

# Brief Curriculum Vitae

## Robert Ian McKay

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### Qualifications

BSc Hons, Pure Mathematics, ANU, 1971

PhD, Theory of Computation, Bristol (UK), 1976

Senior Member of the Institute of Electrical and Electronic Engineers (SMIEEE)

Member of the International Society for Genetic and Evolutionary Computation (ISGEC)

Founding Member of the International Society for Ecological Informatics (ISEI)

### Career History

Commonwealth Scientific and Industrial Research Organisation

Research Scientist 1976 - 1984

Senior Research Scientist 1984 - 1985

Research in typesetting (involved in the development of COMTEXT/XICS and TeX typesetting systems)

University of New South Wales at the Australian Defence Force Academy

Lecturer 1985 – 2000

Senior Lecturer 2000 – present

Deputy Head of School (research) 2000 – 2002

### Teaching Role

I have been active in curriculum development in my school, being closely involved in the development of the current undergraduate computer science programme and the postgraduate information technology programme.

I have developed a wider range of courses in a wide range of areas; the courses listed below were all substantially designed and developed by me

*Courses taught in the past 5 years*

Undergraduate Teaching

- Computer Languages A – one semester second year course
  - Comparative Programming Languages
  - Data Structures
  - Control Structures
- Computer Languages B – one semester second year course
  - Data Structures
  - Control Structures
  - Searching and Sorting Algorithms
- Artificial Intelligence – one semester second/third year course
  - Representation and search
  - Inference
  - Learning
  - Planning
- Knowledge Based Systems – one semester second/third year course
  - Knowledge representation
  - Inference
  - Explanation
  - Knowledge Acquisition
- Data Structures for Engineers – one semester second year course
  - Java-based software development
  - Data structures
  - Sorting and searching algorithms

Postgraduate Teaching

- Knowledge Based Systems – one semester master's course
  - Knowledge representation
  - Inference
  - Explanation
  - Knowledge Acquisition
- Machine Learning – one semester master's course
  - Classical learning methods
  - Evolutionary and neural learning methods
- Languages of the Web – one semester master's course
  - XML and related technologies
  - Implications for web systems
  - Implications for enterprise architectures
- Web Design – one semester master's course
  - Graphic Design
  - Logical Design
  - Linkage Design

## Research Supervision

2004 University of New South Wales President's teaching excellence award for research supervision

Students supervised:

### Supervisor

Dr K Fielden	P/T MSc	1987 – 88
Mr S Hosking	P/T MSc	1988
Dr D Stockwell	F/T PhD	1989 – 92
Dr P Whigham	F/T PhD	1994 – 96
Mr B Studman	P/T PhD	1994
Mr P Darbyshire	P/T PhD	2000 – 2002
Mr N Clapham	F/T PhD	2000 –
Mr M Moir	P/T PhD	2000 – 2002
Capt. X Nguyen	F/T PhD	2001 –
Mr B Wang	F/T PhD	2001 – 2003
Mr Y Shan	F/T PhD	2001 –

### Co-supervisor

Dr Y Liu	F/T PhD	1996 – 99
Dr P Darwen	F/T PhD	1994 – 96
A/Cdre J Harvey	P/T PhD	2000 – 2002
Ms M Nguyen	F/T PhD	2002 –
Mr L Mansfield	P/T MSc	2002 –

The students I have supervised have been successful both in their courses (with the majority completing in close to minimum time), and in their subsequent careers, with a number now in senior research and academic roles.

They have published refereed conference and journal papers at over double the rate of research students in comparable Australian university departments.

## Research

### Topics

- Genetic Programming
- Evolutionary Search
- Distributional Algorithms
- Problem Representation

### Application Areas

- Ecological Modelling
- Radar Optimisation
- Software Project Cost Estimation
- Bioinformatics

