

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

- **2010 – present:** 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.

Publications Summary

- Total publications: **76**
- h-index: **9**
- in review / under preparation: **16**

- Refereed publications: **57**
 - Journal articles: **22**
 - Conference papers: **35**

- Other publications: **19**
 - Book chapters: **5**
 - Technical reports: **7**
 - Websites and software packages: **7**

- See page 5 for complete list of publications
- Google Scholar citations profile: <http://tinyurl.com/77zufzd>

Profile and Contact Information

Homepage: <http://mike.watts.net.nz>
LinkedIn profile: <http://www.linkedin.com/in/drmikewatts>

Research Expertise

- Data mining
- Artificial neural networks
- Evolving Connectionist Systems
- Applications of artificial neural networks
- Evolutionary algorithms
- Knowledge discovery
- Ecological modelling
- Intelligent methods for ecological informatics
- Intelligent methods for bioinformatics

Technical Expertise

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

Teaching Experience

- **2006 – 2009:** associate supervisor of two PhD students at Lincoln University.
 - David Pontin, thesis title “Factors influencing the occurrence of stinging jellyfish (*Physalia* spp.) at New Zealand beaches”, graduated 2009
 - Joel Pitt, thesis title “Modelling the spread of invasive species across heterogeneous landscapes” graduated 2008
- **2003:** course co-ordinator of INFO 233, Knowledge and Information, second year data processing course in the Department of Information Science, School of Business, University of Otago, New Zealand
- **2000 – 2003:** course co-ordinator of INFO 331, Intelligent Information Systems, third year computational intelligence course in the Department of Information Science, School of Business, University of Otago, New Zealand
- **2000 – 2003:** course co-ordinator of INFO 411, Advanced Knowledge Engineering, fourth year computational intelligence course in the Department of Information Science, School of Business, University of Otago, New Zealand

Professional Affiliations, Memberships and Service

- Member of the Institute of Electrical and Electronics Engineers (IEEE), IEEE Computational Intelligence Society (IEEE CIS) and IEEE Computer Society
- Member of the [IEEE CIS standards committee](#) 2011-12, vice-chair 2012
- Member of the [IEEE CIS social media subcommittee](#) 2011-12, vice-chair 2012
- Member of the IEEE CIS curriculum subcommittee 2012
- Member of the [International Neural Network Society](#) (INNS)
- Member of the Australian Computer Society
- Member of the International Society of Ecological Modellers (ISEM)
- Member of the Asia-Pacific Neural Network Assembly (APNNA)
- Associate member of the Knowledge Engineering and Discovery Research Institute (KEDRI), Auckland University of Technology, New Zealand

Distinctions

- Listed in Marquis' Who's Who in the World, 2011-12
- 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

- Special issue editor of Evolving Systems: Applications of Kasabov's Evolving Connectionist Systems, 2012
- Editorial board member, Computational Ecology and Software, 2011- present
- Co-guest editor, International Journal on Information Technology (IJIT) special issue on “Biometric Recognition and SVM”, 2005

Service as a Reviewer

- 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, 2003, 2009-12
- 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
- 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

- 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

- 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
- IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB), 2004-7
- 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 University level (University of Otago)

- Student Intellectual Property Policy Consultative Group, April 2002 – December 2002
- Divisional Representative, Graduate Research Student Liaison Committee, January 2000 – June 2002
- Webmaster, Graduate Research Student Liaison Committee, October 2001 – June 2002

Community Service

Public Outreach

- Computational Intelligence Blog, 2010-present, <http://computational-intelligence.blogspot.com/>

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

List of Publications

Books

Watts, M.J. Woodford, B.J. and Kasabov, N.K. *Data Analysis and Knowledge Discovery*. Taylor and Francis. In preparation.

Theses

Watts, M.J. Evolving connectionist systems: characterisation, simplification, formalisation, explanation and optimisation. PhD thesis, University of Otago, New Zealand. 2004. **Citations: 3**
<http://hdl.handle.net/10523/1489>

Book Chapters

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. pg 97-114 (2011)

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).

