University of Auckland
Standard

ACADEMIC CV

20 August 2018

THE UNIVERSITY OF AUCKLAND
NEW ZEALAND

NAME: **Gerard B Rowe**

CURRENT POSITION: **Deputy Dean (Academic) Faculty of Engineering and Professor (Electrical and Computer Engineering)**

DEPARTMENT: **Electrical and Computer Engineering**

FACULTY: **Engineering**

EDUCATIONAL QUALIFICATIONS:

1979 University of Auckland, BE (First Class Honours)
1981 University of Auckland, ME (Distinction)
1985 University of Auckland, PhD

PREVIOUS APPOINTMENTS:

The University of Auckland)

1 May 1984 - 31 January 1985	Temporary Lecturer
1 February 1985 - 31 January 1995	Lecturer
1 February 1995 - 31 January 2000	Senior Lecturer
1 February 2000 –31 January 2012	Senior Lecturer Above Bar
1 February 2013 – 31 January 2018	Associate Professor
1 February 2018 – Present	Professor

Leave Taken 2002 Special Leave (to work on R&D for hi-tech start-up Company)
2007 Sabbatical Leave

SIGNIFICANT DISTINCTIONS / AWARDS:

Research Awards

1993 **IEE Electronics Letters Premium**
1993 **New Zealand Electronics Institute (NZEI) prize** for the best technical paper presented at NELCON 93

Teaching Awards

2005 **Australasian Association for Engineering Education Award** for Excellence in Engineering Education (in the Teaching and Learning category).
2004 **National Tertiary Teaching Excellence Award** (for Sustained Excellence in Teaching)
2003 University of Auckland**Teaching Excellence Award** (for Sustained Excellence in Teaching)
2003 **School of Engineering Teaching Award for Excellence in undergraduate teaching**
1997 University of Auckland**Distinguished Teaching Award**
1992 University of Auckland**Distinguished Teaching Award**
13 **Faculty of Engineering Merit Awards for undergraduate teaching of high quality** 1990-91, 1993-96, 1998-2001, 2004-2006
2008, 2017 **Faculty of Engineering Students' Choice Top Teacher Award**

PROFESSIONAL SOCIETIES / SERVICE / OTHER ACTIVITIES:

Summary

My Service experience is extensive, involves high levels of responsibility and has had a significant impact on teaching and learning within my department. Over the last 34 years I have accumulated extensive academic administrative experience at Departmental, Faculty and University levels, as detailed below.

Departmental

Deputy HOD (Academic) (September 2002-December 2006)
Former member of Departmental Executive Committee
Director of Teaching and Learning
Former Chair - Departmental Academic Committee
Former Chair Departmental Curriculum and Programme Committee
Former Member Departmental Staffing Committee
Coordinator of Departmental Teaching Duties.
Former Coordinator of Final Year Projects.
Former member Departmental Publications Committee
Former Organiser, Departmental Research Seminar Program.
Former Convener, Departmental Appointments Committee.
Former Academic Liaison Person for Radio Systems Laboratory.
Former Member Departmental Development Committee.

Faculty

Deputy Dean (Academic) 1 February 2017 to present
Associate Dean (Teaching and Learning) 2011 to 31 January 2017
Chair of Faculty Accreditation Committee 2010-2011
Chair, Faculty Teaching Academy – from Jan. 2006 to 2010.
Member (and former Chair) Faculty Teaching and Learning Quality Committee
Member of Academic Programmes Committee
Chair of Faculty Library Committee - from July 1992 to February 1998.
Member (and former Chair) Faculty Timetable Committee
Former member of Faculty Degree Restructuring Committee
Departmental Representative on Faculty Committee on Student Report Writing.
Departmental Representative on Faculty Audio Visual Committee.

University

Member of University Senate
Faculty representative on University Senate
Faculty representative on Education Committee
Former Faculty representative on the University Teaching and Learning Quality Committee
Former University TLQ committee representative on the Faculty of Education Teaching and Learning Quality Committee
Former member of University Teaching Awards Committee
Former member of University Lecture Recording Committee
Former Departmental Representative on the Mathematics Education Subcommittee of the Board of Studies for Mathematical and Information Sciences.

