Michael John Watts

Qualifications

PhD	Computational Intelligence	University of Otago	2004
BSc (Hons), First Class	Information Science	University of Otago	1996

Employment History / Professional Positions

- 2023 – present: Senior Lecturer and Programme Coordinator, Bachelor of IT, Media Design School

- 2022 – 2023: Lecturer, Media Design School, Auckland, New Zealand

- 2012 – 2022: Head of School, Information Technology, Auckland Institute of Studies, Auckland, New Zealand

Key achievements:
- Designed, wrote application, and gained approval for level 9 Master of Information Technology qualification 2019.
- Designed, wrote application, and gained approval for level 8 Postgraduate Diploma in Information Technology qualification 2017.
- Designed, wrote application and gained approval for AIS implementation of level 5 NZ Certificate in Information Technology 2020
- Designed, wrote application and gained approval for AIS implementation of level 5 NZ Diploma in Information Technology Technical Support 2021
- Managed preparations for 2018 EER assessment, which resulted in School of IT attaining Excellent/Excellent rating.
- Transitioned School of Information Technology to online teaching in response to COVID-19 crisis 2020.
- Led the transition of AIS from paper to online course evaluations, 2019.
- Transitioned School of Information Technology to online tests and exams, 2018.
- Developed and evaluated revised processes for support of at-risk international students, 2017-18.
- Designed and implemented procedures for electronic moderation 2017.
- Transitioned School of IT from lab-based to laptop-based teaching 2014.

- May-June 2014: Visiting lecturer at Huanggang Normal University and Xuzhou Institute of Technology, China. Taught Database Technology and Object-Oriented Programming

- 2010 – 2012: Research fellow (ARC Senior Research Associate), School of Earth and Environmental Sciences, University of Adelaide, Australia

- 2007 – 2009: Post-doctoral fellow, School of Biological Sciences, University of Sydney, Australia

- 2008: Visiting Research Fellow, National Centre for Advanced Bio-Protection Technologies, Lincoln University, New Zealand

- 2004 – 2007: Post-doctoral fellow, National Centre for Advanced Bio-Protection Technologies, Lincoln University, New Zealand

- 2002 – 2004: Senior Teaching Fellow, Department of Information Science, School of Business, University of Otago, New Zealand

- 2000 – 2002: Teaching Fellow, Department of Information Science, School of Business, University of Otago, New Zealand

- **1997:** Part-time research assistant, Department of Information Science, School of Business, University of Otago, New Zealand.

Research Summary

- Senior Member of the IEEE
- Peer-reviewed publications: **90**
- Other publications: **22**
- h-index: **22**
- Google Scholar citations profile: http://tinyurl.com/77zufzd
- See page 10 for complete list of publications
- Area editor for journal Evolving Systems
- Associate editor for journals Soft Computing Complex and Intelligent Systems
- Examiner of international Doctoral and Master's theses
- Reviewer for international journals
- Reviewer for international conferences
- Research expertise in: artificial intelligence, data mining, soft computing and ecological informatics

Teaching Summary

- Teaching experience: Computer programming; Computational / Artificial Intelligence; Data mining; Business intelligence; Information security; OOP; Database systems.
- Experience supervising Doctoral and Master's students

Research Expertise

- Artificial intelligence
- Data mining
- Soft computing
- Artificial neural networks
- Evolving Connectionist Systems
- Applications of computational intelligence and machine learning
- Evolutionary algorithms
- Knowledge discovery
- Ecological modelling
- Intelligent methods for ecological informatics
- Intelligent methods for bioinformatics

Technical Expertise

- object oriented design and programming
- relational database design
- programming in C++, C#, Python, SQL, T-SQL, PHP and MATLAB

Teaching Experience

- **2023-25:** Course coordinator of "Algorithms and Data Structures", introductory course on fundamentals of programming algorithms and data structures at Media Design School, New Zealand.

- **2022 – 25:** Course coordinator of "Concepts in Artificial Intelligence", introductory course on artificial intelligence at Media Design School, New Zealand.

- **2022 – 24:** Course coordinator of "Networking and Database Systems", intermediate course on network programming and relational database systems, Media Design School, New Zealand.

- **2021:** Course coordinator of " Information Technology Applied Research Project", Master's level research course in School of Information Technology, Auckland Institute of Studies.

- **2021:** Course coordinator of "Advanced Information Technology Specialised Project", Master's level project course in School of Information Technology, Auckland Institute of Studies.

- **2020:** Course coordinator of "Information Technology Research Thesis", Master's level thesis course in School of Information Technology , Auckland Institute of Studies.

- **2019:** Course coordinator of "Artificial Intelligence", postgraduate course on artificial and computational intelligence methods in School of Information Technology, Auckland Institute of Studies.

- **2018 – 21:** Course coordinator of "Research Methods", postgraduate course on conducting research in School of Information Technology, Auckland Institute of Studies.

- **2015 – 17:** Course coordinator of "Fundamentals of Computer Programming", introductory programming course using Python in School of Information Technology, Auckland Institute of Studies.

- **2013 – 15, 2017-18:** Course coordinator of "Database Engineering I", introductory database design course in School of Information Technology, Auckland Institute of Studies.

- **2014:** Visiting lecturer at Huanggang Normal University and Xuzhou Institute of Technology, China. Taught Database Technology and Object Oriented Programming.

- **2013:** Course coordinator of "Business Intelligence", third year data warehousing and data mining course in School of Information Technology, Auckland Institute of Studies.

- **2012:** Course coordinator of "Information Systems Security", third year security course in School of Information Technology, Auckland Institute of Studies.

- **2003:** Course coordinator of "Knowledge and Information", second year data processing course in the Department of Information Science, School of Business, University of Otago, New Zealand.

- **2000 – 03:** Course coordinator of "Intelligent Information Systems", third year computational intelligence course in the Department of Information Science, School of Business, University of Otago, New Zealand.

- **2000–03:** Course coordinator of "Advanced Knowledge Engineering", fourth year computational intelligence course in the Department of Information Science, School of Business, University of Otago, New Zealand.

Postgraduate Student Supervision

PhD Students

- David Pontin, Lincoln University, thesis title "*Factors influencing the occurrence of stinging jellyfish (Physalia spp.) at New Zealand beaches*", graduated 2009

- Joel Pitt, Lincoln University, thesis title "*Modelling the spread of invasive species across heterogeneous landscapes*" graduated 2008

Master's Research Thesis Students

- Rajkumar Makwana, Auckland Institute of Studies, thesis title *"AI-Driven Daily Sales Prediction for Burger King's Top Three Stores in Auckland"* 2025.