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. **Citations: 3**
http://www.aut.ac.nz/data/assets/pdf_file/0003/10695/neuro-gen.pdf

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. **Citations: 14**
http://www.aut.ac.nz/data/assets/pdf_file/0013/10750/nik-nfft.pdf

Journal Articles

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* (accepted 2012).

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) In press.

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/downloads.asp?article=2012-2-1-5watts&url=http://www.iaees.org/publications/journals/ces/articles/2012-2\(1\)/using-artificial-neural-networks-to-predict-the-distribution.pdf](http://www.iaees.org/publications/journals/ces/downloads.asp?article=2012-2-1-5watts&url=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.

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.

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. **Citations: 1**

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](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. **Citations: 2**

[http://www.iaees.org/publications/journals/ces/articles/2011-1\(3\)/Improving-cluster-based-methods.pdf](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. **Citations: 1**

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. **Citations: 1**

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. **Citations: 2**

[http://www.iaees.org/publications/journals/ces/articles/2011-1\(1\)/Using-data-clustering-as-a-method-of-estimating-the-risk.pdf](http://www.iaees.org/publications/journals/ces/articles/2011-1(1)/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. **Citations: 14**

<http://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. **Citations: 9**

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. **Citations: 9**

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. **Citations: 8**

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. **Citations: 1**

http://www.icis.ntu.edu.sg/scs-ijit/1206/IJIT-1206_05.pdf

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. **Citations: 2**
http://www.icis.ntu.edu.sg/scs-ijit/1110/1110_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. **Citations: 5**

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. **Citations: 11**

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. **Citations: 3**

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. **Citations: 93**
http://www.aut.ac.nz/_data/assets/pdf_file/0012/10362/funn96_20.pdf

Journal Articles in Review

Watts, M.J. , Berthier, K., Sword, G., Ji, R., Deveson, T. Wang, H. and Simpson, S.J. Using artificial neural networks to model the spatial distribution of Australian plague locust nymphs from local habitat descriptors. *Ecological Informatics*.

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*

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. Combining population and distribution models to predict the impacts of anthropogenic threats and demography on a long-lived bird species. *Journal of Applied Ecology*

Journal Articles in Preparation

Watts, M.J., Gregory, S.D. and Cassey, P. Clustering regional species assemblages: binary versus continuous representations.

Watts, M.J. , Berthier, K., Sword, G., Deveson, T., Wang, H. and Simpson, S.J. Modelling the spatial distribution of Australian plague locust nymphs from MODIS images using ensembles of neural networks.

Watts, M.J., Gregory, S.D. and Cassey, P. Clustering regional species assemblages with the Evolving Clustering Method.

Watts, M.J. Data mining with evolving connectionist systems.

Watts, M.J. Missing values imputation with evolving connectionist systems.

Watts, M.J., Bradshaw, C.J.A., Fordham, D.A. And Brook, B.W. Research Opportunities in Ecological Modelling. (aimed at IEEE Computer)

Watts, M.J., Fordham, D.A. and Brook, B.W. Efficient investigation of ecological model parameters using Latin hypercube sensitivity analysis

Watts, M.J. , Worner, S.P. and Braithwaite, M. Modelling the distribution of fungal crop diseases using artificial neural networks.

Watts, M.J. and Worner, S.P. Determining the risk of establishment of fungal crop diseases from data clustering: The effects of noise.

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.

Bianconi, A., Von Zuben, C.J., Govone, J.S., Dalgaard, T. and **Watts, M.J.** Some methodological difficulties of conducting agroecological studies from a statistical perspective.

Haby, N.A, Prowse, T.A.A., Delean, S., Gregory, S, **Watts, M.J.**, Fordham, D.A., Foulkes, J. and Brook, B.W. Two scales: fine-tuning metapopulation models to predict climate change impacts on small mammals.