## Publications

### Edited Proceedings/Books

1. Sarker, R, Reynolds, R, Abbass, H A, Tan, K C, McKay, R I, Essam, D L & Gedeon, T: Proceedings of the 2003 Congress on Evolutionary Computation, Canberra, Australia, 2003 (ISBN 0 7803 7804 0)
2. Gen, M, Namatame, A, Katai, O, McKay, R I, Hwang, H S and Liu, B D: Proceedings of the 2003 Asia-Pacific Symposium on Intelligent and Evolutionary Systems, Kitakyushu, Japan, November 2003 (ISBN 0 7317 0503 3)
3. McKay, R I and Slaney, J (eds): Advances in Artificial Intelligence, Springer Lecture Notes in Artificial Intelligence 2557 (2002), (ISBN 3-540-00197-2)
4. Sarker, R, McKay, R I, Gen, M and Namatame, A: Proceedings of the Sixth Japan-Australasia Joint Workshop on Intelligent and Evolutionary Systems, Canberra, Australia, 2002 (ISBN 0 7317 0505-X)
5. Namatame, A, Tsujimura, Y, Gen, M, McKay, R I, Sarker, R, and Yao, X: Proceedings of the Fourth Japan-Australia Joint Workshop on Intelligent and Evolutionary Systems, Hayama, Japan, 2000 (ISBN 0 7317 0504-1)
6. McKay, R I, Sarker, R, Yao, X, Namatame, A, Tsujimura, Y and Gen, M: Proceedings of the Third Japan-Australia Joint Workshop on Intelligent and Evolutionary Systems, Canberra, Australia, 1999 (ISBN 0 7317 0503 3)
7. McKay, R I, Yao, X, Newton, C S, Kim, J-H and Furuhashi "Simulated Evolution and Learning", Springer Lecture Notes in Computational Intelligence 1585 (1999) (ISBN 3-540-65907-2)
8. McKay, R I, Yao, X, Newton, C S, Kim, J-H and Furuhashi, T "Proceedings of the 1998 Asia-Pacific Conference on Simulated Evolution and Learning", V1 (ISBN 0 7317 0501 7)
9. McKay, R I, Yao, X, Newton, C S, Kim, J-H and Furuhashi, T "Proceedings of the 1998 Asia-Pacific Conference on Simulated Evolution and Learning", V2 (ISBN 0 7317 0501 8)
10. Yao, X, Gen, M, Tsujimura, Y and McKay, R I : Proceedings of the First Australia-Japan Joint Workshop on Intelligent and Evolutionary Systems, Canberra, Australia, 1997

## Book Chapters

1. Abbass, H A, McKay, R I and Kirley, M, "Diversity Mechanisms in Classifier Systems", in Tryantaphyllou, E and Felici, G (eds) Data Mining and Knowledge Discovery Approaches Based on Rule Induction, Kluwer, 2004, to appear
2. Hoai, N X, McKay, R I, Essam, D L and Abbass, H A: Towards an Alternative Comparison between Genetic Programming Systems in Proceedings of The 7th European Conference on Genetic Programming, Springer Lecture Notes in Computer Science, Springer-Verlag, 2004, Pp 67 -77
3. Hoai, N X, McKay, R I, and D. Essam, "Finding Trigonometric Identities with Tree Adjunct Grammar Guided Genetic Programming" in Innovations in Intelligent Systems and Applications (eds. A. Abraham, L. Jain and Zwaag, Berend J. van der ). Springer-Verlag, Germany. Jan 2004
4. Hoai, N X, McKay, R I and Abbass, H A: Tree Adjoining Grammars, Language Bias, and Genetic Programming in C. Ryan, T. Soule, M. Keijzer, E. Tsang, R. Poli, E. Costa (Eds.): Genetic Programming: 6th European Conference, EuroGP 2003, Springer Lecture Notes in Computer Science 2610 Springer Verlag, 2003, Pp 235 - 244
5. Hoai, N X, McKay R I and Essam D L " Some Experimental Results with Tree Adjunct Grammar Guided Genetic Programming " in Foster, J.A.; Lutton, E.; Miller, J.; Ryan, C.; Tezzamanzi, A.G.B. (Eds.) Genetic Programming: 5th European Conference, EuroGP 2002, Springer Lecture Notes in Computer Science 2278 Springer Verlag, 2002, Pp 235 - 244
6. Bracken, N J and McKay, R I " Phased Array Sub-Beam Optimisation " in Stumptner, Corbett and Brooks (eds) Advances in Artificial Intelligence, Lecture Notes in Artificial Intelligence, 2256, Springer 2001, Pp 71 - 82
7. Whigham, P & McKay R I 'Genetic approaches to learning recursive relations' in Yao (ed) Progress in Evolutionary Computation, Lecture Notes in Artificial Intelligence, 956, Springer,1995.
8. Whigham, P, McKay, R I & Davis, J ' Machine Induction of Geospatial Knowledge ' in Frank, AU Campari, I & Formentini, U (eds) 'Theories and Methods of Spatio-Temporal Reasoning', Lecture Notes in Computer Science 639, Springer, 1992 Pp 402 - 417

