

## Curriculum Vitae for Dr Shane Dye

**Name:** Dr Shane DYE  
**Qualifications:** PhD (Operations Research), BSc (Hons) Mathematics  
**Address:** Department of Management  
University of Canterbury  
Private Bag 4800  
Christchurch  
**Telephone:** +64 3 3642 606 **Facsimile:** +64 3 3642 020  
**E-mail:** [Shane.Dye@Canterbury.ac.nz](mailto:Shane.Dye@Canterbury.ac.nz)  
**WWW:** <http://www.mang.canterbury.ac.nz/people/shane/>

### Academic experience

#### 1998– : Senior Lecturer/Lecturer in Operations Research

in the Department of Management at the University of Canterbury, Christchurch, New Zealand.

#### 2004–2005: Visiting Professor

in the Institute of Mathematics, at the University of Duisburg-Essen, Duisburg, Germany.

#### 2004: Visiting Research Scientist

at SINTEF (the Foundation for Scientific and Industrial Research at the Norwegian Institute of Technology) in Trondheim, Norway.

#### 1995–1998: 3 year Post Doctorate (Operations Research)

"*Stochastic optimisation in intelligent networks,*" at the Norwegian University of Science and Technology, Trondheim, Norway. The project was for and funded by Telenor.  
*The project involved international co-operation with researchers in Norway, The Netherlands, Denmark, and USA.*

#### 1992-1994: Doctoral Thesis (Operations Research)

"*On a flexible model for New Zealand's hydro-thermal electricity generation system,*" at Massey University, New Zealand. The project was for and funded by ECNZ

### PhD Supervision

1999–2003 Mark Stewart, Main supervisor. Mark was awarded his PhD in 2003.

"Processing capacity investment in Telecommunications and the Internet."

1995–1998 Asgeir Tomasgard, Second supervisor. Asgeir was awarded his PhD in 1998.

"*Aspects of Service Provision and Distributed Processing in a Telecommunications Network.*"

### Received the Kuhn Award in 2006 for best paper in Naval Research Logistics.

Referee for: *Mathematical Programming,*  
*Annals of Operations Research,*  
*Journal on Computing,*  
*European Journal of Operations Research,* and  
*Asia-Pacific Journal of Operational Research.*

Membership of academic and professional societies:

- Member INFORMS.
- Member MPS.
- Member of the council of the ORSNZ. (Operations Research Society of New Zealand).

Member of the organisation committee for ORSNZ '01 (the 2001 conference for the ORSNZ)

Chair of the organisation committee for ORSNZ '06 (the 2006 conference for the ORSNZ)

## **Ongoing Research**

- Stochastic programming
  - Solution algorithms
  - Mathematical modelling especially those involving uncertainty
- Stochastic integer programming
  - Heuristics for combinatorial problems involving uncertainty
- Real world optimisation models
  - Telecommunications applications especially service provision
  - Electricity models

## **Publications**

### **Refereed published papers**

1. Dye, S., Stougie, L. and Tomasgard, A., “The stochastic single resource service-provision problem.” *Naval Research Logistics*, v50, no. 8, December 2003: 869-887.  
**This paper received the Kuhn award in 2006.**
2. Dye, S., Stougie, L. and Tomasgard, A., “Approximation algorithms and relaxations for a service provision problem on a telecommunication network.” *Discrete Applied Mathematics*, v129, no.1, 15 June 2003: 63-81.
3. Dye, S., Tomasgard, A. and Wallace, S.W., “New aspects of service provision and technology strategies in telecommunications.” *Elektronikk* v94no3/4, 1998: 67–73.
4. Tomasgard, A., Audestad, J.A., Dye, S., Stougie, L., van der Vlerk, M., Wallace, S.W. “Aspects on modelling in distributed telecommunication networks.” *Annals of Operations Research*, v82, 1998: 161–184.
5. Dye, S., Tomasgard, A. and Wallace, S.W., “Feasibility in transportation networks with supply eating arcs.” *Networks*, v31, 1998: 165–176.