- Paul Nava, Auckland Institute of Studies, thesis title *"Measuring the IT Technical Support Specialist's Staffing Capacity on Large Enterprise Using the Workload Capacity Assessment Approach"* 2025.

- Sagar Madhok, Auckland Institute of Studies, thesis title *"From Efficiency to Risk: A Study on the Productivity and Security Impact of AI-Powered Coding Assistants"* 2025.

- Sebanta K C, Auckland Institute of Studies, thesis title *"The Impact of social media on Sports Industry especially in Generation Z"* 2025.

- Saju Sebastian, Auckland Institute of Studies, thesis title *"AI-Powered DevOps: Enhancing Software Delivery through Predictive Analytics"* 2025.

- Shriya Kuikel, Auckland Institute of Studies, thesis title *"The Impact of Social Media on Reshaping the Beauty Industry: A Focus on Generation Z Consumers"* 2025.

- Mitesh Bambhaniya, Auckland Institute of Studies, thesis title *"AI in Retail Security: A Study on Staff and Customers Perceptions"* 2025.

- Remil Zadafiya, Auckland Institute of Studies, thesis title *"A Data-Driven Approach to Evaluating Social Media Content's Influence on People's Mood"* 2025.

- Nidhi S. Patel, Auckland Institute of Studies, thesis title *"Smart Home Automation and Quality of Life: An Empirical Study on User Perceptions"* 2024.

- Tinh Trung Tran, Auckland Institute of Studies, thesis title *"Enhancing Transparency and Efficiency in Peer Review Processes through Blockchain Technology"* 2024.

- Hongzhou Li, Auckland Institute of Studies, thesis title: *"How do digital media companies leverage big data analytics to enhance user engagement and retention?"* 2024.

- Somendhar Sara, Auckland Institute of Studies, thesis title *"Mobile Technology in Education"* 2024.

- Samyeol Lee, Auckland Institute of Studies, thesis title *"Improving MMO Game Performance with Adaptive Packet Management and IOCP"* 2024.

- Jyoti, Auckland Institute of Studies, thesis title *"Artificial Intelligence in Healthcare: Attitudes and the Role of Explainable AI"* 2024.

- Ashwini Ghadge, Auckland Institute of Studies, thesis title *"AI Optimisation and Enterprise Software: Evaluating the Shift from Per-User to Resource-Based Pricing Models"* 2024.

- Sili Xiao, Auckland Institute of Studies, thesis title *"Automated Detection of Highway Bridge Surface Cracks Leveraging Deep Learning Model"* 2024.

- Korlan Seitalina, Auckland Institute of Studies, thesis title *"Attitudes of Business Process Modelers to Artificial Intelligence"* 2024.

- Gukseon Hong, Auckland Institute of Studies, thesis title *"Factors Influencing Cloud Computing Adoption by Small and Medium-sized Enterprises (SMEs) in Auckland, New Zealand*" 2021.

- Michael Woolley, Auckland Institute of Studies, thesis title *"Decentralised Machine Learning with Evolving Connectionist Systems"* 2020.

- Asotau Lio, Auckland Institute of Studies, thesis title *"Refining the Whistlebox Framework for User Design"* 2020.

Master's Research Project Students

- Thilakshi Alokabandara, Auckland Institute of Studies, project title *"Comparative Analysis of Machine Learning Classification Methods for Disease Detection in Medical Imaging"* 2024.

- Tanawat Limsakul, Auckland Institute of Studies, project title *"Best Practices for Applying Memorization Techniques in React Applications"* 2024.

- Ho Yan Tai, Auckland Institute of Studies, project title "*Comparative Analysis of Customer Segmentation Techniques for Predicting Customer Churn in the Retail Industry"* 2023.

- Jiayong Leong, Auckland Institute of Studies, project title *"Comparison between DQN and GenNets in OpenAI gym environments"* 2023.

- Arnoldus Botha, Auckland Institute of Studies, project title *"A Comparative Hyperparameter Optimisation Tool Research Study"* 2022.

- Tananya Asavaoran, Auckland Institute of Studies, project title *"Comparison automation testing tools for web applications*" 2022.

- Kuldipsinh Parmar, Auckland Institute of Studies, project title *"Comparison of MPLS and IP networks to evaluate the impact on network performance in GNS3"* 2022.

- Grishma Karshanbhai Modhvadiya, Auckland Institute of Studies, project title *"Distributed, Scalable, Managed Network Monitoring System"* 2022.

- Pooja Sandesh Pandit, Auckland Institute to Studies, project title *"Twitter Sentiment Analysis Using Machine Learning Algorithms"* 2022

- Hyuyeong Choe, Auckland Institute of Studies, project title *"Performance Comparisons of Load Balancing Algorithms Based HTTP Live Streaming in Cloud Environment"* 2021

Theses Examined

PhD / Doctoral Theses

- Reggio Hartono, *Adaptive Methods for Spatiotemporal Stream Data Mining*. Auckland University of Technology, 2017

- Tufail Muhammad, *Selecting, Quantifying, Optimizing and Understanding Visualization Techniques: A Computational Intelligence-Based Approach*. Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan, 2015

- Simon Dacey, *Computational Land Use Management of Public Spaces in New Zealand*. Unitec Institute of Technology, New Zealand, 2015

- Wen Liang *Personalized Modeling for Medical Decision Support and the Case Study of Stroke Data*. Auckland University of Technology, New Zealand, 2013

- Anju Verma *Ontology Based Personalized Modeling for Chronic Disease Risk Evaluation and Knowledge Discovery: An Integrated Approach*. Auckland University of Technology, New Zealand, 2009

Master's Theses

- SiMing Li, *Evaluation and Improvement of Current Computational Tools for Metabolomics Data Analysis*. Auckland University of Technology, New Zealand, 2017

- Datong Gu, *Cross Models for Twin Recognition*. Auckland University of Technology, New Zealand, 2015

- Vivienne Breen, *Detection of Susceptibility to Multiple Sclerosis from Single Nucleotide Polymorphism Data*. Auckland University of Technology, New Zealand, 2013

Professional Affiliations, Memberships and Service

- Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and Computational Intelligence Society (IEEE CIS)
- Member of the IEEE CIS standards committee 2011-15,2018
- Member of the IEEE CIS social media subcommittee 2011-14, vice-chair 2012, 2014-18
- Member of the IEEE CIS curriculum subcommittee 2012-15
- Member of the IEEE CIS Neural Network Technical Committee 2013-18
- Vocational Institutes Representative, AI Researchers Association 2024, 2025
- Associate member of the Knowledge Engineering and Discovery Research Institute (KEDRI), Auckland University of Technology, New Zealand

