

# IAN DAVID BISHOP

## BIOGRAPHICAL SUMMARY

Professor Ian Bishop is an honorary Professorial Fellow in the Department of Infrastructure Engineering, School of Engineering at The University of Melbourne.

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Ian's first postgraduate degree was an M.Sc. in geophysics. His doctoral work involved mathematical modelling of landuse in a UK National Park. This led to interests over a wide range of computer applications in environmental assessment, planning and design. An initial academic appointment, in 1979, as a Research Fellow in the Centre for Environmental Studies at The University of Melbourne included contract based research in areas including computer based land-use planning, analysis of the visual impact of transmission lines, assessment of information system requirements and preparation of tender documents and performance tests for major computer systems in two State Government Departments. At that time, Ian increasingly focused on the application to Geographic Information Systems (GIS) to landscape planning, particularly visual analysis, and GIS based visual simulation. This work was supported by research grants from the CSIRO, the Electrical Research Board and the Australian Research Council. In the summer of 1988 Ian joined Texas A&M University as an Associate Professor and Associate Dean for Information Technology in the College of Architecture. In Texas he developed further his interest and expertise in visualization technology supported by grants from the Institute for Innovation in Design and Engineering and the USDA Forest Service. Ian returned to the University of Melbourne in 1991 as Director of the Centre for GIS and Modelling. His research, in collaboration with colleagues in several disciplines, has been well supported by the Australian Research Council and industry. Ian retired from the University at the end of 2009 but has remains deeply involved, through graduate students and consulting work, in GIS and visualisation technologies and their potential to improve the management of natural resources and to contribute to public participation in planning and design issues. Most recently this has included several studies concerned with how visualisation can assist in communication of climate change and adaptive response. Since 2014, Ian has worked with the Australian Urban Research Infrastructure Network (AURIN) on development and testing of online access to Australian social and economic data, and tools for their analysis. Ian also regularly visits the Global Institute for Urban and Regional Sustainability at East China Normal University and is involved in a number of local projects.

Ian has published around 170 refereed articles and over 60 other conference papers in visualisation, systems modelling and integration, landscape perception and environmental decision support.

# IAN DAVID BISHOP

## CONTACT

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## PERSONAL INFORMATION

Birth July 1, 1949: Blackdown, Warwickshire, England  
Citizenship Australian  
Marital Status Married, two adult children

## EDUCATION

Ph.D. University of Melbourne 1979 - field work Institute of Terrestrial Ecology, Grange-over-Sands, England., subject 'Modelling, programming and policy-making: a study of land use in Cumbria, U.K.'

M.Sc. University of Melbourne 1974 - field work Hawaii Institute of Geophysics, subject 'The structure of the East Pacific Rise'.

B.Sc (Hons) University of Melbourne 1971 - majors in Physics and Geophysics.

## PROFESSIONAL EXPERIENCE

1/2014 – present Research Associate, Australian Urban Research Infrastructure Network (AURIN)

1/2010 – present Consultant Editor, On-Line English

1/2010 – present Professorial Fellow, Department of Infrastructure Engineering, The University of Melbourne: Principle Researcher - GIS & Visualisation, Cooperative Research Centre for Spatial Information  
*Subject taught – Spatial Visualisation*

7/2003 – 12/09 Professor, Department of Geomatics  
The University of Melbourne  
*Subjects taught – Research Project, Spatial Visualisation, Applications in GIS, Professional and Business Studies*

1/1991 – 6/2003 Associate Professor, Department of Geomatics and Faculty of Architecture,  
Building and Planning  
The University of Melbourne  
*Subjects taught - GIS for Planning and Management A, Environmental Visualisation, Scripting and Programming in GIS, Landscape Simulation and Perception, Automated Mapping, Research Methods, Computer Graphics*

4/2003 - 7/03 GastProfessor, Institute for Territorial Development and Landscape, Swiss Federal Institute of Technology (ETH), Zurich

3/96 - 7/96 GastProfessor, Institute for Local, Regional and National Planning, Swiss Federal Institute of Technology (ETH), Zurich

6/1988 - 12/90 Associate Professor, Departments of Urban and Regional Planning & Architecture, Texas A&M University  
*Subjects taught - Information systems and visualization in planning, Research theory and methods*

1/1984 - 6/88 Lecturer, School of Environmental Planning, University of Melbourne

*Subjects taught - landscape simulation and design, microcomputing for planning and design, computing for planning and design, microcomputer programming applications*

- 9/1986 - 12/86 Computer Aided Mapping Task Force, Policy and Information Branch, Ministry of Planning and Environment, Victoria. (part time)
- 5/1983 - 12/83 Visiting Lecturer, Department of Environmental Science, Universiti Pertanian, Malaysia.  
*Subject taught - Environmental information systems*
- 5/1980 - 4/83 Research Fellow 2, School of Environmental Planning, University of Melbourne.  
*Subjects taught - landscape planning, landscape assessment*
- 1/1980 - 4/80 Visiting Scientist, Division of Land Use Research, CSIRO, Canberra.
- 3/1979 - 12/79 Research Fellow 1, Centre for Environmental Studies, University of Melbourne.
- 10/1974 - 10/75 Director 'Merri Creek Study', Public Interest Research Group
- 1/1972 - 1/73 Geophysicist Class 1, Bureau of Mineral Resources, Engineering Geophysics Section.

ADMINISTRATION (University of Melbourne - unless \*Texas A&M University))

- 2008 – 2009** **Head, Department of Geomatics**
- 2008 – 2009** **Associate Dean (Research Training), School of Engineering**
- 2008 – 2009** **Chair, Course Standing Committee, Bachelor of Environments**
- 2008 – 2009 Member, Melbourne Model Committee
- 2007 – 2008 Shepherd, Biomedical New Generation and heritage degrees
- 2007 Member, Bachelor of Environments Course Standing Committee
- 2007 – 2008 Member, Undergraduate Programs Committee
- 2006 – 2007 Member, Libraries Committee of Academic Board
- 2005 Selection Committee, Discipline Leader Spatial Sciences, RMIT University
- 2004 – 2007** **Deputy Head, Department of Geomatics**
- 2004 – 2007 Academic Promotions Panel, Faculty of Architecture Building and Planning
- 2003 – 2007 Graduate Studies Coordinator, Department of Geomatics
- 2002 Member, University Subcommittee on Information Systems and Communications Technologies
- 1997** **Deputy Head, Department of Geomatics (5 months)**
- 1994 - 2000 Member, Executive Advisory Board, Resource Technology Institute, Colorado.
- 1995 Member, Asia-Pacific Institute Academic Group
- 1994 Member, Faculty review of Environmental Engineering
- 1991 - 2007** **Director, Centre for Geographic Information Systems and Modelling**
- 1990 Associate Director, Visualization Laboratory\*
- 1990 Member, College Working Group on International Programs\*
- 1990 Chair, Search Committee for Associate Director, CRSS Centre for the Study of Leadership, Management and Innovation in the Design and Construction Industries\*
- 1990 Chair, Focused Strategy Planning Committee, Centre for Historic Resources\*
- 1988 - 89** **Associate Dean for Media, Computing and Information Systems\***
- 1988 - 89 Chair, College Working Group on Media, Computing and Information Systems\*
- 1988 - 89 Member, College Executive Committee\*
- 1988 Member, University Supercomputer Evaluation Team\*
- 1987 - 88 Member, Computing Policy Sub-committee on the Future of Word Processing in the University.
- 1986 - 88 Member, Landscape Architecture Course Advisory Committee Royal Melbourne Institute of Technology
- 1986 - 88 Member, University Computer Users Group
- 1985 - 88 Member, Faculty Equipment Sub-committee
- 1983 - 88 Convenor, Faculty Computer Users Group

## EDITORIAL

2011 - present	International Advisory Board, International Journal of E-Planning Research
2009	Awards Jury, Victorian Spatial Excellence Awards
2008 – 2011	Editorial Board, Computers Environment and Urban Systems
2006 – present	Editorial Board, disP
2003 - present	Editorial Board, Landscape Journal
2001	Co-editor - Special Issue of Landscape and Urban Planning on Visual Resource Management
1999 – present	Editorial Board – Environment and Planning B: Planning & Design
1994	Editor - Special Issue of Landscape and Urban Planning on GIS applications
1990 - present	Editorial Board - Journal of Landscape and Urban Planning
1989 - present	Editorial Board - Journal of Architectural and Planning Research
1989 - 1991	Software Review Editor - Journal of Architectural and Planning Research
1979 - 83	Editor, 'Land Use Modelling Quarterly'