National and International

NZ Council of Engineering Deans representative on the NZ Board of Engineering Diplomas
Former Treasurer (and Executive Committee member) Australasian Association for Engineering Education

Reviewer for Refereed Journals / Conferences

I have acted as a Referee for the following journals / refereed conferences:

- Australasian Journal of Engineering Education
- Australian Communications Theory Workshop
- Annual Conference of the American Society for Engineering Education (ASEE)
- Annual Conference of the Australasian Association for Engineering Education (AAEE)

- Annual Conference of AEESEAP
- Annual Conference of the IEEE Vehicular Technology Society
- Annual IEEE/ASEE Frontiers in Education Conference (FIE)
- Annual Workshop on Scenarios for Network Evaluation Studies (SCENES)
- Annual Asia-Pacific Conference on Communications
- (Elsevier) Journal of Pervasive and Mobile Computing
- IEEE Communications Magazine
- IEEE Transactions on Vehicular Technology
- IET Electronics Letters
- IET Proceedings on Microwaves, Antennas and Propagation
- IET Proceedings on Communications
- International Journal of Communications, Network and System Sciences
- International Journal of Learning Technology (IJLT)

Contributions to the Engineering Profession
I am a member of the following professional societies.
IET (**MIET**)
IEEE (**MemIEEE**)
EngNZ (**CMEngNZ**)
Australasian Association for Engineering Education
American Society for Engineering Education
Society for Teaching and Learning in Higher Education

I have served in the following capacity for the professional societies to which I belong:

(1) Secretary/Treasurer of IEEE New Zealand North Section. (IEEE: Institute of Electrical and Electronics Engineers - a multi-national Engineering Institution based in the USA.).

(2) IEEE representative on Auckland Section Management Committee of IPENZ Electro-Technical Group. (IPENZ: Institute of Professional Engineers New Zealand Inc.).

(3) Programme Committee Chair for the Annual Conference of the Australasian Association for Engineering Education, Auckland, 2006.

(4) Member of Technical Programme Committee for the Annual Conference of the Australasian Association for Engineering Education, Melbourne, Australia, 2007.

(5) Member of the Executive Committee of the Australasian Association for Engineering Education

(6) Member of judging panel for annual AAEE Teaching Excellence Awards

I have served as a member of the Electrotechnology Advisory Group for the National Diploma in Engineering. (Initially I served as an alternate for the NZVCC representative on this committee, but ultimately was co-opted to the committee itself.) The Advisory Group consists of representatives from Industry, NZQA and the Tertiary Sector.

I also serve as a consultant to industry (via UniServices)

TEACHING:

Taught Courses
Since first appointed in May 1984 I have taught papers **at all levels** currently taught within the Department of Electrical and Computer Engineering: namely Years 1,2,3 and 4 of the BE degree and Post-Graduate papers at ME/PhD level. The subjects taught (detailed below with typical enrolment numbers in brackets) include not only papers for Electrical Engineering students but also service courses for other Engineering Departments.

50.003	*(60)*	Engineering and Society (*Guest Lecturer)*
50.201	*(350)*	General Studies II (*Guest Lecturer)*
53.111	*(150)*	Electrical Engineering 1G
53.141	*(100)*	Engineering Electromagnetics
53.204	*(100)*	Electrical Engineering Design
53.251	*(120)*	Transmission Lines and Fields
53.303	*(50)*	Advanced Electrical Engineering B
53.311	*(30)*	Applied Electricity
53.321	*(70)*	Applied Network Synthesis
53.363	*(70)*	Radio Systems
53.401	*(10)*	Studies in Electrical and Electronic Engineering A
53.452	*(10)*	VHF and UHF Radio Communication
ELECTENG 101	*(860)*	Electrical and Digital Systems
ELECTENG 204	*(170)*	Engineering Electromagnetics I
ELECTENG 210	*(130)*	Electronics 1
ELECTENG 302	*(130)*	Engineering Electromagnetics II
ELECTENG 306	*(12)*	Transmission Lines and Systems
ELECTENG 307	*(71)*	Transmissions Lines and Systems
ELECTENG 421	*(85)*	Radio Systems
ELECTENG 701	*(30)*	Wireless Communication
ELECTENG 702	*(20)*	Applied Electromagnetics
ELECTENG 711	*(3)*	Studies in Electrical & Electronic Engineering D
SOFTENG 364	*(40)*	Computer Networks

In addition almost all members of the Departmental Academic Staff supervise final year students enrolled in **ELECTENG 401/701) Project in Electrical Engineering.** Over the period 1984-2018 I have supervised **170** final year Honours Research Project students.

In addition to my undergraduate and postgraduate teaching, I also have significant experience of postgraduate research supervision, having supervised 54 postgraduate students. The details of the postgraduate students I have supervised are provided in the appendix.