Distinctions

- Excellence award for Research (post-PhD), Media Design School, 2024
- Best Paper, CITRENZ 2017 conference, 2017
- Special Mention, Best Paper category, CITRENZ 2016 conference, 2016
- Best poster award, Neuro-Computing and Evolving Intelligence Conference, 2003
- University of Otago Postgraduate Scholarship, University of Otago, 1998
- University of Otago Postgraduate Award, University of Otago, 1997
- Department of Information Science Summer Scholarship, November 1996 – January 1997
- Department of Information Science Summer Scholarship, November 1995- January 1996

Academic Journal Activities

Editorial Positions and Activities

- Area editor, Evolving Systems, 2023-present, associate editor 2014-2023
- Associate editor, IEEE Transactions on Neural Networks and Learning Systems, 2015-2018
- Associate editor, Complex and Intelligent Systems, 2015-present
- Associate editor, Soft Computing, 2013-present
- Special issue editor of Evolving Systems: Applications of Kasabov's Evolving Connectionist Systems, 2013
- Co-guest editor, International Journal on Information Technology (IJIT) special issue on "Biometric Recognition and SVM", 2005

Service as a Reviewer

- Theoretical and Experimental Plant Physiology, 2025
- Biomemetics, 2025
- Big Earth Data, 2025
- Water, 2025
- Sensors, 2017
- Evolving Systems, 2016
- International Journal of Applied Earth Observation and Geoinformation, 2015
- Applied Soft Computing, 2012, 2014
- Fuzzy Sets and Systems, 2012
- IEEE Transactions on Evolutionary Computation, 2012
- Annals of Forest Science, 2012
- World Journal of Modeling and Simulation, 2012
- European Journal of Wildlife Research, 2011
- Sports Biomechanics, 2011
- Ecological Informatics, 2011-12
- Medical and Veterinary Entomology, 2011
- International Journal of Advanced Computer Science and Applications (IJACSA), 2010-11
- IEEE Transactions on Neural Networks and Learning Systems, 2003, 2009-13
- Crop Protection, 2010
- Entomologia Experimentalis et Applicata, 2008, 2010
- Journal of Engineering Science and Technology, 2008
- Biological Control, 2008
- Journal of Advanced Computational Intelligence and Intelligent Informatics (JACIII), 2006-7, 2015
- IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2007
- IEEE Transactions on Industrial Informatics, 2005-7
- IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2006
- International Journal on Computational Intelligence and Applications (IJCIA), Special Issue on “Neurocomputing and hybrid methods”, 2004
- Soft Computing, special issue on “Soft Computing and Bioinformatics and Medical Informatics”, 2004

Conference Activities

Organisation, Session Chair, Invited Speaker

- ICONIP 2024 workshop organiser, "AI Education"
- ICONIP 2024 Special Session Organiser, "AI in Environmental, Conservation and Geospatial Applications" with Ghobakhlou, A., Walley, J., Bayrak, A.T.
- ICONIP 2024 session chair, "Healthcare"
- Programme committee, 2024 IEEE Conference on Artificial Intelligence- Organiser, chair and reviewer, special session on “Applications of Computational Intelligence in Ecological Informatics and Environmental Modelling”, World Congress on Computational Intelligence (WCCI) 2016
- Program committee member, International Joint Conference on Artificial Intelligence (IJCAI) 2016
- Organiser, chair and reviewer, special session on “Applications of Computational Intelligence in Ecological Informatics and Environmental Modelling”, World Congress on Computational Intelligence (WCCI) 2014
- Awards chair, International Joint Conference on Neural Networks (IJCNN) 2013
- Organiser, chair and reviewer, special session on “Computational intelligence in ecological informatics” International Conference on Neural Information Processing (ICONIP) 2008
- Program committee member, International Conference on Intelligent Computing (ICIC), 2007, 2006
- Session co-chair, *Evolutionary Approaches for Supervised Learning*, International Joint Conference on Neural Networks, 2006
- Session chair, *Neural Networks and Nonlinear Systems,* International Conference on Intelligent Computing (ICIC), 2005

- Invited speaker, Workshop on Evolutionary Computation and Computational Intelligence in teaching, Congress on Evolutionary Computation, 2002
- Organising Committee member, Artificial Neural Networks and Expert Systems (ANNES), 2001

Service as a Reviewer / Program Committee Member

- Machine Intelligence and Nature-Inspired Computing (MIND) 2025
- International Conference on Neural Information Processing (ICONIP) 2024, 2025
- IEEE Conference on Artificial Intelligence, 2024
- 20th Australasian Data Mining Conference, 2022
- International Conference on Neural Information Processing (ICONIP) 2019, 2024
- Computer and Information Technology Research and Education New Zealand (CITRENZ) 2017, 2018, 2022
- Data Mining in Cybersecurity (DMC) 2015
- KES 2010
- ICONIP 2008
- Pacific Asia Conference on Information Systems (PACIS), 2007
- Congress on Evolutionary Computation (CEC), 2001-2, 2004, 2006-7
- International Joint Conference on Neural Networks (IJCNN), 2007, 2014-22
- IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB), 2004-7, 2013-14
- 6th International Conference on Hybrid Intelligent Systems and 4th Conference on Neuro-Computing and Evolving Intelligence (HIS-NCEI 06'), 2006
- 5th Australasia-Japan Joint Workshop on Intelligent and Evolutionary Systems, 2001

Positions Held at Departmental Level

- Bio-Protection and Ecology, Lincoln University
  - Chair, post-doctoral fellow group, January 2006 – February 2007
  - Deputy Chair, post-doctoral fellow group, February 2005 – January 2006
- Department of Information Science, University of Otago
  - Convenor, Information Science Postgraduate Group, July 2001 – June 2002
  - Convenor, Knowledge Engineering Laboratory seminar series, July 2001 – 2002
- Webmaster, Knowledge Engineering Laboratory, 1999 – 2002

Positions Held at Institutional level

- Chair of Timetabling Committee, Auckland Institute of Studies, August 2014 – 2022
- Student Intellectual Property Policy Consultative Group, University of Otago, April – December 2002
- Divisional Representative, Graduate Research Student Liaison Committee, University of Otago, January 2000 – June 2002
- Webmaster, Graduate Research Student Liaison Committee, University of Otago, October 2001 – June 2002