Additional peer reviews for:

Ambiances  
ANZIIS  
Australian Geographic  
Australian Planner  
Cartography  
Climate and Development  
Computers and Geosciences  
CPL bibliographies  
Ecological Economics  
Energy Policy  
Environment and Behavior  
Environment International  
Environmental Communication: A Journal of Nature and Culture  
Environmental Impact Assessment Review  
Environmental Management  
Environmental Modelling and Software  
Food, Agriculture and Environment  
Forest Science  
Frontiers of Architectural Research.  
IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing  
International Journal of Digital Earth  
International Journal of Geographic Information Science  
Interacting with Computers  
Journal of Coastal Research  
Journal of Environmental Management  
Journal of Environmental Planning and Management  
Journal of Environmental Psychology  
Journal of the American Planning Association  
Journal of Urban Technology  
Landscape Research  
Mathematics and Computers in Simulation  
Natural Hazards  
PLoS  
Renewable Energy  
Spanish Journal of Agricultural Research  
The Professional Geographer  
Tourism Geographies  
Urban Policy and Research

Reviews of book proposals for John Wiley and Taylor & Francis.

## RESEARCH ASSESSMENT

Australian Research Council, National Science Foundation (USA), Swiss National Science Foundation (Landscape and Habitats of the Alps), Land and Water Australia, Hong Kong Research Foundation, Israel Science Foundation, Research Council of Canada, ESRC (UK), Leverhulme Foundation, Social Sciences and

Humanities Research Council (Canada), Netherlands Organisation for Scientific Research (NWO), New Zealand Centres of Research Excellence (CoRE), Mitacs - Canada.

#### WORKSHOPS/ SHORT COURSES

- 2007            Organiser and presenter – 2 week intensive on Environmental Visualisation at Universidad Nacional de Columbia in Bogota
- 2005            Organiser and presenter – 8 day workshop introducing GIS for delegation from Hebei Province, China.
- 1996            Co-organiser and co-presenter - one-day workshop on 'Digital Image Processing' at the ITR Rapperswil
- 1996            Co-organiser and co-presenter - two day forum on 'Landscape, Perception and Spatial Information' at University of Leicester
- 1995            Organiser and presenter - half day workshop on "Urban Visualisation"
- 1993            Presenter - one day workshop on "Visualisation and GIS"
- 1990            Organiser and presenter - one day workshop on 'Video-simulation'
- 1982            Organiser and co-presenter - five day workshop on 'Computer aided resource analysis and land use planning'
- 1980            Co-organiser and presenter - three day workshop on 'Computer aided terrain analysis and visual simulation'

#### BOOKS

1. Pettit, C., Cartwright, W., Bishop, I., Lowell, K., Puller, D. and Duncan, D. (eds.), (2008) *Landscape Analysis and Visualisation, Spatial Models for Natural Resource Management and Planning*. Springer-Verlag, Berlin
2. Bishop, I.D. and Lange, E. (eds) (2005) *Visualization in landscape and environmental planning: technology and applications*, London, Taylor and Francis.

#### BOOK CHAPTERS

1. Smardon, R, Bishop, I. and Ribe, R. (2016) Managing New Energy Landscapes in the USA, Canada, and Australia, in D. Apostol, R.C. Smardon. J.F. Palmer and R. Sullivan (eds) *The Renewable Energy Landscape : Preserving Scenic Values in Our Sustainable Future*, Routledge, London. (41-77)
2. Bishop, I.D. (2015) Sequential experiences in energy producing landscapes, in C. Nunes Silva (ed) *Emerging Issues, Challenges and Opportunities in Urban E-Planning*, IGI Global, Hershey PA. (230-251)
3. Aurambout, J.-P., Seth, F., Bishop, I.D. and Pettit, C. (2013) Simplifying climate change communication: an application of data visualization at the regional and local scale. In A Moore and I. Drecki (eds) *GeoSpatial Visualisation*. Springer-Verlag Berlin Heidelberg (119-136).
4. Williams, K., Ford, R., Bishop, I. and Smith, E.L. (2012) Evaluating different ways of managing forested landscapes, in H. Bender (ed) *Reshaping Environments*, Oxford University Press. (65-81)
5. Stock, C., Bishop, I.D., Chen, H., Nino-Ruiz, M. and Wang, P. (2011) Web-based collaboration and decision making in GIS-built virtual environments, in Li, Dragicevic and Veenendaal (eds) *Advances in Web-based GIS, Mapping Services and Applications* ISPRS Book Series, Taylor & Francis Group, London (293-304)
6. Heckbert, S. and Bishop, I.D. (2011) Empirical geosimulation: calibration of spatially explicit agent-based models, in D.Marceau and I.Benenson (eds) *Advanced Geo-simulation Models*, Bentham Open E-books, Oak Park IL, USA. (92-110)
7. Pettit, C., Keyzers, J., Bishop, I. and Klosterman, R. (2008) Applying the What If? planning support system for better understanding urban fringe growth, In: C. Pettit,W. Cartwright, I.Bishop, K. Lowell, D. Puller and D. Duncan (Eds.), *Landscape Analysis and Visualisation, Spatial Models for Natural Resource Management and Planning*. Springer-Verlag, Berlin (435-454).
8. Bishop, I.D. (2008). Understanding place and agreeing purpose: environmental visualisation and other tools, In: C. Pettit,W. Cartwright, I.Bishop, K. Lowell, D. Puller and D. Duncan (Eds.), *Landscape Analysis and Visualisation, Spatial Models for Natural Resource Management and Planning*. Springer-Verlag, Berlin (457-468).