## Journal Papers

1. Liu, B, Abbass, H and McKay, R I, "Classification Rule Discovery with Ant Colony Optimisation", IEEE Computation Intelligence Bulletin 3(1) 2004, Pp 31 - 35
2. Cao, H Q, Yu, J, Kang, L S and McKay, R I, "An Experimental study of some control parameters in parallel genetic programming", Neural, Parallel & Scientific Computations 11(4) 2003, Pp 377-393
3. McKay, R I and Abbass, H A "Artificial Life: An Introduction", International Journal of Computational Intelligence and Applications 3(2), 2003, Pp 143 - 144
4. McKay, R I "An Investigation of Fitness Sharing in Genetic Programming". The Australian Journal of Intelligent Information Processing Systems 7(1/2), 2001 , Pp 43 - 51
5. McKay, R I and Abbass H.A. "Anti-correlation: A Diversity Promoting Mechanisms in Ensemble Learning". The Australian Journal of Intelligent Information Processing Systems 7(3/4), 2001, Pp 139 - 149
6. Hoai, N X, McKay R I and Essam D L "Solving the Symbolic Regression Problem with Tree-Adjunct Grammar Guided Genetic Programming: The Comparative Results" The Australian Journal of Intelligent Information Processing Systems 7 (3/4), 2001, Pp 114 - 121
7. Wang, B, McKay R I, Abbass, H A and Barlow, M "Domain Ontology Guided Feature-Selection for Document Categorisation" The Australian Journal of Intelligent Information Processing Systems 7(3/4), 2001, Pp 102 - 109
8. McKay, R I "Variants of Genetic Programming for Species Distribution Modelling - Fitness Sharing, Partial Functions, Population Evaluation" Ecological Modelling 146/1-3, 2001, Pp 231 - 241.
9. Yao, X and McKay, R I "Simulated Evolution and Learning: An Introduction", Applied Intelligence 15(3) 2001, 1-2
10. McKay, R I, Sarker, R and Yao, X "Intelligent and Evolutionary Systems: An Introduction", International Journal of Knowledge-Based Intelligent Engineering Systems 4(3) 2000, 1-2
11. McKay, R I and Davis, J R "Artificial Intelligence in the Natural World", AI Applications 8(3) 1994, 1-2

#### Edited Journal Issues

1. Abbass, H A and McKay, R I, Guest Editors, International Journal of Computational Intelligence and Applications 2(3), 2003, Imperial College Press
2. Sarker, R and McKay, R I, International Journal of Knowledge-Based Intelligent Engineering Systems, 7(3) 2003
3. Yao, X and McKay, R I, Guest editors, Applied Intelligence: The International Journal of Artificial Intelligence, Neural Networks, and Complex Problem-Solving Technologies, 15(3) 2001, Kluwer
4. Yao, X, Sarker, R, and McKay, R I, guest editors, International Journal of Knowledge-Based Intelligent Engineering Systems 4(3) 2000
5. McKay, R I and Davis, J R, guest editors, AI Applications 8(3) 1994, 1-2