Community Service

Public Outreach

- Computational Intelligence Blog, 2010-present, http://computational-intelligence.blogspot.com/
- X/Twitter http://www.twitter.com/DrMikeWatts
- Newsmast: https://newsmast.org/profile/111338892311951056
- Threads: https://www.threads.net/@drmikewatts
- Mastodon: https://mastodon.social/@DrMikeWatts
- Bluesky: https://bsky.app/profile/drmikewatts.bsky.social

Cultural Participation and Development

- Operated and maintained the English – Māori Translator website: http://kel.otago.ac.nz/translator/ 1998-2004 (now discontinued)

Other Community Service

- Participant in the Third and Fourth International Science Festival “The Global Village” Expo, June 28-30, 1999 and July 1-16, 2000, Dunedin, New Zealand

Michael John Watts

List of Publications

Theses

Watts, M.J. Evolving connectionist systems: characterisation, simplification, formalisation, explanation and optimisation. PhD thesis, University of Otago, New Zealand. 2004. http://hdl.handle.net/10523/1489

Book Chapters

Watts, M.J. and Kasabov, N.K. Hybrid Evolutionary-, Constructive-, and Evolving Fuzzy Neural Networks. In: *Handbook on Computational Intelligence.* World Scientific (2015) pg 745-772.

Worner, S.P., Eschen, R., Kenis, M, Paini, D., Saikonnen K., Suiter, K., Singh, S., Vanninen, I., **Watts, M.J.** Detecting and interpreting patterns within regional pest species assemblages using self-organizing maps and other clustering methods. In: *Pest risk modelling and mapping for invasive alien species*. R.C. Venette, ed. CAB Direct (2015) pg 97-114.

Watts, M.J. , Bianconi, A., Serapiao, A.B.S., Govone, J.S., and von Zuben, C.J. The Effectiveness of Artificial Neural Networks in Modelling the Nutritional Ecology of a Blowfly Species. In: *Ecological Modelling*. W-J Zhang, ed. Novascience Press. (2011) pg 97-114.

Watts, M.J. Towards a formalisation of evolving connectionist systems. In: Artificial Neural Networks. S.J. Kim, ed. Novascience Press. (2010).

Watts, M.J. and Worner, S.P. Modelling Insect Habitat Suitability with Artificial Neural Networks. In: *Insect Habitats: Characteristics, Diversity and Management*. Edina L. Harris and Newell E. Davies, eds. Novascience Press. (2010) pg 163-196.

Watts, M.J. and Kasabov, N. Neuro-genetic tools and techniques. In: *Neuro-Fuzzy Techniques for Intelligent Information Processing.* N. Kasabov and R. Kozma, eds. Heidelberg, Physica Verlag (1999) pg 97-110.

Kasabov, N., Kozma, R., Kilgour, R., Laws, M., Taylor, J., **Watts, M.** and Gray, A. Hybrid connectionist-based methods and systems for speech data analysis and phoneme-based speech recognition. In: *Neuro-Fuzzy Techniques for Intelligent Information Processing.* N. Kasabov and R. Kozma, eds. Heidelberg, Physica Verlag (1999) pg 241-264.

Journal Articles

Al-Khowarizmi, Rahmat, R.F. **Watts, M.J.**, Akrim, A,, Lubis, A.R., Basri, M. Modification of multilayer perceptron using detection rate model for prediction of nominal exchange rate, *Journal of Applied Engineering and Technological Science (JAETS)*, accepted 2025

Al-Khowarizmi, **Watts, M.J.**, Efendi, S., Kamil, A.A. FinTech forecasting using an evolving connectionist system for lenders and borrowers: ecosystem behavior. *IAES International Journal of Artificial Intelligence* (2024) 13(2) 2386-2394 https://ijai.iaescore.com/index.php/IJAI/article/view/23623

Cope, R., Ross, J.V., Wittmann, T.A., **Watts, M.J.**, Cassey, P. Predicting the risk of biological invasions using environmental similarity and transport network connectedness. *Risk Analysis* (2019), Risk Analysis 39(1), 35-53, 2019/1 doi:10.1111/risa.12870

Heddam, S., **Watts, M.J.,** Houichi, L., Djemili, L. and Sebbar, A. Evolving Connectionist Systems (EcoS): A New Approach for Modelling Daily Reference Evapotranspiration (ET0). *Environmental Monitoring and Assessment.* (2018). 190:516 doi:10.1007/s10661-018-6903-0

Watts, M.J., Cabiling, D., and Choe, K. W. Laptops for Information Technology Students: User Impressions and the Impact on Learners. *Journal of Applied Computing and Information Technology* (2018). 22(1).
https://citrenz.org.nz/citrenz/JACIT/JACIT2201/2018Watts_StudentLaptopsR1.pdf

Watts, M.J. , Fordham, D.A., Akcakaya, H.R., Aiello-Lammens, M. and Brook, B.W. Tracking metapopulation range margin changes using geographical centroids of patches weighted by population size and density. *Ecological Modelling* (2013) 269 61-69.
https://www.sciencedirect.com/science/article/pii/S0304380013004031

Worner, S.P., Gevrey, M., Eschen, R., Kenis, M., Paini, D., Singh, S., Suiter, K. and **Watts, M.J.** Self-organising maps and other methodologies for pest prioritisation. *Neobiota* (2013) 18 83-102.
http://www.pensoft.net/J_FILES/9/articles/4042/4042-G-3-layout.pdf

Fordham, D.A., Akcakaya, H.R., Brook, B.W., Rodriguez, A., Alves, P.C., Civantos, E., Trivino, M., **Watts, M.J.**, and Araujo, M.B. Adapted conservation measures are required to save the Iberian lynx in a changing climate. *Nature Climate Change* (2013) 3(10) 899-903.
https://www.nature.com/articles/nclimate1954

Haby, N.A, Prowse, T.A.A., Gregory, S, **Watts, M.J.**, Delean, S., Fordham, D.A., Foulkes, J. and Brook, B.W. Scale dependency of metapopulation models used to predict climate change impacts on small mammals. *Ecography* (2013) 36 832-841.
http://onlinelibrary.wiley.com/doi/10.1111/j.1600-0587.2012.07749.x/abstract

Prowse, T.A.A., Johnson, C.N., Lacy, R.C., Bradshaw, C.J.A., Pollak, J.P., **Watts, M.J.** and Brook, B.W. No need for disease: testing extinction hypotheses for the thylacine using multi-species metamodels. *Journal of Animal Ecology* (2013) 82(2) 355-364.
https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2656.12029