RESEARCH SPECIALTIES / CAREER:

Summary Statement:
My research interests lie in the areas of radio systems, electromagnetics, bioelectromagnetics, communications and engineering education. Within the areas of **radio systems and electromagnetics**, my research is concentrated on developing improved techniques for prediction of mobile radio path loss, on multiple obstacle diffraction loss modelling, on improvements in physical layer modelling of mobile ad hoc networks and on weak signal detection including its application in cognitive radio systems. Within the area of **bioelectromagnetics**, my research interests are concerned with evaluation of aspects of the New Zealand Radio Frequency (RF) Safety Standard, with the interaction between weak (non-thermal) electromagnetic fields and biological tissue and in the therapeutic and diagnostic applications of electromagnetic fields. Within the area of **engineering education** my research is centred on identification of threshold concepts in electrical engineering, in the development of intelligent tutoring systems, the secondary-to-tertiary transition, the impact of peer-marking, improved academic performance for at-risk students, improved diagnostic instruments, identifying strategies for acquainting academic staff with better teaching pedagogies and investigation of student learning styles.

APPENDIX - Details of Publications, Invited Lectures, Grants and Research Supervision

Research Publications:

Refereed Journals

(1) Rowe, G.B., Williamson, A.G. and Egan, B. "Mobile Radio Propagation in Auckland at 465MHz", *Electronics Letters, Vol. 19*, 1983, pp 207-208.

(2) Rowe, G.B., Williamson, A.G. and Egan, B. "Variability of Mobile Radio Path Loss in Auckland at 465MHz", *Electronics Letters, Vol. 19*, 1983, pp 588-589.

(3) Rowe, G.B., Williamson, A.G. and Egan, B. "Mobile Radio Propagation in Auckland at 76MHz", Electronics Letters*, Vol. 19, 1983*, pp 1064-1065.

(4) Rowe, G.B. and Williamson, A.G. "Mobile Radio Propagation in Auckland at 851MHz", *Electronics Letters, Vol. 22*, 1986, pp 1154-1155.

(5) * Neve, M.J. and Rowe, G.B. "Assessment of GTD for Mobile Radio Propagation Prediction", *Electronics Letters, Vol. 29*, pp 618-620, April 1993.

(6) * Neve, M.J. and Rowe, G.B. "Estimation of Cellular Mobile Radio Planning Parameters Using a GTD-Based Model", *Electronics Letters, Vol. 29*, pp 1372-1374, 1993.

(7) Neve, M.J. and Rowe, G.B. “Contributions Towards the Development of a UTD-Based Model for Cellular Radio Propagation Prediction”, *IEE Proceedings on Microwaves, Antennas and Propagation, Vol. 141*, 1994, pp 407-414.

(8) Neve, M.J. and Rowe, G.B. “Mobile Radio Propagation Prediction in Irregular Cellular Topographies Using Ray Methods*”, IEE Proceedings on Microwaves, Antennas and Propagation, Vol. 142, 1995*, pp 447-451.

(9) Neve, M. J., Rowe, G. B., Shafi, M., Sowerby, K. W. and Williamson, A. G. “Wireless Personal Communications Services: A New Zealand Perspective”, *IEEE Personal Communications Magazine (Special Issue on Personal Communications Services in the Far East.), Vol. 4, No. 2*, April 1997, pp 22-29.

(10) Perera, S. C. M., Williamson, A. G. and Rowe, G. B. “Prediction of Breakpoint Distance in Microcellular Environments”, *Electronics Letters*, Vol. 35, 1999, pp 1135-1136.

(11) Zang, L.F. and Rowe, G.B. “Improved modelling for mobile Ad-hoc networks”, *Electronics Letters, 43, (21)*, pp 1156-1157, 2007.

(12) Austin, A. C. M., Neve,M. J., Rowe, G. B. and Pirkl, R. J. “Modelling the effects of nearby buildings on inter-floor radio-wave propagation,” *IEEE Transactions on Antennas and Propagation*, *57*, *(7)*, pp 2155-2161, 2009.

(13) Dahama, R., Sowerby, K. W. and Rowe, G. B. “Protection regions for dynamic spectrum sharing”,Electronics Letters,Vol. 46, 2010, pp 1407-1408

(14) Austin, A.C.M; Neve, M.J; Rowe, G.B. 'Modelling Propagation in Multi-Floor Buildings using the FDTD Method'. *IEEE Transactions on Antennas Propagation, 59, (11),* pp 4239-4246, 2011.

(15) Taylor, P.S., Austin, A.C.M., Parker, E.A., Neve, M.J., Batchelor, J.C., Yiin, J.T., Leung, M., Rowe, G.B., Williamson, A.G. and Sowerby, K.W. ‘Angular Independent Frequency Selective Surfaces for Interference Control in Indoor Wireless Environments’, *Electronics Letters, 48, (2),* Jan. 2012.