9. Kennedy, L. and Bishop, I.D. (2008) Investigating land-use decision making in a virtual environment, In: C. Pettit, W. Cartwright, I. Bishop, K. Lowell, D. Puller and D. Duncan (Eds.), *Landscape Analysis and Visualisation, Spatial Models for Natural Resource Management and Planning*. Springer-Verlag, Berlin (591-608).
10. Chen, A.T., Stock, C., Bishop, I.D. and Pettit, C. (2008) Automated Generation of Enhanced Virtual Environment for Collaborative Decision Making via a Live Link to GIS, In: C. Pettit, W. Cartwright, I. Bishop, K. Lowell, D. Puller and D. Duncan (Eds.), *Landscape Analysis and Visualisation, Spatial Models for Natural Resource Management and Planning*. Springer-Verlag, Berlin (571-590).
11. Bishop, I.D. (2008) Developments in Public Participation and Collaborative Environmental Decision Making, in A. Lovett & K. Appleton (ed) *GIS for Environmental Decision Making*, Taylor & Francis, London. (181-191)
12. Loiterton, D. and Bishop, I.D. (2008) Simulation, calibration and validation of recreational agents in an urban park environment, in R. Gimblett, H. Skov-Petersen and A. Muhar (eds) *Monitoring, Simulation and Management of Visitor Landscapes*. University of Arizona Press, Tuscon AZ. (107-122)
13. Mau, I, Hornsby, K. and Bishop, I.D. (2007) Modeling geospatial events and impacts through qualitative change. In T. Barkowsky et al. (Eds.): *Spatial Cognition V*, LNAI 4387, pp. 156–174.
14. Kealy, A., Scott-Young, S., Collier, P. and Bishop, I. (2006) Integrated technologies for augmented reality applications, in C.V. Tao and J. Li (eds) *Advances in Mobile Mapping Technology*, Taylor & Francis, London (95-105).
15. Bishop, I.D. (2006) Wind farm visibility in Cape Bridgewater, Australia. Case study in *An Introduction to Geographical Information Systems (3<sup>rd</sup> ed)*, I. Heywood, S. Cornelius and S. Carver (eds). Prentice Hall, Harlow, England (211-213).
16. Bishop, I.D., Ford, R., Loiterton, D. and Williams, K. (2005) Studying the acceptability of forest management practices using visual simulation of forest regrowth, in *Visualization in Landscape and Environmental Planning: technology and applications*. I. D. Bishop and E. Lange (eds). London, Taylor and Francis (112-119)
17. Bishop, I.D. and Lange, E. (2005) Visualization classification, in *Visualization in Landscape and Environmental Planning: technology and applications*. I. D. Bishop and E. Lange (eds). London, Taylor and Francis (23-34)
18. Bishop, I.D. and Lange, E. (2005). Visualization technology: introduction. *Visualization in Landscape and Environmental Planning: technology and applications*. I.D. Bishop and E. Lange. London, Taylor and Francis (51-55).
19. Bishop, I.D. and Lange, E. (2005). Visualization technology: presentation style and technology. *Visualization in Landscape and Environmental Planning: technology and applications*. I.D. Bishop and E. Lange. London, Taylor and Francis (68-78).
20. Bishop, I.D. and Lange, E. (2005). Trends, challenges and a glimpse of the future. *Visualization in Landscape and Environmental Planning: technology and applications*. I.D. Bishop and E. Lange. London, Taylor and Francis (261-266).
21. Lange, E. and Bishop, I.D. (2005) Communication, perception and visualization in *Visualization in Landscape and Environmental Planning: technology and applications*. I. D. Bishop and E. Lange (eds). London, Taylor and Francis (3-22)
22. Stock, C. and Bishop, I.D. (2005) Helping rural communities envision their future in *Visualization in Landscape and Environmental Planning: technology and applications*. I. D. Bishop and E. Lange (eds). London, Taylor and Francis (145-151)
23. Bishop, I.D. (2004) Behavioral Monitoring in Virtual Environments: a basis for agent modeling in urban parks. *The Real and the Virtual World of Planning*. M. Koll-Schretzenmayr, M. Keiner and G. Nussbaumer. Berlin, Springer-Verlag. (pp173-183)
24. Bishop, I. D. (1999). Modelling landscape change: visualisation and perception. In M. B. Usher (ed.) *Landscape Character: perspectives on management and change*. The Stationary Office. Edinburgh (pp 150-161).
25. Bishop, I. D. (1994). Using Wavefront Technology's Advanced Visualizer Software to Visualize Environmental Change and Other Data. In A. M. MacEachren & D. R. F. Taylor (Eds.), *Visualization in Modern Cartography* (pp. 101-103). Oxford: Pergamon.

26. Bishop I.D. (1994) The role of visual realism in communicating and understanding spatial change and process, in D. Unwin and H. Hearnshaw (eds) *Visualization in Geographic Information Systems*, John Wiley, London: 60-64.
27. MacEachren A., Bishop I., Dykes J., Dorling D. and Gatrell A. (1994) Introduction to advances in visualizing spatial data, in D. Unwin and H. Hearnshaw (eds) *Visualization in Geographic Information Systems*, John Wiley, London.

#### PAPERS IN PEER-REVIEW JOURNALS

1. Ninõ-Ruiz, M., Bishop, I.D. and Pettit, C. (in review) Increasing user awareness in environmental decision models through interactive steering. *Landscape and Urban Planning* (August 2016)
2. Bishop, I.D., Eagleson, S., Pettit, C., Rajabifard, A., Badland H., Day, J., Furler, J., Kalantari, M., Sturup, S. and White, M (2017) Using an online data portal and prototype analysis tools in an investigation of spatial liveability planning. *International Journal of E-Planning Research*, 6: 1-22.
3. Sabri, S., Rajabifard, A., Ho, S., Amirebrahimi, S. and Bishop, I. (2016) Leveraging VGI integrated with 3D Spatial Technology to support urban intensification in Melbourne, Australia. *Urban Planning Vol 1 (2)*, DOI: 10.17645
4. Foo, K., Gallagher, E., Bishop, I.D. and Kim, A. (2015) Critical Approaches to Landscape Visualization, *Landscape and Urban Planning*, 142: 80-84.
5. Saydi, M., Bishop, I.D. and Rajabifard, A. (2015) Virtual identification of dwelling characteristics online for analysis of urban resource consumption. *International Journal of E-Planning Research* 4(3), 1-28.
6. Bishop, I. D. (2015) Location based information to support understanding of landscape futures. *Landscape and Urban Planning* 142: 120-131.
7. Shojaei, D., Rajabifard, A., Kalantari, M., Bishop, I.D. and Aien, A. (2014) Design and development of a web-based 3D cadastral visualization prototype. *International Journal of Digital Earth*. DOI 10.1080/17538947.2014.902512
8. Ford, R., Williams, K.J.H., Smith, E.L. and Bishop, I.D. (2014) Beauty, belief and trust: Towards a model of physiological processes in public acceptance of forest management, *Environment and Behavior* 46:476-506.
9. Bishop, I.D. (2013) Optimization in Geodesign. *Landscape Architecture Frontiers* 1.6: 64-75
10. Wang, P. and Bishop, I.D. (2013) Real-time data visualization in collaborative virtual environment for emergency management, *International Journal of Information Systems for Crisis Response and Management* 5:13-44. DOI: 10.4018/ijiscram.2013100102
11. Shojaei, D., Bishop, I.D., Kalantari, M. Rajabifard, A. and Aien, A. (2013) Visualization requirements for 3D cadastral systems, *Computers, Environment and Urban Systems* 41:39-54.
12. Bishop, I.D., Pettit, C.J., Sheth, F. and Sharma, S. (2013) Evaluation of data visualisation options for policy and decision making in response to climate change, *Environment and Planning B* 40:213-233.
13. Chen, H. and Bishop, I.D. (2013) Collaborative environmental knowledge management, *International Journal of E-Planning Research* 2: 58-81.
14. Ninõ-Ruiz, M., Bishop, I.D. and Pettit, C. (2013) Spatial Model Steering, an exploratory approach to uncertainty awareness in land use allocation, *Environmental Modelling and Software* 39:70-80.
15. Pettit, C.J., Williams, S, Bishop, I.D., Aurambout, J-P, Russel, A.B.M., Michael, A., Sharma, S., Hunter, D., Chan, P.C., Endicott, C., Borda, A., and Abramson, D. (2013) Building an ecoinformatics platform to support climate change adaptation in Victoria, *Future Generation Computer Systems* 29:624-640.
16. Sutanta, H, Rajabifard, A. and Bishop, I.D. (2013) Disaster risk reduction using acceptable risk measures for spatial planning, *Journal of Environmental Planning and Management* 56:761-785.
17. Bishop, I.D. and Atkinson, S. (2012) Understanding new landscapes: planning support for renewable energy. *International Journal of E-Planning Research* 1(4): 1-16.
18. Smith, E.L., Bishop, I.D., Williams, K.J.H. and Ford, R.M. (2012) Scenario Chooser: an interactive approach to eliciting landscape preference, *Landscape and Urban Planning* 106:230-243.
19. Summerson, R. and Bishop, I.D. (2012) The impact of human activities on wilderness and aesthetic values of

Antarctica, *Polar Research* 31, 10858. <http://dx.doi.org/10.3402/polar.v31i0.10858>