Bianconi, A., Dalgaard, T., Manly, B.F.J., Govone, J.S., **Watts, M.J.**, Nkala, P., Habermann, G., Huang, Y., Serapião, A.B.S. Methodological difficulties of conducting agroecological studies from a statistical perspective. *Agroecology and Sustainable Food Systems* (2013) 37(4) 485-506.
http://www.tandfonline.com/doi/abs/10.1080/10440046.2012.712941#.UkyWhj8qPl9

Harris, J.B.C., Fordham, D.A., Mooney, P.A., Pedler, L.P., Paton, D.C., Stead, M.G., **Watts, M.J.**, Araújo, M.B. & Akçakaya, R. Managing the long-term persistence of a rare cockatoo under climate change. *Journal of Applied Ecology* (2012) 49 785-794.
http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2012.02163.x/abstract

Fordham, D.A., **Watts, M.J.**, Delean, S., Brook, B.W., Heard, L., and Bull, M. Managed relocation as an adaptation strategy for mitigating climate change threats to the persistence of an endangered lizard. *Global Change Biology* (2012) 18(9) 2743-2755.
http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2486.2012.02742.x/abstract

Fordham, D.A., Akcakaya, H.R., Araujo, M.B., Elith, J., Keith, D., Pearson, R. G., Auld, T., Mellin, C., Morgan, J., Regan, T., Tozer, M., **Watts, M.J.,** White, M., Wintle, B., Yates, C. and Brook, B.W. Plant extinction risk under climate change: are forecast range shifts alone a good indicator of species vulnerability to global warming? *Global Change Biology* (2012) 18 1357-1371.
https://onlinelibrary.wiley.com/doi/10.1111/j.1365-2486.2011.02614.x

Watts, M.J. and Worner, S.P. Using artificial neural networks to predict the distribution of bacterial crop diseases from biotic and abiotic factors. *Computational Ecology and Software* (2012) 2(1) 70-79.
http://www.iaees.org/publications/journals/ces/articles/2012-2(1)/using-artificial-neural-networks-to-predict-the-distribution.pdf

Lam, A.Y.S., **Watts, M. J.**, Wu, D. and Estévez, P.A. IEEE CIS Social Media: Have you joined our online community? *IEEE Computational Intelligence* (2012) 7(1) 4-5,79.
https://ieeexplore.ieee.org/iel5/10207/6132197/06132224.pdf

Bradshaw, C.J.A., McMahon, C.R., Miller, P.S., Lacy, R.C., Verant, M.L., Pollack, J.P., Fordham, D.A., **Watts, M.J.**, Prowse, T.A.A. and Brook, B.W. Dynamics of bovine tuberculosis in Australian swamp buffalo based on coupled epidemiological and demographic models. *Journal of Applied Ecology* (2012) 49(1) 268-277.
http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2011.02081.x/abstract

Fordham, D.A., Wigley, T.M.L., **Watts, M.J.**, and Brook, B.W. Strengthening forecasts of climate change impacts with multi-model ensemble averaged projections using MAGICC/SCENGEN 5.3. *Ecography* (2012) 35 4-8.
http://onlinelibrary.wiley.com/doi/10.1111/j.1600-0587.2011.07398.x/abstract

Bianconi, A., Govone, J.S., Manly, B.F.J. and **Watts, M.J.** The use of a multivariate statistical procedure in analysing the germination process of two bean cultivars, compared with a univariate approach. *Proceedings of the International Academy of Ecology and Environmental Sciences* (2011) 1(2) 70-76.
http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/The-use-multivariate-statistical-procedure.pdf

Watts, M.J. and Worner, S.P. Improving cluster-based methods for investigating potential for insect species establishment: region-specific risk factors. *Computational Ecology and Software* (2011) 1(3) 138-145.
http://www.iaees.org/publications/journals/ces/articles/2011-1(3)/Improving-cluster-based-methods.pdf

Watts, M.J. , Li, Y., Russell, B.D., Mellin, C., Connell, S.D. and Fordham, D.A. A novel method for mapping reefs and subtidal rocky habitats using artificial neural networks. *Ecological Modelling* (2011) 222(15) 2606-2614.
https://www.sciencedirect.com/science/article/abs/pii/S0304380011002547

Pontin, D.R., Schliebs, S., Worner, S.P. and **Watts, M.J.** Finding relevant data in noisy, complex ecological times series: a comparison of two feature selection methods. *Ecological Modelling* (2011) 222(10) 1657-1665.

Watts, M.J. Using data clustering as a method of estimating the risk of establishment of bacterial crop diseases. *Computational Ecology and Software* (2011) 1(1) 1-13.
http://www.iaees.org/publications/journals/ces/articles/2011-1%281%29/Using-data-clustering-as-a-method-of-estimating-the-risk.pdf

Watts, M.J. A decade of Kasabov's Evolving Connectionist Systems: A Review. *IEEE Transactions on Systems, Man and Cybernetics Part C - Applications and Reviews* (2009) 39(3) 253-269.
https://ecos.watts.net.nz/Literature/Watts.pdf

Watts, M.J., Worner, S.P., Estimating the risk of insect species invasion: Kohonen self-organising maps versus k-means clustering. In: *Ecological Modelling* (2009) 220(6) 821-829.

Watts, M.J. and Worner, S.P. Comparing Ensemble and Cascaded Neural Networks that Combine Biotic and Abiotic Variables to Predict Insect Species Distribution. In: *Ecological Informatics* (2008) 3(6) 354-366.

Watts, M.J. and Worner, S.P. Using Artificial Neural Networks to Determine the Relative Contribution of Abiotic Factors Influencing the Establishment of Insect Pest Species. In: *Ecological Informatics* (2008) 3(1) 64-74.

Watts, M.J. and Worner, S.P. Comparison of a Self Organising Map and Simple Evolving Connectionist System for Predicting Insect Pest Establishment. In: *International Journal of Information Technology.* (2006) 12(6) 35-42.

Watts, M.J. ANN Rule Extraction using Evolutionary Programmed Fuzzy Membership Functions. In: *International Journal of Information Technology: Special Issue on Evolutionary Algorithm and Advanced Learning System* (2005) 11(10) 45-53.
http://intjit.org/cms/journal/volume/11/10/1110_6.pdf

Watts, M.J. Fuzzy Rule Extraction from Simple Evolving Connectionist Systems. In: *International Journal of Computational Intelligence and Applications, Special Issue on Neuro-Computing and Hybrid Methods for Evolving Intelligence* (2004) 4(3) 299-308.

Ghobakhlou, A., **Watts, M.J.** and Kasabov, N.K. Adaptive speech recognition with evolving connectionist systems. In: *Information sciences* (2003) 156(1-2): 71-83.