(16) Smaill, C.R., Rowe, G.B., Godfrey, J.E. and Paton, R. “An investigation into the understanding and skills of first-year electrical-engineering students”. *IEEE Transactions on Education, 55, (1),* pp 29-35, Feb. 2012.

(17) Robinson, K., Friedrich, H., Kirkpatrick, R., Nicholas, C. & Rowe, G. “A template for change? De-risking the transition to CDIO”, *Australasian Journal of Engineering Education*, Vol. 19, No. 1, pp. 39-49, 2013 http://dx.doi.org/10.7158/D12-019.2013.19.1.

(18) Dahama, R., Sowerby, K. W. and Rowe, G. B. "Estimating Protection Distances in Spectrum Sharing Systems", *IEEE Transactions on Signal Processing*, Vol. 61, No. 17, pp 4284-4295, September 2013, DOI 10.1109/TSP.2013.2269901.

(19) Bhatti, F.A., Rowe, G.B.,Sowerby, K.W and da Silva, R. C. M. “Blind Signal Detection using a Linear Antenna Array: An Experimental Approach”, *IEEE Transactions on Vehicular Technology*,Vol. 63, No. 3, pp 1135-1145, March 2014, DOI 10.1109/TVT.2013.2269870.

(20) Tian, J., Berber, S. and Rowe , G.”Error performance of chaotic spreading spectrum systems in frequency selective fading channels for WSNs”, I-manager’s Journal on Communication Engineering and Systems, 4(3):1-8, October 2015

(21) Tian, J., Berber, S. and Rowe , G. “Energy Efficient Cooperation with Chip-Interleaved Transceivers in WSNs Over Frequency-Selective Fading Channels”, *Wireless Personal Communications,* 21 pages, February 2017, DOI 10.1007/s11277-017-4033-6

(22) Tian, J., Berber, S. and Rowe, G. “Modelling, analysis and performance evaluation of DSSS-based communications in WSNs over frequency-selective fading channels”. *Int. J. Wireless and Mobile Computing, Vol. 12, No. 3,* 2017

(23) Tian, J., Berber, S. and Rowe , G. “Performance Analysis of Energy Efficient Co-operations in WSNs over Frequency-selective Channels", Wireless Networks, March 2017, DOI 10.1007/s11276-017-1495-0.

** For these two papers we were awarded the IEE Electronics Letters Premium.*

Book Chapters

Farrukh A. Bhatti, Gerard B. Rowe and Kevin W. Sowerby, “Spectrum Sensing using Principal Components for Multiple Antenna Cognitive Radios”. Chapter 7 in Handbook of Research on Software-Defined and Cognitive Radio Technologies for Dynamic Spectrum Management, IGI Global. (Date of acceptance 19 December 2014)

Patents

(1) European Patent Number EP1706748 A1-2006-10-04, “A power line communication system and an intelligent meter”, Applicant: Pulse Utilities Ltd, Inventors: S A Abbot, J R Futter, J L A Martin, G B Rowe, R C Huso

Conference Publications

(1) Blomfield, D.A.E. and Rowe, G.B. "Research in UHF Techniques in the Department of Electrical Engineering at the University of Auckland", UHF Radio Techniques Symposium, Auckland, Dec. 1980.

(2) Rowe, G.B. "Principles of Radio Propagation at UHF", UHF Radio System Design Seminar, University of Auckland, August 1981.

(3) Rowe, G.B. "Point-to-Point System Design", UHF Radio System Design Seminar, University of Auckland, August 1981.

(4) Rowe, G.B. "Mobile Radio Propagation Studies in Auckland", VHF and UHF Radio Systems Symposium, Auckland, 27-28 Nov., 1986.

(5) Rowe, G.B. "Prediction of Mobile Radio Path Loss", Proc. 24th National Elect. Conference, NELCON 87, Auckland, Sept. 1987.

(6) Rowe, G.B. "Prediction of Signal Strength in Mobile Radio Systems", IREECON'87 Conference Digest, Sydney, Sept. 1987.

(7) Rowe, G.B. "Digital Transmission Over Mobile Radio Paths", Proc. 25th National Electronics Conference, NELCON 88, Christchurch, Sept. 1988.

(8) Rowe, G.B. "An Electromagnetic Model Of The Mobile Radio Channel", Proc. 26th National Electronics Conference, NELCON 89, Wellington, Sept. 1989.

(9) Neve, M.J. and Rowe, G.B. "Wideband UHF Mobile Radio Propagation Studies", Proc. 26th National Electronics Conference, NELCON 89, Wellington, Sept. 1989.