## Refereed International Conference Papers

1. Nguyen, H X and McKay, R "An Investigation on the Roles of Insertion and Deletion Operators in Tree Adjoining Grammar Guided Genetic Programming", Proceedings, Congress on Evolutionary Computation, Portland, Oregon, June 2004
2. Shan, Y, McKay, R I, Baxter, R, Abbass, H A, Essam, D L, and Nguyen, H X "Grammar Model-based Program Evolution", Proceedings, Congress on Evolutionary Computation, Portland, Oregon, June 2004
3. Kang, L, Zhou, A, McKay, R I, Li, Y and Kang, Z "Benchmarking Algorithms for Dynamic Travelling Salesman Problems", Proceedings, Congress on Evolutionary Computation, Portland, Oregon, June 2004
4. Hoai, N X, McKay, R I: Softening the Structural Difficulty in Genetic Programming with TAG-Based Representation and Insertion/Deletion Operators. GECCO (2) 2004: 605-616
5. Wu, Z-J, Dong, H-B, Liang, Y-W and McKay, R I, "A Chromosome-based Evaluation Model for CDIS", Proceedings, Congress on Evolutionary Computation, Canberra, Australia, December 2003. Pp 1363-1369
6. Shan, Y, McKay, R I, Abbass, H and Essam, D L "Program Evolution with Explicit Learning: a New Framework for Program Automatic Synthesis", Proceedings, Congress on Evolutionary Computation, Canberra, Australia, December 2003. Pp 1639-1646
7. Liu, B, McKay, R I and Abass, H A "Improving Genetic Classifiers with a Boosting Algorithm", Proceedings, Congress on Evolutionary Computation, Canberra, Australia, December 2003. Pp 2596-2602
8. Liu, B, Abbass, H A, and McKay, R I: Classification Rule Discovery with Ant Colony Optimization, 2003 IEEE/WIC Conference on Intelligent Agent Technologies, Halifax, Canada, October 2003,
9. Hoai NX, Shan, Y and McKay, R I " Is Ambiguity Useful or Problematic for Grammar Guided Genetic Programming? A Case Study", Proceedings of the fourth Asia-Pacific Conference on Simulated Evolution and Learning, IEEE, Singapore, November 2002, Pp 449 - 454
10. Shan, Y, McKay, R I and Paull D "Building Ecological Models Using Genetic Programming", fourth Asia-Pacific Conference on Simulated Evolution and Learning, IEEE, Singapore, November 2002, Pp 320 - 325
11. Yan Z-Y, Kang L-S, Chen Y-P, Fu P-H and McKay, R I "SEEA for Multi-Objective Optimisation: Reinforcing Elitist MOEA through multi-parent crossover, steady elimination strategy and swarm hill-climbing", fourth Asia-Pacific Conference on Simulated Evolution and Learning, IEEE, Singapore, November 2002, Pp 21 - 26
12. Darbyshire, P, McKay, R I, Abbass, H A and Barlow, M "Bringing Intelligence to the Battlefield", 4th International Conference on Modelling and Simulation, Melbourne, November 2002
13. Darbyshire, P and McKay, R I "Using Communication to Increase Learning in a Hostile Environment", 6th International Conference on Complex Systems, Tokyo, September 2002
14. Shan Y, McKay R I, Lokan C J and Essam D L "Software Project Effort Estimation using Genetic Programming", IEEE International Conference on



- Communications, Circuits and Systems, Chengdu, China, July 2002, Pp 1108 - 1112
15. Hoai N<sup>9</sup>X, McKay R I and Essam D L "Can Tree Adjunct Grammar Guided Genetic Programming be Good at Finding a Needle in a Haystack? A Case Study", IEEE International Conference on Communications, Circuits and Systems, Chengdu, China, July 2002, Pp 1113 - 1117
  16. Wang B, McKay R I, Abbass H A and Barlow M "Learning Text Classifier using the Domain Concept Hierarchy", IEEE International Conference on Communications, Circuits and Systems, Chengdu, China, July 2002, Pp 1230 - 1234
  17. Hoai, N X, McKay R I, Essam D L and Chau R M " Solving the Symbolic Regression Problem with Tree-Adjunct Grammar Guided Genetic Programming: The Comparative Results " Proceedings, 2002 World Congress on Computational Intelligence, Pp 1326 - 1333
  18. Abbass, H, Hoai, N X and McKay R I " AntTAG: A New Method to Compose Computer Programs Using Colonies of Ants "Proceedings, 2002 World Congress on Computational Intelligence, Pp 1654 - 166
  19. Essam, D L and McKay, R I " Adaptive Control of Partial Functions in Genetic Programming ", Proceedings of the 2001 IEEE International Congress on Evolutionary Computation, Pp 895 - 901, Seoul, Korea, 2001
  20. McKay, R I " Spatial Learning using Fitness-Shared Genetic Programming ", Second International Conference on Ecological Modelling and Learning, Adelaide, 2000
  21. McKay, R I " Committee Learning of Partial Functions in Fitness-Shared Genetic Programming ", third Asia-Pacific Conference on Simulated Evolution and Learning 2000, Nagoya, October 2000, Pp 2861 - 2866
  22. McKay, R I " Partial Functions in Fitness-Shared Genetic Programming ", 2000 Congress on Evolutionary Computation, La Jolla, July 2000, Pp 349 - 356
  23. McKay, R I " Fitness Sharing in Genetic Programming ", 2000 Genetic and Evolutionary Computation Conference, Las Vegas, July 2000, Pp 435 - 442
  24. McKay, R I, Pearson, R & Whigham, P ' Learning Spatial Relationships: Some Approaches ', Geocomputation 2, Dunedin (NZ) August 1997, Pp 69 - 77
  25. Wagner, M I, McKay, R I, Sampath, S & Slater, D 'Modelling Prosody Parameters for Declarative English Sentence Structures' Proceedings of V European Signal Processing Conference, North Holland, July 1990, Pp 1135 - 1138
  26. Seneviratne, A & McKay, R I 'An Intelligent Network Medium Access Scheme for Bus Based Local Area Networks': International Computer Communications Conference Symposium '89, Beijing, China, Sept 1989