Moyle, S. and **Watts, M.J.** Neural Nets Raise the Roof. *IEEE Intelligent Systems*, January-February 2003, Vol. 18, Issue 1. IEEE Computer Society, 2003, 8-10.

Kasabov, N.K. and Kozma, R. and **Watts, M. J.** Phoneme-based speech recognition via fuzzy neural networks modeling and learning. In: *Information Sciences*, (1998) 110(1-2): 61-79.

Kasabov, N., Kim, J, **Watts, M.J.** and Gray, A. FuNN/2 - A fuzzy neural network architecture for adaptive learning and knowledge acquisition in multi-modular distributed environments. In: *Information Sciences* (1997) 101(3-4): 155-175.

Refereed Conference Papers

Watts, M.J. and Leach, D. (2024). Machine Learning Uncovers Potential Inconsistencies in NZQA External Evaluation and Review Ratings. In: *Proceedings of the 15th Annual CITRENZ Conference 2024* pg7-12 https://doi.org/10.34074/ctz.241.

Kaur, R., **Watts, M.J.** and Singh, R. (2024). A Review of Programming Languages for Teaching Artificial Intelligence. In: *Proceedings of the 15th Annual CITRENZ Conference 2024* pg102-108 https://doi.org/10.34074/ctz.2416.

Seitalina, K. and **Watts, M.J.** (2024) Business Process Modelers Have Inconsistent Attitudes to Artificial Intelligence. In: *Proceedings of the 15th Annual CITRENZ Conference 2024* pg13-21. https://citrenz.org.nz/citrenz/conferences/2024/pdf/2Seitalina.pdf

Al-Khowarizmi, Rahmat R.F., **Watts, M.J.**, Lubis, A.R., Nugroho, O. and Dahnial, I. (2024). Analysis of Spelling Errors in Text Data Using Graph Neural Networks (GNNs) Based on Machine Learning . In: *Proceedings of the 12th International Conference on Cyber and IT Service Management (CITSM 2024)*.

Watts, M.J. and Bayrak, A.T. (2024). Artificial Intelligence and Climate Change: A Review of Causes and Opportunities. In: *Proceedings of the 31st International Conference on Neural Information Processing (ICONIP 2024)* pg 174-187.

Moravejosharieh, A.H., **Watts, M.J.** and Ahmadi, K. (2019). An Overview of Multi-Controller Architecture in Software-Defined Networking In: *Proceedings of the 10th Annual CITRENZ Conference 2019* pg 39-45.

Moravejosharieh, A.H., **Watts, M.J.** and Song, Y. (2018). Bandwidth Reservation Approach to Improve Quality of Service in Software-Defined Networking: A Performance Analysis. In: *15th International Joint Conference on Computer Science and Software Engineering (JCSSE) 2018* (pg. 1-6). IEEE.

Watts, M.J., Memon, S. and Kumar, R. (2018). Evaluating Student Support Systems for International Information Technology Students In: *Proceedings of the 9th Annual CITRENZ Conference 2018* pg 36-40.

Moravejosharieh, A., **Watts, M.J.** and Ahmadi, K. (2018). An Overview of Multimedia QoS in SDN-Enable IP Networks In: *Proceedings of the 9th Annual CITRENZ Conference 2018* pg 99-105.

Watts, M.J., Cabiling, D. and Choe, K.W. (2017). Student Impressions of Laptops for Information Technology Students In: *Proceedings of the 8th Annual CITRENZ Conference 2017* pg 64-69.

Abdelhamid, N., Cabiling, D., **Watts, M.J.**, and Choe, K.W. (2017). Intelligently Derived Features that Influence Students' Perceptions on e-Textbooks In: *Proceedings of the 8th Annual CITRENZ Conference 2017* pg 58-63.

Cabiling, D., Kumar, R., Choe, K.W. and **Watts, M.J.** (2017) MOODLE: An Analysis of its Utilisation, Benefits, Problems and IT Support as Perceived by the Students of Auckland Institute of Studies In: *Proceedings of the 8th Annual CITRENZ Conference 2017* pg 76-81.

Han, B. and **Watts, M.J.** (2016) Predicting the Academic Performance of International Students on an Ongoing Basis. In: *Proceedings of the 7th Annual CITRENZ Conference 2016* pg 48-53.

Watts, M.J., Albakry, K., Choe, K.W., Han, B., Hookings, A., Fonua, H., Kumar, R., Ahmadi, K., and Ketu'u, S. (2016) A Student Laptop Roll-out for International Information Technology Students. In: *Proceedings of the 7th Annual CITRENZ Conference 2016* pg 76-80.

Watts, M.J. (2016) Sleep Learning and Max-Min Aggregation of Evolving Connectionist Systems. In: *Proceedings of the International Joint Conference on Neural Networks (IJCNN) 2016* pg 4325-4330.

Watts, M.J. (2014) Evolving Connectionist Systems can Predict Outbreaks of the Aphid *Rhopalosiphum padi*. In: *Proceedings of the International Joint Conference on Neural Networks (IJCNN) 2014* pg 646-650.

Bianconi, A., **Watts, M. J.** , Huang, Y., Serapião, A. B. S., Govone, J. S., Mi, X., Habermann, G. and Ferrarini, A. (2014) Applying Computational Intelligence Methods to Modeling and Predicting Common Bean Germination Rates. In: *Proceedings of the International Joint Conference on Neural Networks (IJCNN) 2014* pg 658-662.

Watts, M.J. and Worner, S.P. Predicting the Distribution of Fungal Crop Diseases from Abiotic and Biotic Factors using Multi-layer Perceptrons. In: *Proceedings of ICONIP 2008, LNCS 5506* pg 899-906.

Pontin, D.R., Worner, S.P. and **Watts, M.J.** Using Time Lagged Input Data to Improve Prediction of Stinging Jellyfish Occurrence at New Zealand Beaches by Multi-Layer Perceptrons. In: *Proceedings of ICONIP 2008, LNCS 5506* pg 907-914.

Worner S.P., **Watts M.J.**, Pitt J.P.W. & Gevrey M. (2008) Being prepared: ecological informatics and computational intelligence methods applied to invasive insect risk assessment. *International Congress of Entomology, 6-11 July, Durban, South Africa, 2008.*

Pontin, D.R., **Watts, M.J.** and Worner, S.P. Using Multi-Layer Perceptrons to Predict the Presence of Jellyfish of the Genus *Physalia* at New Zealand Beaches. *International Joint Conference on Neural Networks 2008, Hong Kong, June 1-6, 2008*. pg 1171-1176.