20. Pettit, C.J., Bishop, I.D., Sposito, V., Aurambout, J-P, and Sheth, F. (2012) Developing a multi-scale visualisation toolkit for use in climate change response, *Landscape Ecology* 27:487-508.
21. Bishop, I.D. (2012) On-line approaches to data delivery and visualisation in landscape planning and management, *International Journal of E-Planning Research* 1:31-41.
22. Champion, E., Bishop, I.D. and Dave, B. (2012) The Palenque Project: Evaluating interaction in an online virtual archaeology site, *Virtual Reality* 16:121-139.
23. Sharma, S., Pettit, C., Bishop, I.D., Chan, P. and Sheth, F. (2011) An Online Landscape Object Library to Support Interactive Landscape Planning, *Future Internet* 3:319-343
24. Summerson, R. and Bishop, I.D. (2011) Aesthetic value in Antarctica: beautiful or sublime? *Polar Journal* 1:225-250.
25. Bishop, I.D. (2011) Landscape planning is not a game. Should it be? *Landscape and Urban Planning* 100: 390-392.
26. Kulik, I., Hornsby, K.S. and Bishop, I.D. (2011) Modeling geospatial trend changes in monitoring data, *Computers Environment and Urban Systems*, 35:45-56.
27. Cousens, R. Hill, J., French, K. and Bishop, I.D. (2010) Towards better prediction of seed dispersal by animals. *Functional Ecology* 24:1163-1170.
28. Bishop, I.D. and Stock, C. (2010) Using collaborative virtual environments to plan wind energy installations, *Renewable Energy*, 35: 2348-2355.
29. Ford, R.M., Williams, K.J.H., Bishop, I.D. and Hickey, J.E. (2009) An investigation into public judgements of the social acceptability of silvicultural alternatives in Tasmanian wet eucalypt forests. *Australian Forestry* 72:157-171.
30. Ford, R.M., Williams, K.J.H., Bishop, I.D. and Hickey, J.E. (2009) Effects of information on the social acceptability of alternatives to clearfelling in Australian wet eucalypt forests. *Environmental Management* 44:1149-1162.
31. Ford, R.M., Williams, K.J.H., Bishop, I.D. and Webb, T. (2009) A value basis for the social acceptability of clearfelling in Tasmania, Australia. *Landscape and Urban Planning* 90:196-206.
32. Bishop I.D., Stock, C., Williams, K. (2009) Using virtual environments and agent models in multi-criteria decision making, *Landuse Policy* 26:87-94.
33. Ghadirian, P. and Bishop, I.D. (2008) Integration of augmented reality and GIS: a new approach to realistic landscape visualisation, *Landscape and Urban Planning* 86:226-232.
34. Grêt-Regamey, A., Bebi, P., Bishop, I.D., Schmid, W. (2008). Linking GIS-based models to value ecosystem services in an Alpine region. *Journal of Environmental Management* 89: 197-208.
35. Stock, C., Bishop, I.D., O'Connor, A. Chen, T. C., Pettit, C.J. and Aurambout, J-P (2008) SIEVE: collaborative decision-making in an immersive online environment, *Cartography and Geographic Information Science* 35:133-144.
36. Thompson, B., Chan, T. O., Slee, R., Kinne, P., Jahshan, A., Woodgate, P., Bishop, I. and McKenzie, D. (2008) Virtual Australia: its key elements - know, think, communicate. *International Journal of Digital Earth* 1: 66 - 87
37. Chang, Y., Hong S. He, Bishop, I., Hu, Y., Bu, R., Xu, C. and Li, X. (2007) Long-term forest landscape responses to fire exclusion in Great Xingan Mountains, China. *International Journal of Wildland Fire* 16:34-44.
38. Grêt-Regamey, A., Bishop I.D. and Bebi, P. (2007) Predicting the scenic beauty value of mapped landscape changes in a mountainous region using GIS *Environment and Planning B: Planning and Design* 34:50-67.
39. Williams, K., Ford, R., Bishop, I.D., Loiterton, D. and Hickey, J. (2007) Realism and selectivity in data-driven visualisations: A process for developing viewer-oriented landscape surrogates. *Landscape and Urban Planning* 81:213-224.
40. Bishop, I.D. and Miller, D.R. (2007) Visual assessment of off-shore wind turbines: the influence of distance, lighting, haze and movement, *Renewable Energy* 32:814-831.
41. Stock, C., Bishop, I.D. and Green, R.J. (2007) Exploring landscape changes using an envisioning system in rural community workshops, *Landscape and Urban Planning* 79:229-239.
42. Chang, Y., He, X, Bishop, I.D., Meng, Z. (2006) Landscape visualisation of Zagunao watershed in the upper reaches of Minjiang River, *Chinese Journal of Ecology* 25:1229-1233.



43. Wu, Y., Bishop, I.D. and Hossain, H. (2006) Using GIS in Landscape Visual Quality Assessment, *Applied GIS* 2(3) < <http://appliedgis.net/abstract/using-gis-in-landscape-visual-quality-assessment> >
44. Stock, C. and Bishop, I.D. (2006) Linking GIS with Real-Time Visualisation for Exploration of Landscape Changes in Rural Community Workshops, *Virtual Reality* 9:260-270.
45. Paez, D., Bishop, I.D. and Williamson, I.P. (2006) DISCUSS: A soft computing approach to spatial disaggregation in economic evaluation of public policies, *Transactions in GIS* 10:265-278
46. Bishop, I.D., Hull, R.B. and Stock, C. (2005) Supporting personal world-views in an envisioning system, *Environmental Modelling and Software* 20, 1459-1468.
47. Batara, A, Dave, B. and Bishop, I.D. (2004) Multiple representations in an integrated design environment, *Urban Design International* 9,208-221.
48. Bishop, I.D., Lange, E. and Mahbulul, A.M. (2004) Estimation of the influence of view components on high-rise apartment pricing using a public survey and GIS modeling. *Environment and Planning B: Planning and Design* 31: 439-452.
49. Leao, S.Z., Bishop, I.D., & Evans, D. (2004) Simulating urban growth in a developing nation's region using a cellular automata-based model, *Journal of Urban Planning and Development* 130, 145-158.
50. Williams, K., Ford, R., Bishop, I., Loiterton, D. and Webb, T. (2004). Using computer-generated visualisations to explore social response to environmental management. *Australian Journal of Psychology* 56: 98-98.
51. Leao, S.Z., Bishop, I.D., & Evans, D. (2004). Spatial-temporal model for demand and allocation of waste landfills in growing urban regions. *Computers, Environment and Urban Systems*,28:353-385.
52. Bishop, I.D. (2003) Assessment of visual qualities, impacts and behaviours, in the landscape, using measures of visibility. *Environment and Planning B: Planning and Design* 30, 677-688.
53. Bishop, I. D., & Rohrmann, B. (2003). Subjective responses to simulated and real environments: a comparison. *Landscape and Urban Planning* 65, 261-277.
54. Bishop, I. D., Barry, M., McPherson, E., Nascarella, J., Urqhart, K. and Escobar, F. (2002). Meeting the need for GIS skills in developing countries: the case of informal settlements. *Transactions in GIS*. 6,311-326.
55. Bishop, I.D. (2002) Determination of thresholds of visual impact: the case of wind turbines. *Environment and Planning B: Planning and Design* 29,707-718.
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13. Kealy A , Scott-Young S , Collier PA & Bishop ID . (2004) Improving Land Vehicle Safety Using Augmented Reality Technologies. *Proceedings of the 4th International Symposium on Mobile Mapping Technology (MMT2004)*.
14. Paez, D. , Bishop, ID & Williamson, IP . (2004) DISCUSS: An alternative for taking decisions with an incomplete SDI. In *Proceedings ESRI International User Conference 20*, San Diego, USA.
15. Ford, R., Williams, K., Bishop, I. Loiterton, D., Hickey, J., Flanagan, A. and Webb, T. (2003). Social acceptability of forest management systems. Win, lose or draw the Fight for the Forests: proceedings of a symposium at Old Canberra House, Australian National University, October 14. <http://cres.anu.edu.au/fffweb/abs12.pdf>
16. Paez, D. , Bishop ID & Williamson IP . (2003) Spatial and Temporal Representation of Environmental Policy Outcomes using Geo-computation: A Case Study in Victoria, Australia. *Proceedings of ESRI Users Conference*. 19. San Diego, USA.
17. Paez, D. and Bishop, I.D. and Williamson, I.P. (2003) Geo-computational alternative to improve economic evaluation of public policies. In *Proceedings Seminario Internacional en Sistemas de Informacion Geografica*, Universidad Nacional. Bogota - Colombia.
18. Scott-Young S , Kealy A , Collier PA & Bishop ID . 2003. An augmented reality intelligent navigation aid for land applications. In W Featherstone (ed), *Conference Proceedings SatNav 2003 - The 6th International Symposium on Satellite Navigation Technology Including Mobile Positioning & Location Services*. 14. Ashgrove West. Queensland, Australia: Menay Pty Ltd.
19. Bishop, I.D., Fasken, G., Ford, R., Hickey, J., Loiterton, D. and Williams, K. (2003) Visual simulation of forest regrowth under different harvest options. *Trends in Landscape Modelling: proceedings at Anhalt University of Applied Sciences, Dessau, Germany, May 15-16, Herbert Wichmann Verlag (pp46-55)*.
20. Batara,A., Dave, B. and Bishop. I (2002) Design Decision Support through Translation between Multiple Representations of Spatial Data. *Proceedings of DDSS2002 - 6th International Conference on Design and Decision Support Systems in Architecture and Urban Planning*, Ellecom, The Netherlands, 7-10 July 2002.·
21. Feeny M , Williamson IP & Bishop ID . 2002. SDI Development to support Spatial Decision Making. *Proceedings of 6th Global Spatial Infrastructure Conference*. 12. Budapest, Hungary: GSDI6.
22. Jacquier, G., Leach, J. and Bishop, I. (2001) Specific Characteristics Of Data Used In Land Cover Monitoring Images For West Gippsland Catchment Management, Victoria And The Significance For Spatial Data Infrastructure. *International Symposium on Spatial Data Infrastructure (SDI) 19 - 20 November 2001*, University of Melbourne, Australia
23. Zerger, A., Bishop, I., Escobar, F., Hunter, G., Nascarelle, J., & Urquhart, K. (2000). Multimedia tools for enriching GIS education. *Proceedings of International IT conference on Geo-spatial education*, , Hong Kong, The Hong Kong Polytechnic University (pp213-221).
24. Bishop, I.D. (2000) Envisioning landscape: 25 years of tools and technique, in A. Hamblin (ed) *Visions of Future Landscapes*. *Proceedings of 1999 Australian Academy of Science Fenner Conference on the Environment*, 2-5 May 1999, Canberra. Bureau of Rural Sciences, Canberra (pp280-282).