## Refereed National Conference and Workshop Papers

1. Wang, B B, McKay, R I, Abbass, H A and Barlow, M "A Comparative Study for Domain Ontology Guided Feature Selection", Proceedings of the 2003 Australian Computer Science Conference, Pp 69 - 78
2. Liu, B, Abbass, H, and McKay, R I "Density-Based Heuristic for Rule Discovery with Ant-Miner" , Proceedings of the Australasia-Japan Workshop on Intelligent and Evolutionary Systems, Pp 180 - 184, Canberra, Australia, 2002
3. Shan, Y, Abbass, H, McKay, R I and Essam, D "AntTAG: A Further Study" , Proceedings of the Australasia-Japan Workshop on Intelligent and Evolutionary Systems, Pp 133 - 140, Canberra, Australia, 2002
4. Clapham, N T, Barlow, M and McKay, R I "Toward classifying randomly asynchronous cellular automata", Proceedings of the 6th International Conference on Complex Systems (CS02), pp. 63-71. Toyko, Japan, 2002
5. McKay, R I and Essam D L " Evolving Self-Reproducing Functional Programs " Proceedings of the 2001 Australian Workshop on Artificial Life, Pp 55 - 68, Adelaide, 2001
6. McKay, R I and Abbass, H A "Analyzing Anti correlation in Ensemble Learning ", Proceedings of 2001 Conference on Artificial Neural Networks and Expert Systems,Pp 22 - 27, Otago NZ, 2001
7. McKay, R I and Abbass, H A " Anticorrelation Measures in Genetic Programming ", Proceedings of the Australasia-Japan Workshop on Intelligent and Evolutionary Systems, Pp 45 - 51, Otago, NZ, 2001
8. Clapham, N, McKay R I and Barlow, M "From Synchronicity to Asynchronicity: Rhythm in Cellular Automata", Post-graduate ADFA Conference on Computer Science, Pp 81 - 86, Canberra, 2001
9. Hoai, N X and McKay R I " A Framework for Tree-adjunct Grammar Guided Genetic Programming ", Post-graduate ADFA Conference on Computer Science, Pp 93 - 100, Canberra, 2001
10. Darbyshire, P, Abbass, H, Barlow, M and McKay, R I " A Prototype Design for Studying Emergent Battlefield Behaviour through Multi-Agent Simulation ", Japan-Australia Workshop on Intelligent and Evolutionary Systems, Yokosuka, November 2000, Pp 71 - 78
11. McKay, R I " Partial Functions in Genetic Programming: Program Size and Evaluation Cost ", Japan-Australia Workshop on Intelligent and Evolutionary Systems, Yokosuka, November 2000, Pp 89 - 96
12. McKay, R I & Yao, X 'Teaching of AI-Related Subjects at ADFA', Workshop on Artificial Intelligence Teaching and Practice, Australian Joint Conference on Artificial Intelligence, Brisbane, July 1998
13. McKay R I & Whigham P, 'Genetic Programming and Inductive Logic' AI'94 Machine Learning Workshop, Armidale, November 1994
14. McKay, R I 'Relational Learning for Geospatial Problems' ICARCV Workshop on Spatial and Temporal Interaction: Representation and Reasoning, Singapore, November 1994, Pp 104 - 112
15. McKay, R I, 'Machine Induction of Geospatial Knowledge' AI'93 Machine Learning Workshop, Melbourne, November, 1993, Pp 11 - 13
16. Wagner, M I, McKay, R I, Sampath, S & Slater, D 'Modelling the Prosody of

Simple English Sentences Using Hidden Markov Models' Proceedings 3rd Australian International Conference on Speech Science & Technology SST-90, Pp 180-185, 1990