### **Books**

1. Dye S. On a flexible model for New Zealand’s hydro-thermal electricity generation system. Ph.D. Thesis, 1994.

### **Chapter in books**

1. Dye, S. Chance-constrained optimisation. *The Informed Student Guide to Management Science*, 2002: 53–54, eds Daellenbach, H. G. and Flood, R. L., Thompson.
2. Dye, S. Dynamic programming. *The Informed Student Guide to Management Science*, 2002: 101–102, eds Daellenbach, H. G. and Flood, R. L., Thompson.
3. Dye, S. Networks. *The Informed Student Guide to Management Science*, 2002: 194–195, eds Daellenbach, H. G. and Flood, R. L., Thompson.
4. Dye, S. Recourse programming. *The Informed Student Guide to Management Science*, 2002: 223, eds Daellenbach, H. G. and Flood, R. L., Thompson.
5. Dye, S. Stochastic mathematical programming approaches. *The Informed Student Guide to Management Science*, 2002: 263–264, eds Daellenbach, H. G. and Flood, R. L., Thompson.

### **Non-refereed published works**

1. Dye, S., Tomasgard, A. and Wallace S. W., “Two-stage service provision by branch and bound.” *Procs. 35<sup>th</sup> ORSNZ Conference*, Wellington, New Zealand, 2000: 221–7.
2. Dye, S., Stougie, L. and Tomasgard, A. “Single node service provision with fixed charges.” *Procs. 1999 Fall National Conference of the Operations Research Society of Japan*, Tokyo, Japan, 1999.

3. Wallace, S.W., Dye, S. and Tomasgard, A. "Feasibility in bipartite uncapacitated networks." In *Essays in honour of Bjørn Nygreen on his 50th birthday* eds Matson, E., Tomasgard, A. Department of Managerial Economics and Operations Research, NTNU, 1996: 211–230.
4. Dye, S. "Hydro-thermal power scheduling." *Procs. 30<sup>th</sup> ORSNZ Conference*, Palmerston North, New Zealand, 1994: 56–61.
5. Dye, S. "A generalized network model for hydro scheduling. The deterministic formulation." *Procs. Optimal Generation Scheduling, ECNZ Workshop*, Wellington, New Zealand, 1993.

### **Conference Presentations**

1. Dye, S., "Subtree decomposition for multistage stochastic programs." *Dagstuhl workshop 05031 — Algorithms for Optimization with Incomplete Information*, Schloss Dagstuhl, Germany, 2005.
2. Dye, S., "Subtree decomposition for multistage stochastic programs." *18<sup>th</sup> International Symposium on Mathematical Programming*, Copenhagen, Denmark, 2003.
3. Dye, S., "Rostering theatre sessions for clinicians." *37<sup>th</sup> ORSNZ Conference*, Auckland, New Zealand, 2002.
4. Dye, S., Meaclem, D., Mytton, B. and Raffensperger, J.F., "A stochastic programming model for planning road maintenance under uncertainty." *9<sup>th</sup> International Conference on Stochastic Programming*, Berlin, Germany, 2001.
5. Dye, S., Stougie, L., Tomasgard, A., van der Vlerk, M., Wallace, S.W. "Heuristics for a stochastic service provision problem in telecommunications." *8<sup>th</sup> International Conference on Stochastic Programming*, Vancouver, Canada, 1998.
6. Dye, S., Audestad, J.A., Stougie, L., Tomasgard, A., van der Vlerk, M., Wallace, S.W. "A new telecommunication service provision model." *33<sup>rd</sup> ORSNZ Conference*, Auckland, New Zealand, 1998.
7. Dye, S., Tomasgard, A. and Wallace, S.W. "Solving recourse problems with binary first stage using branch and bound." *16<sup>th</sup> International Symposium on Mathematical Programming*, Lausanne, Switzerland, 1997.
8. Dye, S., Tomasgard, A. and Wallace, S.W. "Service location in intelligent networks." *Procs. Fourth Meeting of the Nordic Section of the Mathematical Programming Society*, Aarhus, Denmark, 1996.
9. Dye, S., Tomasgard, A. and Wallace, S.W. "Service location in intelligent networks: Solving the deterministic case." *INFORMS Washington, D.C., U.S.A.*, 1996.
10. Dye, S., Tomasgard, A. and Wallace, S.W. "Using stochastic programming in telecommunications." *Procs NSF/IFIP Workshop on Stochastic Programming and Applications*, Tucson, Arizona, U.S.A., 1996.
11. Dye, S. "Developing a flexible stochastic model for scheduling New Zealand's hydro-thermal electricity generation." *7<sup>th</sup> International Conference on Stochastic Programming*, Nahariya, Israel 1995.
12. Dye, S. "Hydro-thermal power scheduling in New Zealand." *15<sup>th</sup> International Symposium on Mathematical Programming*, Ann Arbor, Michigan, U.S.A., August 1994.

### **Other works**

Co-editor of "*Essays in honour of Bjørn Nygreen on his 50th birthday.*"