25. Leao, S., Bishop, I. D., and Evans, D. (1999). Integrating urban growth model, expert system and GIS for sustainable management of urban solid wastes - a dynamic decision support system. Proceedings of 27th annual conference of AURISA, Blue Mountains, NSW, Australia.
26. Wang, Y-N., R. G. Thompson & Bishop, I.D.. (1999). A GIS based information integration framework for dynamic vehicle routing and scheduling. IEEE International Vehicle Electronics Conference (IVEC'99), Changchun, China, IEEE.
27. Tang, H, Bishop, I D and Yates, P M (1998). Towards and integrated interactive visualization system for forest management. Resource Technology '97, Beijing, China Forestry Publishing House. (pp250-258)
28. Tang, H, Bishop, I D and Yates, P M (1998). System design options for linking GIS, modelling and visualization. Resource Technology '98 Nordic, Rovaniemi, Finish Forest Research Institute.
29. Yates, P M and Bishop, I D (1998). Automatic Generation of Software Supporting the Integration of GIS and Modelling Systems. GeoComputation '98, Bristol, University of Bristol. (<http://www.geog.port.ac.uk/geocomp/geo98/>)
30. Yates, P M, Bishop, I D and Humphreys, M (1998). Integrating Java with Smallworld: an application for generating schematic diagrams. GITA Australia, Melbourne, Geospatial Information & Technology Association (Australiasia).
31. Bishop, I. D., Ramasamy, S. M., Stephens, P., Chandra, S., & Joyce, E. B. (1998). Visualization of 8000 years of tectonic movement and river migration in southern India. In ICA Commission on Visualization, Warsaw:
32. Bishop, I. D., & Gimblett, H. R. (1998). Modelling tourist behaviour: geographic information systems and autonomous agents. In Tourism and Culture for Sustainable Development, Athens, National Technical University of Athens. on CD-ROM.
33. Arrowsmith, C., Inbakaran, R., Bishop, I.D. (1998). Developing a risk methodology for effective management of natural tourist destinations. Tourism and Culture for Sustainable Development. Athens, National Technical University of Athens. on CD-ROM.
34. Rohrmann, B. and Bishop, I.D. (1998) Cognition and appraisal of environments presented via computer simulation, video and site visits, International Congress of Applied Psychology, San Francisco.
35. Bishop, I. D. (1997) The impacts of forest protection on patterns of timber harvesting: GIS'97, Vancouver, 205-208.
36. Forse, J. E., Leach, J. H., Choowaew, S., and Bishop, I. D. (1997) Change detection analysis of coastal land cover in Thailand using Landsat Thematic Mapper: Northern Australian Geographic Information Systems (NAGIS), Cairns.
37. Orland, B., Ogleby, C., Bishop, I., Campbell, H., and Yates, P. (1997) Multi-media approaches to visualization of ecosystem dynamics: ACSM/ASPRS 97, Seattle, 1997, p. 224-235.
38. Yao, Y., and Bishop, I. D., 1997, Towards acceptable land use change using GIS and simulation modelling: Symposium for Young Scientist on Strategy of Sustainable Development, Beijing.
39. Bishop, I. D., and Sirikasem, P., (1996) Visualisation for urban renewal planning and design in Bangkok, Thailand: International Conference on Urban Engineering in Asian Cities in the 21st Century, Bangkok, 1996, p. C.102-C.107.
40. Bishop, I. D., & Karadaglis, C. (1996). Combining GIS based environmental modeling and visualisation: another window on the modeling process. In Third International Conference on Integrating GIS and Environmental Modeling, . Santa Fe, NM:
41. Bishop, I. D., & Karadaglis, C. (1996). Use of interactive immersive visualization techniques for natural resources management. In Visual Data Exploration and Analysis III (Electronic Imaging '96), . San José, CA: The Society for Imaging Science and Technology.
42. Bishop, I. D. (1995). Creating an interactive immersive decision environment. In AURISA'95, (pp474-482) Melbourne:
43. Bishop, I. D. (1995). Spatial Information Technologies for Sustainable Development. In International Symposium on Geographic Information Systems for Environmental Protection, (pp. 35-45). Taipei, Taiwan: Environmental Protection Administration, Republic of China.
44. Bishop, I. D., & Rohrmann, B. (1995). Visualisation tools: their role in understanding human responses to the urban environment. In R. Wyatt & H. Hossain (Eds.), Fourth International Conference on Computers in Urban Planning and Urban Management, 1 (pp. 313-322). Melbourne: Dept of Geography and Environmental Studies, University of Melbourne.

