



# Dr Stuart Muir - Profile

Managing Director, Symbolix Pty Ltd

Stuart Muir has over ten years experience in numerical modelling and applications. Stuart has focused his skills on correctly assessing a given problem and applying the most appropriate numerical techniques. These skills have been applied across most sectors, supplying invaluable support to the decision making process. His skills in communicating complex concepts have ensured that the most powerful modelling techniques can be used, and their insights correctly and safely applied within the management process.

Stuart has frequently worked within a team of experts, supporting others' deep knowledge and experience with his modelling techniques. These solutions have been applied to Environmental Impact Assessments, Financial sector customer segmentation, mining and manufacturing optimisations and operational decision making.

Stuart's offering comes from the combination of a deep technical training and broad industry experience and applications.

## Qualifications

Certificate IV in Business Small business management

Ph.D. Computational Mathematics, Monash University

B.Sc. (Hons, 1<sup>st</sup> Class) Astrophysics and Applied and Computational Mathematics, Monash University

## Affiliations

International Institute of Forecasters

Institute of Analytics Professionals of Australia Ltd.

Association of Professionals, Engineers, Scientists and Managers of Australia

## Employment

*Managing Director, Symbolix*

Provide consulting services for clients in:

- Development of national wind & energy guidelines
- Environmental Risk Projection
- Environmental Population Viability Assessment

making your data work harder

- Environmental Effect Monitoring Program methods
- Financial Stock Trading
- Financial Market Projection
- Mining Sector: Strategic & Cash/Profit Optimisation
- Commercial Business Planning Risk Assessment/Modelling
- Commercial Customer Segmentation and Analysis
- Commercial: Budgetary forecasting projections
- Health: Load & Service level Forecasting
- Business Intelligence: Numerical/statistical analysis and interpretation

#### *Principal Consultant Analytics, Spacetime Research Pty Ltd*

- Consult with end-client on modelling needs.
- Design analytic algorithms and strategy for core platform
- Design modelling processes within current specifications that will deliver new services to clients

#### *Business Intelligence and Analytics Consultant, HC+P Management Consultants*

- Design and implement business intelligence suite
- Build modelling processes to best deliver end-client understanding of their business performance, including analysis, forecasting and simulations

#### *Mathematical Consultant, Biosis Research Pty Ltd*

- Document and correct current generation of numerical models
- Develop new models, consulting with client
- Ensure full, adequate documentation is maintained

#### *Lecturer, School of Mathematical Sciences, Monash University*

## **Selected Recent Projects**

Refer to [www.symbolix.com.au/recent](http://www.symbolix.com.au/recent) for further project descriptions

- Development of survey design and monitoring program for avian population. The result was to return the best indicators of risk, whilst maintaining a focused survey effort.
- Developed a robust and statistically sound methodology for assessing the potential impact of development on a region of possible indigenous heritage, whilst minimising both cost and invasive digging techniques.
- Created fully GIS compliant utilisation maps, accounting for and correcting many observational defects. This generated fully normalised, avian preference charts for entire regions which, when

linked to a proper relational database, allowed for full exploration of geographical behavioural dependencies.

- Using an innovative learning algorithm for clustering a database's contents, we generated the "best," most descriptive breakdown we could. This then drove decision and classifier trees to generate risk management protocols with established, predictive triggers
- Using a British Health process, generate an interactive model allowing management to see and resolve various policy decisions, particularly focussing on their effect on healthcare and aged services provision