Australia

2022–2023 **UQ School of Mathematics and Physics Representative**
Institution: Australian Data Science Network

2022–2023 **Faculty and School Student Misconduct Committee Member**
School of Mathematics and Physics

Institution: University of Queensland, Australia

2022–2023 **Faculty EMCA Reference Group Representative and School EMCA Committee Member**
School of Mathematics and Physics

Institution: University of Queensland, Australia

2022–2023 **Mentoring Chair**
Research Committee, School of Mathematics and Physics

Institution: University of Queensland, Australia

2021–2023 **Statistics, Modelling and Operations Research Seminar Administrator**
School of Mathematics and Physics

Institution: University of Queensland, Australia

2020–2021 **Mathematics, Statistics, and Data Science Majors Course Advisor**
Bachelor of Science Program, College of Science, Health and Engineering

Institution: La Trobe University, Australia

2017, 2018 **Statistics Seminar Administrator**
Department of Mathematics and Statistics

Institution: La Trobe University, Australia

2012, 2013 **Treasurer**
Mathematics Students Society

Institution: University of Queensland, Australia

2011–2013 **First-Year Learning Centre Tutor**
School of Mathematics and Physics

Institution: University of Queensland, Australia

ACADEMIC SERVICE

Grant Assessor

2018 **Free University of Bozen-Bolzano, Italy**

2017– **Australian Research Council, Australia**
Discovery Early Career Research Awards; Discovery Projects; Linkage Projects; Future Fellowships; Laureate Fellowships

Editorial Positions

2026– **Associate Editor**
Heliyon Mathematics (Elsevier)

2024– **Executive Editor**
Statistical Analysis and Data Mining (Wiley)

2024– **Associate Editor**
International Journal of Mathematics for Industry (World Scientific)

2024–2025 **Associate Editor**
Japanese Journal of Statistics and Data Science (Springer)

2023– **Book Review Editor**
Australian and New Zealand Journal of Statistics (Wiley)

2019– **Associate Editor (Statistics)**
Frontiers in Applied Mathematics and Statistics (Frontiers)

2019–2023 **Handling Editor (Statistical Computing)**
Australian and New Zealand Journal of Statistics (Wiley)

2018– **Technical Editor**
Australian and New Zealand Journal of Statistics (Wiley)

Conference Commitments

2025 **Scientific Program Committee Co-Chair**
The 13th Conference of the IASC-ARS (IASC-ARS 2025), University of Economics, Ho Chi Minh City, Vietnam

2025 **Organization Committee Member (Chair of Sponsorships)**
69th Annual Meeting of the Australian Mathematical Society (AustMS 2025), La Trobe University, Melbourne, Australia

2023 **Organization Committee Member (Chair of Sponsorships)**
67th Annual Meeting of the Australian Mathematical Society (AustMS 2023), Brisbane Australia

2020 **Program Committee Member**
18th Australasian Data Mining Conference (AusDM), Canberra Australia

2019 **Workshop Co-chair**
Research School in Statistics and Data Science (RSSDS), Melbourne Australia

2019 **Program Committee Member**
17th Australasian Data Mining Conference (AusDM), Adelaide Australia

2018 **Program Committee Member and Tract Chair** (Statistics in Data Science)
16th Australasian Data Mining Conference (AusDM), Bathurst Australia

2018 **Program Committee Member**
Research Summer School on Statistics for Data Science (S4D)

2018 **Program Committee Member** (Applications and Technologies in Big Data)
2nd International Conference on Smart Grid Assisted Internet of Things (SGIoT)

PROFESSIONAL MEMBERSHIPS

2025– Institute of Mathematical Statistics (Regular Member)

2024– International Society for Bayesian Analysis (Regular Member)

2022– Australian Mathematical Society (Fellowship Committee Member 2022–2023)

2019– Statistical Society of Australia (Victoria Branch, Council Member 2020–2021, 2026–; Queensland Branch, President 2023–2025)

2018– Australian-French Association for Research and Innovation (AFRAN)