45. Bishop I.D. and Inbakaran R. (1995) Relevance of spatial information technologies to sustainable ecotourism. National Symposium on GIS Technology, Applications and Resource and Facility Management, Madras.
46. Bishop I.D. (1994) Environmental visualisation in the urban context: technology into darkness, Proceedings Resource Technology '94, Melbourne, pp117-125.
47. Bishop I.D. and Robey M. (1994) Implementing an environmental impact model within a geographic information system, Proceedings AURISA'94, Sydney, pp281-291.
48. Robey M. and Bishop I.D. (1994) Visual impact modelling using GIS macro language, Proceedings OZRI'94, Hobart.
49. Bishop I.D. (1993) Advanced Visualisation: applications and opportunities, Proceedings of Conference on Landscape Planning, Australasian Educators in Landscape Architecture, Sydney pp 1-7.
50. Bantayan N. C. and Bishop I.D. (1993) An investigation of the role of GIS in the integration of fuzzy decision models and physical process models, Proceedings AURISA'93, Adelaide, pp514-521.
51. Hennicke G., Ezigbalike I.C. and Bishop I.D. (1993) Spatial analysis for accident and emergency services, Proceedings GIS/LIS '93, Minneapolis, Minn. pp 303-311.
52. Bishop I.D., Spring J. and Potter R. (1993) Local government and the third dimension: extending GIS in the urban environment, Proceedings AURISA'93, Adelaide., pp 544-552.
53. Hennicke G., Ezigbalike I.C. and Bishop I.D. (1993) Implementing a GIS for analysing accident and emergency services, Proceedings AURISA'93, Adelaide, pp 448-457.
54. Bantayan N. C. and Bishop I.D. (1993) An approach to combine fuzziness with a physical model for landuse planning using GIS, Proceedings Land Information Management and GIS, Sydney, pp 23-29.
55. Bishop I.D. (1993) The application of GIS based visualisation to environmental decision support, Proceedings Land Information Management and GIS, Sydney. (Addendum - 10pp)
56. Bishop I.D. (1992) Integrating GIS and Visualisation - towards mature systems, presented at Resource Technology '92: Taipei, Taiwan.
57. Bishop I.D. (1992) Data integration for visualisation: application to decision support , Proceedings AURISA '92, Gold Coast, Australia, pp 74-80..
58. Bishop I.D. (1992) The role of visual realism in understanding spatial change and process, presented at AGI workshop on GIS and visualisation, Loughborough, UK.
59. Bishop I.D. (1992) Geographic Information Systems and Visualization Technology: understanding the future , presented at URISA '92, Washington DC.
60. Bishop I.D. and Shang, Hai-Dong (1991) Visual simulation of environmental change: bringing GIS and video-imaging together, AURISA '91, Wellington, New Zealand, pp 225-236.
61. Bishop I.D. (1991) GIS application - environment and planning, Geographic Information Systems: what is GIS and how can it work for my organisation?, Longman, Melbourne.
62. Bishop I.D. (1991) Animation in the natural environment: GIS and CAD go walkabout, Data Visualization Techniques in Environmental Management, Las Vegas.
63. Bishop I.D. and Flaherty E. (1990) Using video imagery as texture maps for model driven visual simulation, Proceedings Resource Technology '90, Washington, D.C, pp 58-67.
64. Bishop I.D. and Hulse D.W. (1990) Visual modeling using a microcomputer based GIS and a general purpose data base, URISA '90, Edmonton, Canada.
65. Bishop I.D. and Hull R.B. IV, (1989) Cost, performance and aesthetics: using GIS and video-imaging to define trade-offs in the urban environment, URISA '89, Boston.
66. Bishop I.D. (1988) Turning geographic data into decision information: access and application, Resource Technology '88, Fort Collins, Colorado, pp 94-108..
67. Bishop I.D. (1985) A microcomputer based GIS for local application, Proceedings URPIS 13, 339-346, Adelaide.
68. Bishop I.D. (1981) Macclesfield - information systems and planning methods. URPIS 9, Geelong.
69. Bishop I.D. (1981) Reviewing, evaluating and implementing information systems for application to environmental planning: through the looking glass. URPIS 9, Geelong.
70. Hussong D., Whipperman L. and Bishop I.D. (1975) Crustal structure of the East Pacific Rise from 6°S to 24°S latitude, Int. Ass. of Seismology and Physics of the Earth's Interior, General Assembly, 2 Sept 1975.

## CONFERENCE PROCEEDINGS

Bishop I.D. (ed) (1994) Proceedings of Resource Technology '94: New Opportunities - Best Practice, Centre for Geographic Information Systems and Modelling, University of Melbourne, Parkville.

## CONTRACT REPORTS

Bishop, I. D., Sheth, F., Pettit, C. J. and Sharma, S. (2010). Evaluation of Geographic Visualisation Options in Landscape Planning and Management. Future Farming Systems Research. Department of Primary Industries.

Bishop I.D. and McCarthy M.M. (1987) Design simulation laboratory: development strategy, for the College of Architecture and Environmental Design, Texas A&M University

Bishop I.D. and Cutler M. (1986) Information system for local fire hazard mapping, for the Australian Department of Local Government.

Bishop I.D. (1983) Assessment of information system requirements, for the Great Barrier Reef Marine Park Authority.

Mitcheltree R.M. and Bishop I.D. (1983) A landscape assessment of proposed transmission line between Brunswick and Richmond (in Metropolitan Melbourne), for the State Electricity Commission of Victoria, Melbourne.

Bishop I.D., O'Callaghan J., Smith J., Stagnitti F. and Walker P. (1981) A review of environmental data handling systems, for the Ministry of Conservation, Victoria.

## BOOK REVIEWS

MacDougall, E.B. (1983) Microcomputers in Landscape Architecture, reviewed for Landscape Australia, May 1984.

Robinson, D. (2011) Computer Modelling for Sustainable Urban Design, reviewed for disP 187.4, December 2011.

## SOFTWARE REVIEWS

macGIS: a Geographic Information System for Macintosh(v1.04) by Larsen, K and Hulse D.W., reviewed for Journal of Architectural and Planning Research, Fall 1990.

## OTHER PUBLICATIONS

Bishop, I.D. (2005) Mapping the aesthetics of landscape, in C. Schapper and J. Schapper (eds) Peninsula Coast and Country Forum Report, April 6, Heritage Council Victoria (20-23)

Ford, R., Williams, K., Bishop, I. And Webb, T. (2005) Social Acceptability of Forest Management Systems, The University of Melbourne, Melbourne (19 pp)

Bishop, I.D. and R.M. Itami (1995) Final Report, GIS and Visualisation Technology in Highway Planning in Victoria, Vic Roads Corporation, Victoria, Australia.

Bishop I.D. (1990) Automated mapping of visual impacts of transmission lines. LaLUP/LA Computer News, ASLA Open Committees on Landscape and Land Use Planning and Computers, Spring '90,32-35.

Bishop I.D. (et al) (1985) 'Modelling' the Macedon Ranges, in Green R., Schapper J., Bishop I.D. and McCarthy M.M.(eds) (1985) Design for Change: community renewal after the 1983 bushfires, School of Environmental Planning, University of Melbourne. (pp. 176-200)

Green R., Schapper J., Bishop I.D. and McCarthy M.M.(eds) (1985) Design for Change: community renewal after the 1983 bushfires, School of Environmental Planning, University of Melbourne.

Bishop I.D. and Fabos J.Gy. (1981) Application of the CSIRO land use planning method to the Geelong region, CSIRO Division of Land Use Research, Divisional Report 81/3, Canberra.

Williamson D. and Bishop I.D. (eds) (1980) Landscape planning and management workshop: abstracts, Forests Commission, Victoria and Centre for Environmental Studies, Melbourne.

Bishop I.D. (1979) Modelling, programming and policy-making: a study of land use in Cumbria, U.K., Centre for Environmental Studies, Melbourne.

Bishop I.D. (1978) Land-use in rural Cumbria - a linear programming model, ITE Merlewood, Research and Development Paper 78/75.

Bishop I.D. (1976) Public participation in decision-making, Working Paper No.4, AWRC Project 72/74, Centre for Environmental Studies, Melbourne.

Bishop I.D. (ed) (1975) The Merri Creek Study - a review of urban creek management - past, present and future, PIRG, Melbourne.

## PANELS AND INVITED LECTURES

- 2006 Approaching DOOM: games technology and environmental planning, Dean's Lecture, University of Melbourne.
- 2005 Visualisation tools for public participation in urban planning, Summer School on Sustainable Landscapes, University of Extremadura, Spain
- 2005 Research Methods in Visual Landscape Assessment, Department of Agricultural Engineering, University of Extremadura, Spain
- 2005 Public participation and collaborative environmental decision-making, Department of Geography, University of Alcalá de Henares, Spain
- 2005 Animation and real-time visualisation, Department of Geography, University of Strasbourg, France
- 2004 Visualisation for planning and management in rural landscapes, Institute for Ecology and Geography, Urumqi, China
- 2004 Visualisation for planning and management in natural and built environments, Beijing, China
- 2004 Spatial Sciences Institute Forum "Using a combination of GIS and Virtual Reality technologies to envisage rural futures", Melbourne
- 2004 Seminar in Royal Botanic Gardens, Victoria Science Series "Modelling visitor movements in the RBG"
- 2003 Presentation to CSIRO Division of Sustainable Ecosystems Divisional Science Meeting, Thredbo, NSW
- 2003 Seminar "The expression and assessment of community values through environmental visualization", University of British Columbia, Canada
- 2003 Seminar "Visualization in landscape and environmental planning", University of Alcalá, Spain
- 2003 Seminar "Visualization and community values", ETH-Zurich
- 2003 Seminar "Community exploration of changing landscape values", University of East Anglia
- 1999 GIS colloquium series "2D or not 2D", University of Illinois at Urbana-Champaign.
- 1998 Invited lecture on spatial systems at Indian Institute of Technology, Bombay, India
- 1998 Invited lecture on spatial decision support tools at Stellenbosch University, South Africa
- 1997 Industry day presentation at "Computer modelling: simulation and visualisation of the built environment", Adelaide
- 1996 Seminar on Environmental visualisation at Department of Geography, University of Zurich
- 1996 Paper at Landscape Visualisation workshop in Rapperswil sponsored by the Swiss Computer Graphics Association in conjunction with the Harvard Graduate School of Design
- 1996 seminar presentation at MIRALab, University of Geneva
- 1996 seminar presentation School of Computing and Information Technology, Monash University, Churchill
- 1995 Valedictory Address, GIS technology, applications and resource and facility management, Madras
- 1995 Addresses at University of Madras, Anna University, Madurai Kamaraj University, Bharathidasan University, Bangalore University and Mysore University
- 1992 "GIS meets visualisation: the role of realism in public debate", GIS seminar series, Monash University
- 1991 Workshop Facilitator, Data visualization techniques in environmental management, Las Vegas.
- 1990 Panel Chair, Resource Technology '90: "Model driven visual simulation", Washington DC.
- 1990 Social Sciences in Resource Management: "Model driven visual simulations", College Station, Texas.
- 1990 Social Sciences in Resource Management: "Videosimulation technology: its influence in natural resource planning, policy and management", College Station, Texas.
- 1989 Rowlett Lecture Series, College of Architecture, Texas A&M University, "Visualization in design"
- 1988 American Society of Landscape Architects: "The language of design and the design of language", Seattle, Washington.
- 1984 Information Systems in Resource Planning: "Visual simulation techniques", Auckland, New Zealand.
- 1984 Information Systems in Resource Planning: "Land suitability modelling", Auckland, New Zealand.
- 1982 Special lecture: "New techniques for land use policy and management", Griffith University, Queensland.