Worner, S.P. and **Watts, M.J.** (2006) Null Model Analysis of a Self Organising Map of Invasive Species Distributions. *5th International Conference on Ecological Informatics (ISEI5) Novel Computational Techniques for Improved Management, Understanding and Forecasting of Complex Ecological Data December 4 – 6, 2006, Santa Barbara, CA, USA* 2006.

Watts, M.J. and Worner, S.P. (2006) Null-model Validation of MLP Input Contribution Analysis in Ecology. *6th International Conference on Hybrid Intelligent Systems (HIS 06') and 4th Conference on Neuro-Computing and Evolving Intelligence (NCEI '06). 13-15 December 2006, AUT Technology Park, Auckland, New Zealand.*

Worner, S.P., **Watts, M.J.** and M. Gevrey. (2006). Bootstrapping a self organising map model to estimate the uncertainty in assemblages of alien invasive species. Proceedings *Management of sustainability and ecological modelling. International Congress of Ecological Modelling, August 28 - September 1, Ube -Yamaguchi, Japan* 2006. pg 206-207.

Watts, M.J. and Worner, S.P. (2006) Using MLP to Determine Abiotic Factors Influencing the Establishment of Insect Pest Species. In: *Proceedings of 2006 International Joint Conference on Neural Networks (IJCNN 2006), Vancouver, Canada,* pg 3506-3511.

Watts, M.J. (2006) Nominal-Scale Evolving Connectionist Systems. In: *Proceedings of 2006 International Joint Conference on Neural Networks (IJCNN 2006), Vancouver, Canada,* pg 4057-406.

Watts, M.J. (2005) ANN Rule Extraction using Evolutionary Programmed Fuzzy Membership Functions. In: *Proceedings of 2005 International Conference on Intelligent Computing (ICIC 2005), Hefei, PRC* pg 2517-2526.

Watts, M.J. and Worner, S.P. (2005). Comparison of Artificial Neural Networks Models for Predicting Insect Pest Establishment. In: *Proceedings of 2005 International Conference on Intelligent Computing (ICIC 2005), Hefei, PRC* pg 520-529.

Worner, S. P., **Watts, M.J.**, Gevrey, M. and Pitt, J. (2005). Neuro-computing methods as aids to assessing the invasion potential of alien insects. *IX International Congress of Ecology, August 7-12 2005, Montreal, Canada*.

Watts, M.J., Worner, S.P., Lankin, G.O., and Teulon, D. (2004). A Comparison of MLP and ECoS Networks for the Prediction of the Flight of Aphids in Autumn Sown Wheat Crops. In: *Proceedings Conference on Neuro-Computing and Evolving Intelligence 2004, NCEI'04, 13-15 December, 2004, AUT Technology Park, 581 Great South Road, Auckland, New Zealand*. Editors: Nik Kasabov, Zeke S.H. Chan.

Moyle, S. A. and **Watts, M.J.** (2002). Fuzzy Neural Networks in a Palm Environment. In: *Proceedings of the Fourteenth National Conference on Innovative Applications of Artificial Intelligence / IAAI-02 Eighteenth National Conference on Artificial Intelligence (AAAI-02)*, AAAI Press/The MIT Press pg 1008-1009.

Pollock, R., Lane, T. and **Watts, M.J.** (2002). A Kohonen Self-Organizing Map for the functional classification of proteins based on one-dimensional sequence information. In: *Proceedings of the International Joint Conference on Neural Networks (IJCNN) 2002*. pg 189-192.

Watts, M.J. and Kasabov, N.K. (2002). Evolutionary Optimisation of Evolving Connectionist Systems. In: *Proceedings of the Congress on Evolutionary Computation (CEC) 2002*. pg 606-610.

Watts, M.J., Major, L. and Tate, W.P. (2002). Evolutionary Optimisation of Multi-layer Perceptrons for Modelling Protein Synthesis Termination Signal Efficiency. In: *Proceedings of the Congress on Evolutionary Computation (CEC) 2002* pg 193-198.

Moyle, S. and **Watts, M.J.** (2001). The Roof Maintenance Problem - a Fuzzy Expert System. In: *Proceedings of the Fifth Biannual Conference on Artificial Neural Networks and Expert Systems (ANNES2001)*, pg 213-217.

Watts, M. J., Major, L., Kasabov, N.K., and Tate, W. (2001). Neural Network Analysis of Protein Synthesis Termination Signal Efficiency. In: *Proceedings of International Conference on Neural Information Processing (ICONIP) 2001,* Shanghai, China pg 975-980.

Watts, M.J., and Kasabov, N.K. (2001). Dynamic optimisation of evolving connectionist system training parameters by pseudo-evolution strategy. In: *Proceedings of the Congress on Evolutionary Computation (CEC) 2001.* Seoul, Korea, pg 1335-1342.

Ghobakhlou, A., **Watts, M.J.** and Kasabov, N.K. (2000). On-line expansion of output space in evolving fuzzy neural networks. In: *Proceedings of International Conference on Neural Information Processing (ICONIP) 2000*. Taejon, Korea, pg 891-896.

Watts, M.J. and Kasabov, N.K. (2000). Simple evolving connectionist systems and experiments on isolated phoneme recognition. In: *Proceedings of the first IEEE conference on evolutionary computation and neural networks.* San Antonio, IEEE Press, pg 232-239.

Laws, M., Kilgour, R. and **Watts, M.J.** (2000). Analysis of the New Zealand English and Māori on-line translator. In: *Proceedings of the Fifth Joint Conference on Information Sciences.* Atlantic City, pg 848-851.

Watts, M.J. (2001). Evolving connectionist systems for biochemical applications. In: *Emerging Knowledge Engineering and Connectionist-based Systems (Proceedings of the ICONIP/ANZIIS/ANNES'99 Workshop "Future directions for intelligent systems and information sciences"*, *Dunedin, 22-23 Nov.1999)*. Dunedin, University of Otago Press, pg 147-151.

Watts, M.J., Woodford, B. and Kasabov, N.K. (1999). FuzzyCOPE - a software environment for building intelligent systems - the past, the present and the future. In: *Emerging Knowledge Engineering and Connectionist-based Systems (Proceedings of the ICONIP/ANZIIS/ANNES'99 Workshop "Future directions for intelligent systems and information sciences"*, *Dunedin, 22-23 Nov.1999)*. Dunedin, University of Otago Press, pg 188-192.

Watts, M.J. (1999). An investigation of the properties of evolving fuzzy neural networks. In: *Proceedings of International Conference on Neural Information Processing (ICONIP) 1999*. Perth, Australia, IEEE Press, pg 217-221.

