

Richard Buckland

Honours and Awards

- Carrick Teaching Excellence Award \$25,000 (2007)
- The 2007 Australasian Association of Engineering Education Teaching Excellent Award (2007).
- UNSW Faculty of Engineering Teaching Excellence Award (Team teaching) (2007)
- Australian College of Educators Quality Teaching Award (2006)
- National Teaching Citation (Carrick) \$10,000 (2006)
For inspirational teaching in Computer Science that rekindles students' childhood love of learning and communicates the joy of creative and rigorous thinking.
- UNSW Vice-Chancellor's Award for Teaching Excellence \$7,500 (2005)
- Inaugural UNSW Faculty of Engineering Teaching Excellence Award \$5,000 (2004)
- Syntax Error in Haskell (awarded by disrespectful students) \$0 (2003)
- Microsoft Research Fellowship (\$20,000 p.a.) (1992–1995)
- Australian Postgraduate Research Award (priority level) (1992–1995)
- University Medal in Computing (1991)
- MLC Undergraduate Scholarship — 3 years (\$10,000 p.a.) (1984–1986)

Qualifications

- Certificate of Teaching in Higher Education, Macquarie University (1997)
- Bachelor of Science with First Class Honours and University Medal, Macquarie University (1991)
- Fellow of the Institute of Actuaries of Australia (FIAA) (1990)
- Bachelor of Economics, Macquarie University (1987)

Selected Invited Addresses

- *Helping others help others*, Abbotsleigh, 2008.
- *The new role of scientists in society*, 2007 Siemens Science Experience.
- *Creative minds, a taste of Engineering*, Abbotsleigh, 2007.
- *Be skeptical, rejoice!*, Valedictory Address, Redham House, November 2006.
- *53 Ways To Improve Your Large Class Teaching (or: How I Learned to Stop Worrying and Love the Job)*, UNILT UNSW, 2006.
- *What is Science? Is Computer Science Science?*, 2006 Siemens Science Experience.

- *Facts and Quotes and Learning by Doing*, Opening address at Robocup 2006 Grand Final
- *Robotics in Education*, Opening address at Robocup 2006 NSW Finals
- SRITEC 2005: *Wikis for collaborative note taking*
- Assorted guest lectures at Standford, Cambridge, Imperial College London, University of Sussex, Sydney University, University of Calgary.
- Graduation Addresses at The University of New South Wales and Macquarie University.
- Several hundred guest lectures on mathematics and computing at high schools in NSW and Tasmania.

Professional Experience

- Lecturer/Senior Lecturer in Computing and Security, University of New South Wales (1997-)
- Lecturer, School of Mathematics, Physics, Computing and Electronics, Macquarie University (1995–1996)
- Microsoft Research Fellow (1992-1995)
- Consulting Actuary, Towers Perrin Sydney (1989–1992)
- Business Systems Analyst, MLC Life (1987–1989)

Panels and Committees

- International Assessor for Teaching Quality Awards City University Hong Kong (2008)
- Referee for Australia College of Educators Quality Teaching Award (2007)
- SRITEC '06 Organising Committee (2006)
- Faculty of Engineering Teaching and Learning Review Panel (2006)
- Chair, School of CSE Syllabus Review Committee (2005)
- NSW Board of Studies Academic Reviewer (SDD and IPT subjects) (2005)
- School of CSE Teaching Committee (1997-2006)
- Chair, The National UNSW High Schools Programming Competition (1998-2004)
- HSC Computing Studies Examination Committee (1999)
- Program Committee AMAST'97 (Algebraic Methodology and Software Technology) (1997)
- Syllabus Committee and Examination Committee for Institute of Actuaries of Australia (1992)

Expertise

- Education - helping young minds develop and choose to aim for the stars
- Security Engineering - human fallibility and frailty
- Computer and Network Security, Cybercrime, Cyberterror
- Cryptography and Online Election protocols
- Algorithm Analysis and Design

- Pure Mathematics and Category Theory

Teaching Experience

- Taught at The University of New South Wales (1997–present)
 - Lecturer in charge of 2-4 courses each year. Class sizes: 80-600.
- Designed course and taught maths enrichment to gifted grade 6 students (2004--2007), to grade 1 students (2005)
- Designed, ran, and taught at various summer and winter schools for high school students at UNSW (1999–2003)
- Taught and mentored gifted students and students with learning difficulties at SCECGS Redlands (1995–2000)
- Lectured in Computer Science at Macquarie University (1995–1996)
- Tutor in Computing, Mathematics, Statistics at Macquarie University (1990–1994)
- Tutor for students with mathematical and language difficulties at the Macquarie Numeracy Centre (1994)
- Guest lecturer in Actuarial Studies at Macquarie University (1994)
- Lectured and set exam for the Fellowship examinations of the Institute of Actuaries of Australia (1992)
- Tutored and marked exam for the Fellowship examinations of the Institute of Actuaries of Australia (1991)

Publications

- *On the specification of Higher Dimensional Automata* R Buckland, M Johnson, D Verity. ENTCS, 2002
- *An experiment in teaching computer science by borrowing teaching techniques from other disciplines* In Ed. C. Rust., Improving Student Learning through the Disciplines. Oxford Centre for Staff & Learning Development. M Adams, R Buckland, 2000
- *Can we improve teaching in Computer Science by looking at how English is taught?* R. Proceedings of the Second Australasian Conference on Computer Science Education, pages 155–162. ACM Press, 1997
- *Choice as a first-class citizen* R Buckland, Microsoft Research Report 95-03, Microsoft Research Institute 1996
- *ECHIDNA: A System for Manipulating Explicit Choice Higher Dimensional Automata* R Buckland, M Johnson. Lecture Notes In Computer Science, Proceedings of the 5th International Conference on Algebraic Methodology and Software Technology table of contents pages 587–590, Springer-Verlag, London, UK, 1996
- *Explicit Choice Higher Dimensional Automata, Omega-Multigraphs, and Process Algebra Operations* R. Buckland, M. Johnson. Proceedings of ISLIP'95, 1995.
- *Modelling Algebraic Structures with Prolog* R Buckland. CANT '95 Proceedings of the International Conference on Computational Algebra and Number Theory 1995
- *The Capital Asset Pricing Model* R. Buckland. Investment Theory. The Institute of Actuaries of Australia (1993)

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