## RESEARCH GRANTS AND SPONSORSHIP (since 1984)

### Principal investigator

- 2007 – 2010 CRC for Spatial Information (Project 5.4) "Applications of a collaborative virtual environment"
- 2006 Institutional Award: "Agent-driven visualisation for understanding decision-making"
- 2004 – 2007 CRC for Spatial Information (Project 5.2) "Integrating visualisation with SDI for collaborative decision making"

- 2003 – 2005 Australian Research Council (Linkage)/Royal Botanic Gardens: "Virtual Environments and Autonomous Agents for Urban Park and Garden Management"
- 2002 Institutional Award: "Modelling human behaviour and environmental impact"
- 2002 Institutional Award: Visiting Research Scholar Award
- 2001 – 2004 Land and Water Australia (Project Grant): "Community exploration of changing landscape values".
- 2001 Institutional Multimedia and Education Technologies Grant - "Learning about interactivity in virtual environments"
- 2001 Australian Research Council (IREX Fellowship): "Using geographic information system data, 3D rendering algorithms and virtual environments for rapid derivation of visual qualities and impacts for landscape planning."
- 1998 – 1999 Institutional Grant: "Three dimensional visualisation of geographic data: communication of land planning options in the villages of India"
- 1995 Institutional Grant: Young Asian Scholars scheme
- 1994 - 1995 Institutional Grant: Major Equipment: "Investigation of visualisation for environmental decision-making"
- 1994 SIIASA: "Acquisition and interpretation of satellite imagery for current and historical landuse mapping: a pilot study in Thailand"
- 1992-1993 State Electricity Commission, Victoria: "Visualisation support for open-cut mine planning and rehabilitation"
- 1991-1993 VicRoads: "Visual analysis, visual simulation and decision support"
- 1991 Institutional Grant: "Use of remote sensing imagery as texture maps for visual simulation of environmental change and process"
- 1990 USDA Forest Service, "Feasibility study: Texture mapping of ground and airborne video onto a digital terrain model for visual analysis of forest conditions"
- 1990 USDA Forest Service, "Simulation and animation of rivers and streams: a feasibility study"
- 1989 Institute for Innovation in Design and Engineering: "Good looking goods: design for consumer appeal"
- 1988 Australian Research Council: "Evaluating models for visual impact analysis"
- 1987 - 1992 Electrical Research Board: "Computer based visual effects analysis and transmission line design"
- 1987 Institutional Grant: "The validity of computer simulations in assessment of visual landscape preference"
- 1984 Institutional Grant: "Development of quantitative techniques in landuse planning"

#### Co-Principal investigator

- 2008 CRC for Spatial Information (Project 5.05) "Ember Storm: a game-link environment in fire preparedness"
- 2005 – 2008 Australian Research Council (Linkage)/Forestry Tasmania – "Social acceptability of forest management options: landscape level visualisation and evaluation"
- 2002 – 2004 Australian Research Council (Linkage)/Forestry Tasmania – "Acceptability of forest harvesting systems"
- 2002 Australian Research Council (Infrastructure) – "A portable laser scanning facility for geomatic data capture"
- 2001 – 2003 Australian Research Council (SPIRT)/ Lonely Planet - "Delivery of on-line tourism information using three dimensional modelling and interactive multimedia technologies"
- 2000 – 2001 Australian Antarctic Division: "Development of GIS-based mapping of wilderness and aesthetic values in the Australian Antarctic Territory."
- 2000 Institutional Multimedia and Education Technologies Grant - "Development of computer-based techniques for teaching Geographic Information Systems and spatial modelling"
- 1999 Institutional Major Equipment Grant - "Collaboratory for architectural and environmental visualisation"
- 1999 – 2001 Australian Research Council (large) – "Collaborative Urban Design: computer environment for multi-disciplinary teams"
- 1999 – 2000 Australian Research Council (SPIRT)/ Department of Natural Resources and Environment – "Multi-temporal inventory of land use and land cover: an investigation of the use of high resolution satellite imagery and integration with non-image data"
- 1999 Australian Research Council (small) – "Advanced computerised vehicle routing and scheduling procedures (ACVRP)"
- 1997 ARC Special Initiatives Program - "Computational modelling, simulation and visualisation of the built environment"

1997	University of Melbourne, Collaborative Research Program - "Exploration and Visualisation of the surface manifestation of post collision tectonics of peninsular India"
1997 - 1999	IDP Education Australia - " Spatial Information Technologies to support Urban Planning in Informal Settlements"
1996 - 1998	Australian Research Council (APA_I)/ ANM Forest Management: "Development of an interactive visualisation system for forest planning and management"
1996	Australian Research Council (small): "Computer simulations of urban and natural environments: perception and evaluation"
1995 - 1998	Department of Employment, Education and Training, Targetted Institutional Links, "Integrated systems for monitoring, modelling, managing and visualising environmental change".
1995	Australian Research Council (small): "Cognitive and affective assessment of simulated environments"
1994 - 95	Australian Research Council (large): "Investigation of visualisation for environmental decision-making"
1992 - 93	Australian Research Council (collaborative) / SECV: "Incorporation of time-varying data into fire behaviour modelling"
1986	Institutional Grant: "Visual impact of above ground electricity transmission structures"
1985 - 86	Department of Local Government and Administrative Services: "Information system for local fire hazard management"
1984 - 86	CSIRO/University of Melbourne: "Advanced corridor planning techniques"

CONSULTANCY		
2011	VicHealth	GIS-based analysis and mapping of health statistics
2011	Department of Primary Industries, Victoria	Literature review: visualisation in landscape planning and climate change
2010	VicHealth	Consolidated Survey Platform - Project Implementation Contractor
2010	Department of Primary Industries, Victoria	Evaluation of visualisation options in landscape planning and management
2009	Department of Primary Industries, Victoria	Visualisation - A collaborative scenario planning approach for visualising sustainable and productive landscape mosaics
2007	Department of Primary Industries, Victoria	Non-visual data in the virtual landscape
2007	Department of Primary Industries, Victoria	Programming to support landscape tool automation
2005	Department of Primary Industries, Victoria	Scoping paper on 'Developing visualisation capability for rural applications'
2004	SE Queensland Scenic Amenity Study	Review of methodology / Expert Panel member
2004	Thiess Pty Ltd	Visual assessment of freeway project
2004	Department of Primaries Industry, Victoria	Development of a landscape quality assessment method
2004	Western Region Environment Commission	Re-analysis of GIS data for proscribed waste containment sites
2003	Save the Patch Inc	Visual assessment of TV repeater tower / Panel Hearing
2002	Friends of the Capes	Wind turbine visual assessment
1997	Taylor's Surveyors	City building shadow calculations
1995	Perrot, Lyon, Mathieson	Database for Geelong strategy plan
1994	VicRoads	Viewshed analysis - Calder Highway
1993	City of Camberwell	Visual simulation of market square development.
1990	USDA Forest Service	Feasibility study: Texture mapping of ground and airborne video onto a digital terrain model for visual analysis of forest conditions
1990	USDA Forest Service	Simulation and animation of rivers and streams: a feasibility study

1988	Power and Water Authority (NT)	Environmental Impact Assessment - Marrakai-Jabiru (NT) transmission line (with G. Seddon)
1988	Department of Industry, Technology and Resources	GIS specification
1985 - 86	Department of Local Government and Administrative Services	Information system for local fire hazard management
1983	Great Barrier Reef Marine Park Authority	Information system requirements.
1982	State Electricity Commission, Victoria	Landscape assessment of Brunswick-Richmond transmission line. (with R. Mitcheltree)
1981	Ministry of Conservation, Victoria	Review of environmental data handling systems (with CSIRO).