17. McKay R I 'Predicting LAN Traffic Loads', Australian Joint Conference on Artificial Intelligence, Nov 1989, Pp 287 - 397

#### Keynote Addresses

1. McKay, R I 'Machine Learning with Genetic Programming: Some Challenges', Invited presentation, Asia-Pacific Symposium on Intelligent and Evolutionary Systems, Kitakyushu, Japan, November 2003
2. McKay, R I "Inspiration from Nature: Evolution and Complexity" Keynote address, IEEE International Conference on Communications, Circuits and Systems, Chengdu, China, July 2002
3. McKay, R I "Evolution, Complexity and Hierarchy in Natural and Artificial Systems" Keynote address, Australian Workshop on Artificial Life, Adelaide, November 2001
4. Newton, C S & McKay, R I "Evolutionary Computation in Defence", Keynote address, Japan-Australia Workshop on Intelligent and Evolutionary Systems, Yokosuka, November 2000, Pp 2 - 7

#### Other

1. Barlow, M and McKay, R I " The Virtual Battlefield: Tools to Enable a Science of Military Conflict ", UTS National Media Forum on Artificial Intelligence, UTS, May 2001.
2. Pearson, R A and McKay, R I, "Spatial Induction for Natural Resource Problems: A Case Study in Wildlife Density Prediction" , School of Computer Science UNSW@ADFA Technical report CS14/94

## **Organisational**

University of New South Wales

1991 – 2000 Postgraduate Research Coordinator, School of Computer Science

2000 – 2002 Deputy Head of School (Research)

### Learned Societies

Senior Member, Institute of Electrical and Electronic Engineers

Member, IEEE Technical Committee on Evolutionary Computation

Executive Member, Australian Computer Society National Committee on Artificial Intelligence and Expert Systems

Founding Member, International Society for Ecological Informatics

Member, International Society for Genetic and Evolutionary Computation

### Journal Editing

Associate Editor, IEEE Transactions on Evolutionary Computation

Associate Editor, Genetic Programming and Evolvable Machines

Regional Editor, International Journal of Knowledge-Based Intelligent Engineering Systems

### Major Conference Roles

General Chair, 2003 International Congress on Evolutionary Computation

Program committee co-chair, 2002 Australian Joint Artificial Intelligence Conference

Organising committee chair, 2002 Australia-Japan Workshop on Intelligent and Evolutionary Systems

Organising committee chair, 1999 Australia-Japan Workshop on Intelligent and Evolutionary Systems

Organising committee chair, 1998 Simulated Evolution And Learning conference (SEAL98)

Organising Committee Chair , 1995 Australian Joint Artificial Intelligence Conference

### Other Conference Roles

Organising committee chair, 2004 Asia-Pacific Workshop on Genetic Programming

Member, program committee, Complex 2004

Member, program committee, 2004 Australian Joint Conference on Artificial Intelligence

Member, program committee, 2004 International Congress on Evolutionary Computation

Member, program committee, 2004 NASA/DOD Workshop on Evolvable Hardware

Member, program committee, 2003 International Congress on Evolutionary Computation

Member, program committee, 2003 NASA/DOD Workshop on Evolvable Hardware

Member, organising committee, 2002 Australian Joint Artificial Intelligence Conference

Member, scientific committee, 2002 3rd International Society for Ecological Informatics Conference

Member, program committee, 2002 NASA/DOD Workshop on Evolvable Hardware

Member, organising committee, Computational Intelligence Symposium,  
International Conference on Communications, Circuits and Systems 2002  
Member, program committee, 2002 Congress on Evolutionary Computation  
Publicity co-chair, 2001 Congress on Evolutionary Computation  
Member, program committee, 2001 Congress on Evolutionary Computation  
Member, program committee, 2001 Genetic and Evolutionary Computation  
Conference  
Member, program committee, 2001 NASA/DOD Workshop on Evolvable Hardware  
Member, program committee, 2000 Congress on Evolutionary Computation  
Member, organising committee, 1997 Australia-Japan Workshop on Intelligent and  
Evolutionary Systems  
Organising committee, 1994 workshop on natural resource applications, Australian  
AI conference  
Coordinator, 1993 workshop on natural resource applications, Australian AI  
conference

#### Continuing Conference Roles

steering committee for the Simulated Evolution And Learning (SEAL) series of  
conferences  
steering committee for the Australia-Japan workshop series on simulated evolution  
and learning