Bianconi, A., Govone, J.S., Manly, B.F.J., **Watts, M.J.** The use of a multivariate statistical procedure in analysing the germination process of two bean cultivars, compared with a univariate approach.

Refereed Conference Papers

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. **Citations: 1**

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. **Citations: 3**

Worner S.P., **Watts M.J.**, Pitt J.P.W. & Gevrey M. 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.* pg1171-1176 **Citations: 3**

Worner, S.P. and **Watts, M.J.** 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. 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, 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 (2006)

- Watts, M.J.** and Worner, S.P. 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 (2006) **Citations: 3**
- Watts, M.J.** Nominal-Scale Evolving Connectionist Systems. In: *Proceedings of 2006 International Joint Conference on Neural Networks (IJCNN 2006)*, Vancouver, Canada, pg 4057-4061 (2006) **Citations: 2**
- Watts, M.J.** 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 (2005). **Citations: 2**
- Watts, M.J.** and Worner, S.P. 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 (2005).
- 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* (2005).
- Watts, M.J.**, Worner, S.P., Lankin, G.O., and Teulon, D. 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 (2004).
- Moyle, S. A. and **Watts, M.J.** 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 (2002).
- Pollock, R., Lane, T. and **Watts, M.J.** 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 (2002). **Citations: 4**
- Watts, M.J.** and Kasabov, N.K. Evolutionary Optimisation of Evolving Connectionist Systems. In: *Proceedings of the Congress on Evolutionary Computation (CEC) 2002*. pg 606-610 (2002). **Citations: 7**
http://www.aut.ac.nz/data/assets/pdf_file/0014/10805/watkaswcci02.pdf
- Watts, M.J.**, Major, L. and Tate, W.P. 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 (2002). **Citations: 2**
- Moyle, S. and **Watts, M.J.** 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 (2001).
- Watts, M. J.**, Major, L., Kasabov, N.K., and Tate, W. 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 (2001). **Citations: 2**
http://www.aut.ac.nz/data/assets/pdf_file/0003/10794/stopcodon1.pdf
- Watts, M.J.**, and Kasabov, N.K. 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 (2001). **Citations: 8**
http://www.aut.ac.nz/data/assets/pdf_file/0016/10357/ecos-es.pdf

Ghobakhlou, A., **Watts, M.J.** and Kasabov, N.K. 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 (2000). **Citations: 6**
http://www.aut.ac.nz/_data/assets/pdf_file/0012/10335/addingoutputs.pdf

Watts, M.J. and Kasabov, N.K. 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 (2000). **Citations: 12**
http://www.aut.ac.nz/_data/assets/pdf_file/0004/10777/secos_phoneme.pdf

Laws, M., Kilgour, R. and **Watts, M.J.** 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 (2000). **Citations: 2**

Watts, M.J. 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 (1999). **Citations: 5**

Watts, M.J., Woodford, B. and Kasabov, N.K. 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 (1999). **Citations: 4**
http://www.aut.ac.nz/_data/assets/pdf_file/0019/10369/fuzzycoppe.pdf

Watts, M.J. 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 (1999). **Citations: 5**

Tuck, D., **Watts, M.J.**, Song, Q. and Kasabov, N.K. A practical and flexible environment for adaptive knowledge and data fusion applications. In: *Proceedings of International Conference On Applications of Intelligent Systems*, Melbourne, Australia, (1999). **Citations: 2**
http://www.aut.ac.nz/_data/assets/pdf_file/0009/10341/c_ie99.pdf

Kasabov, N.K., Tuck, D.L. and **Watts, M.J.** 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)*. Ominpress (USA), pg 455-462 (1999). **Citations: 2**
http://www.aut.ac.nz/_data/assets/pdf_file/0005/10778/sensfus2p.pdf

Watts, M.J. and Kasabov, N.K. Genetic algorithms for the design of fuzzy neural networks. In: *Proceedings of ICONIP'98 Conference*. Kitakyushu, Japan, Ohmsha Press, Tokyo, pg 793-796 (1998). **Citations: 22**
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