## AWARDS

- 2013 Outstanding Published Journal Article for 2012, in the International Journal of E-Planning Research
- 2013 Best Rated Paper Award at Digital Landscape Architecture conference, Bernburg, Germany
- 2010 Best Rated Paper Award and Scientific Excellence Award at Digital Landscape Architecture conference, Aschersleben, Germany (with Smith, Williams and Ford).
- 2009 Digital Landscape Architecture Award For IT Application In Landscape Architecture, Digital Landscape Architecture Conference, Malta (with Stock, Chen and Sharma).
- 2002 Best student paper awarded to Chen, X., Bishop, I. D., & Abdul Hamid, A. R. (2002). Community exploration of changing landscape values: the role of the virtual environment. Digital Image Computing - Techniques and Applications conference, Melbourne
- 2001 High Commendation in The Award for Innovation in Engineering Education (Australasian Engineering Education Awards) for GISweb (with Zerger, Escobar and Hunter)
- 1996 RAPI award for Planning Excellence - Undertook the GIS mapping and modelling which was a component of the award winning Greater Geelong Urban Growth Strategy study by Perrot, Lyon, Mathieson Pty Ltd.
- 1992 AURISA - Gerald McCalden Award, most innovative research paper at AURISA 92 conference.
- 1986 American Society of Landscape Architects, Merit award for Professional Excellence for Design for Change (with R.Green, J.Schapper and M.M.McCarthy) 232p.

## RESEARCH DEGREES SUPERVISED

### **M.Env.S.**

1. A computer based model for the assessment of transmission line visual effects. (D.Hadrian - 1986)
2. Estimating visual absorption from geographic information systems for computer based visual impact analysis. (C. Thomson - 1987)\*
3. Validating a model for the assessment of visual impact. (P. Kilevics - 1987)

### **M.L.Arch.**

4. Composite landscape assessment for highway route selection (A.Kelly - 1988)

### **M.Surv.Sc.**

5. Infrastructure planning using geographic information systems (G. Henniecke - 1992)

### **M.App.Sc.**

6. The role of spatial dependence and scale factors in GIS based ecosystem modelling (A. Zerger - 1993)
7. The application of a GIS to the management of Leadbeater's possum (J. Smith - 1995)
8. Change detection analysis of coastal land cover in Thailand (J. Forse - 1997)\*
9. Use of GIS in home-range mapping (S. Selkirk - 1999)
10. A computer based route selector based on scenic analysis (P. Czajkowski - 2001)
11. Use of remote sensing for detection of illegal clearing in Ghanan forests (A.Arthur - 2001)\*
12. Environmental visualisation as an informing system (B.Quinn - 2004)

13. Procedural textures for land cover representation (M-Z. Shi – 2006)\*
14. Using virtual environments to assess You-Are-Here mapping (G. McKenzie – 2007)
15. Automatic location of objects in virtual landscapes (Li Jiang – 2009)
16. Simulation of wild fire behaviour in a game engine (A. Winarto - 2011)

**Ph.D.**

1. Change assessment in the post war Mount Macedon landscape. (Urs Menet - 1988)
2. Rural land use strategy assessment in Thailand. (Sansanee Choowaew - 1988)
3. Remote sensing strategies for monitoring grassland fire fuels. (Jim Barber - 1989)\*
4. Observing change in the environmental: an examination of variables (Haidong Shang - 1994)
5. Land use decision support systems (Nathaniel Bantayan - 1996)
6. GIS and hydrological modelling (Oliver Coroza - 1997)\*
7. Simulating recreation behaviour in complex wilderness landscapes using spatially-explicit autonomous agents (H. Randy Gimblett - 1998)
8. Integration of GIS & Modelling (Paul Yates - 1999)
9. Watershed decision modelling (Consuelo Habito - 2002)
10. A decision support system for urban waste management (Simone Leao - 2002)\*
11. A visual compatibility model for urban and suburban development (Chun-Yeun Lee - 2003)\*
12. Computer systems for collaborative urban design (Agus Batara – 2005)\*
13. Using Augmented reality to represent environmental change (Payam Ghadirian – 2005)
14. Spatial disaggregation of CBA for public decision making (Daniel Paez – 2005)\*
15. Virtual environments for cultural tourism (Erik Champion – 2006)\*
16. Acceptability of forest harvest practices (Rebecca Ford – 2006)\*
17. Representational modes for spatial data: a comparison (Xiaogang Chen – 2006)
18. Virtual environments and agent modelling for pedestrian movement in urban gardens (Daniel Loiterton – 2007)
19. Simulating impacts of climatic anomalies and land use change on fire occurrence (Andreia Siqueira – 2007)\*
20. Intergation of environmental process models and visualisation for collaborative decision support (Alice O'Connor – 2007)\*
21. Spatio-temporal GIS for events analysis (Inga Kulik (nee Mau) – 2009)
22. Agent modelling and visualisation for virtual decision environments (Lucy Kenneedy (nee Spottiswood) – 2008)
23. Integration of GIS and a games engine with augmented reality applications (Alex Chen – 2011)\*
24. How agents learn: embedding learning algorithms in agent-based modelling (Scott Heckbert – 2010)
25. Visualisation for landscape scale assessment of forest management (Eric Smith – 2011)\*
26. Development of support tools for security training using a computer game environment (Peter Wang – 2012)\*
27. System development to support a remote agricultural diagnostic and advice service (Haohui Chen – 2012)\*
28. Disaster Risk Reduction using Acceptable Risk Measures for Spatial Planning (Heri Sutanta - 2013)\*
29. Recreational experience simulation in a 3D virtual environment using agent-based modelling (Yiqun Chen - 2013)\*
30. Spatial Model Steering, an exploratory approach to uncertainty awareness in land use allocation (Marcos Nino Ruiz – 2013)\*
31. Aesthetic and wilderness values of Antarctica (Rupert Summerson - 2014)
32. Visualisation of 3D property information (Davood Shojaei - 2014)\*
33. Indicators of urban sustainability (Maryam Saydi - 2015)\*

\* with other supervisors

**EXTERNAL PhD EXAMINATION**

R. Fitzgerald – Australian National University 1994  
 S.P. Sekar – Anna University, Madras, India 1996  
 Fang Chen – University of Western Australia 1999  
 JoAnna Wherrett – Robert Gordon University, Aberdeen, Scotland 1999  
 Suwannee Adsavakulchai – Asian Institute of Technology, Bangkok, Thailand 2000  
 Roos Akbar – University of Queensland 2000  
 K. Palanivel – Bharathidasan University, Trichy, India 2000  
 Philip Hirtz – University of Zurich, Switzerland, 2002



Katy Appleton – University of East Anglia, UK, 2003  
Asa Ode – Swedish University of Agricultural Sciences, Alnarp 2003  
Hari Thotapalli Kishore – University of South Australia, 2004  
Anne-Marie Davies – Robert Gordon University, Scotland, 2004  
Allan McLay – RMIT University, 2005  
Dale Watson – RMIT University 2006  
Alexander Townsend - University of South Australia, 2011