Tuck, D., **Watts. M.J.**, Song, Q. and Kasabov, N.K. (1999). A practical and flexible environment for adaptive knowledge and data fusion applications. In: *Proceedings of International Conference On Applications of Intelligent Systems,* Melbourne, Australia.

Kasabov, N.K., Tuck, D.L. and **Watts, M.J.** (1999). Implementing knowledge and data fusion in a versatile software environment for adaptive learning and decision-making. In: *Proceedings of the Second International Conference on Information Fusion (FUSION'99), International Society of Information Fusion (ISIF).* Omnipress (USA), pg 455-462.

Watts, M.J. and Kasabov, N.K. (1998). Genetic algorithms for the design of fuzzy neural networks. In: *Proceedings of ICONIP'98 Conference.* Kitakyushu, Japan, Ohmsha Press, Tokyo, pg 793-796.

Kasabov, N.K., and **Watts, M.J.** (1997). Genetic algorithms for structural optimization, dynamic adaptation and automated design of fuzzy neural networks. In: *Proceedings of ICNN '97 Conference.* Houston, Texas. IEEE Press pg 2546-2549.

Ward, R., Purvis, M., Raykov, R., Zhang, F., **Watts, M.J.** (1997). An architecture for distributed connectionist computation. In: *Progress in Connectionist-Based Information Systems, Proceedings of the ICONIP / ANZIIS / ANNES '97.* Dunedin, Springer Verlag, Singapore, pg 721-724.

Kasabov, N.K., Kozma, R., Kilgour, R., Laws, M., Taylor, J., **Watts, M.J.** and Gray, A. (1997). "A Methodology for Speech Data Analysis and a Framework for Adaptive Speech Recognition Using Fuzzy Neural Networks". In: *Progress in Connectionist-Based Information Systems, Proceedings of the ICONIP / ANZIIS / ANNES '97.* pg 1055-1060.

Refereed Conference Abstracts

Watts, M.J. and Bayrak, A.T. (2025) The Energy Bill of AI. *2025 AI Researcher's Association Annual Conference*, 3-4 April 2025, Auckland, New Zealand.

Watts, M.J., Albakry, K., Choe, K.W., Han, B., Hookings, A., Fonua, H., Kumar, R., Ahmadi, K. (2016). Experiences with a student laptop roll-out for international students. *2016 CRIE International Conference: Trends and Issues in International Education*, 19-20 January, 2016, Auckland, New Zealand.

Han, B., **Watts, M.J.** (2016). An analysis of factors contributing to international student success in an information technology programme. *2016 CRIE International Conference: Trends and Issues in International Education*, 19-20 January, 2016, Auckland, New Zealand.

Watts, M.J. (2015) Imputing missing data with evolving connectionist systems. *13Th International Conference on Neuro-Computing and Evolving Intelligence*, 19-20 February, 2015, Auckland, New Zealand.

Fordham, D. A., Akcakaya, H. R., Brook, B. W., **Watts, M. J.**, Rodríguez, A., & Araújo, M. B. (2012). Climate change, prey availability and managed relocations: Mitigating extinction risk for Iberian Lynx, the world's most threatened cat. 97th ESA Annual Meeting Conservation Management August 5-10, 2012.

Worner, S.P., Paini D., **Watts M.J.**, Ikeda K., Leday T. (2009) The expanding toolbox of computational intelligence in invasive species risk assessment: Current issues and future developments. *International Congress on Biological Invasions*, 2-6 November Fuzhou, China.

Refereed Conference Posters

Watts, M.J. (2003). Fuzzy rule extraction from simple evolving connectionist systems. *Neuro-Computing and Evolving Intelligence, November 20-21, 2003, Auckland, New Zealand*.

Laws, M. and **Watts, M.J.** (2003). Polynesian translation system. *Neuro-Computing and Evolving Intelligence, November 20-21, 2003, Auckland, New Zealand*.

Watts, M.J., Kasabov, N. and Middlemiss, M. (1999). mRNA splice site prediction with evolving connectionist systems. In: *FAOBMB Genome Diversity and Bioinformatics, Dunedin, New Zealand, November 28th to December 3rd 1999*.

Technical Reports

Watts, M.J. and Worner, S.P. Further Sensitivity Analysis of Simple Evolving Connectionist Systems Applied to the Lincoln Aphid Data Set. Technical Report, Bio-Protection and Ecology, Lincoln University. ISBN 978-0-86476-177-5. February, 2007.

Watts, M.J. and Worner, S.P. Comparison of Multi-Layer Perceptrons and Simple Evolving Connectionist Systems over the Lincoln Aphid Data Set. Technical Report, Bio-Protection and Ecology, Lincoln University. ISBN 978-0-86476-175-9. February, 2007.

Watts, M.J. and Worner, S.P. Using Multi-Layer Perceptrons to Model the Lincoln Aphid Data Set. Technical Report, Bio-Protection and Ecology, Lincoln University. ISBN 978-0-86476-176-7. February, 2007.

Fairweather, J., Hunt, L., Rosin, C., Campbell, H., Benge, J. and **Watts, M.J.** Understanding kiwifruit management using causal mapping. Agriculture Research Group on Sustainability (ARGOS) Research Report 06/09. 2006.

Moyle, S. and **Watts, M.J.** Fuzzy Neural Networks (FuNN) in the Palm Environment. Technical Report, Department of Information Science, University of Otago, 2002.

Moyle, S. and **Watts, M.J.** The roof maintenance problem — a fuzzy expert system. Department of Information Science, University of Otago, Dunedin, New Zealand, 2001.

Kasabov, N. and **Watts, M.J.** Spatial-Temporal Adaptation in Evolving Fuzzy Neural Networks for On-line Adaptive Phoneme Recognition, Technical Report TR99/03, Department of Information Science, University of Otago, 1999.

Websites

The Computational Intelligence blog: https://computational-intelligence.blogspot.com

Evolving Connectionist Systems: https://ecos.watts.net.nz

Computer Software

Watts, M.J. MAGICC/SCENGEN processing tools, June 2011.
https://software.watts.net.nz/MAGICC/

Watts, M.J. RAMAS metapopulation processing tools, April 2011.
https://software.watts.net.nz/RAMAS/

Watts, M.J. Evolving Connectionist System (ECoS) Toolbox, June 2010 – December 2015.
https://ecos.watts.net.nz

Watts, M.J., Woodford, B.J. and Pearson, S., FuzzyCOPE/3 1997-1999
https://software.watts.net.nz/FuzzyCOPE3/

Watts, M.J. and Laws, M. English-Māori Online Translator, July 1998-2004,
http://kel.otago.ac.nz/translator/ (discontinued)