(10) Neve, M.J. and Rowe, G.B. "Wideband Radiowave Propagation Applicable to Future Cellular Telephone Systems", Proc. Communications '90, Melbourne, October 1990.

(11) Neve, M.J. and Rowe, G.B. "An Investigation into Wideband Radiowave Propagation Applicable to Second and Third Generation Cellular Telephone Systems", Proc. ICCS'90, Singapore, November 1990.

(12) * Neve, M.J. and Rowe, G.B. "Assessment of Ray-Methods for Mobile Radio Propagation Prediction", Proc. 30th National Electronics Conference, NELCON 93, Auckland, May 1993.

(13) Rowe, G.B., Redgrove, M.R. and Reddy, K.V.S. “Review of Bioelectromagnetics Studies at the University of AucklandSchool of Engineering”, Proc. Annual Conference (New Zealand Branch) AustralasianCollege of Physical Scientists and Engineers in Medicine, Auckland, November 1993.

(14) Neve, M.J. and Rowe, G.B. "Personal Wireless Communications: A Challenge in Radiowave Propagation Modelling", Proc. ICCS'94, Singapore, November 1994, pp 10-14.

(15) Neve, M J, Rowe, G B, Sowerby, K W and Williamson, A G, “Mobile radio systems research at the University of Auckland”, *Proc. ENZCon `95, Auckland, August 1995,* pp 89-94.

(16) Neve, M J, Rowe, G B, Sowerby, K W and Williamson, A G, “Radiowave propagation prediction for personal communications services: what do we need to know?”, *Proc. ENZCon `95, Auckland, August 1995,* pp 95-100.

(17) Reddy, K V S and Rowe, G B, “Investigation of MWM Technique for microstrip antenna design”, *Proc. ENZCon `95, Auckland, August 1995,* pp 115-120.

(18) Redgrove, M R and Rowe, G B, “The use of the finite-difference time-domain method to predict power deposition patterns in the human body”, *Proc. ENZCon `95, Auckland, August 1995,* pp 121-126.

(19) Reddy, K V S and Rowe, G B, “Investigation of MWM technique for Hyperthermia applicator design”, *Proc. Eng. & Physics in Medicine 95, Queenstown, November 1995,* pg 85.

(20) Neve, M. J., Rowe, G.B., Sowerby, K. W. and Williamson, A. G. “On the Investigation of Radiowave Propagation Mechanisms for Future Wireless Communications Services Planning”, *Proc. IEEE VTC’96 Conference, Atlanta, April 1996,* pp 615-619.

(21) Perera, S.C.M., Rowe, G.B. and Williamson, A.G. “Break Point Analysis in Microcellular LOS Environments”, *Proc. NZ Communications Workshop,*Wellington, May 1997.

(22) Chew, D. F., Rowe, G. B. and Sowerby, K. W. “Mobile Radio Propagation Modelling Using Regression Analysis”, *Proc. IPENZ National Conference*, Auckland, February 1998, Volume 2, pp 155-160.

(23) Rowe, G. B. “Breaking the Mould – Curriculum Design for an Uncertain World”, Proceedings AEESEAP2004, pp 22-26, Albany, December 2004.

(24) Rowe, G. B. “Maintaining Teaching Quality in a Research-Focussed University”, Proceedings Annual Conference of the Society for Teaching and Learning in Higher Education, Charlottetown, Canada, June 2005.

(25) Godfrey, J. E and Rowe, G. B. “Teaching 101 – post PBRF”, Proceedings of the 17th Annual Conference of the Australasian Association for Engineering Education, Auckland, December 2006.

(26) Chiang, R. I. C., Rowe, G. B. and Sowerby, K. W. “A Quantitative Analysis of Spectral Occupancy Measurements for Cognitive Radio”, Proceedings of the 65th IEEE Vehicular Technology Conference, Dublin, April 2007, pp 3016-3020.

(27) Godfrey, J. E. and Rowe, G.B. “Teaching 101: Initial Conversations”, Proceedings of the Annual Conference of the American Society for Engineering Education, Honolulu, Hawaii, June 2007, 19 pgs.

(28) Rowe, G. B. and Smaill, C. R. “Work in Progress - A Web-Based System for the Delivery and Analysis of Course Concept Inventories”, Proceedings of the 37thAnnual ASEE/IEEE Frontiers in Education Conference, Milwaukee, USA, October 2007, pp F2H24-F2H25.

(29) Smaill, C.R., Godfrey, J. E. and Rowe, G.B. “The transition from final-year high-school Physics and Mathematics to first-year Electrical Engineering: A work in progress”, Proceedings of the 2007 AaeE Conference, Melbourne, Australia, December 2007, 6 pgs.

(30) Rowe, G.B. and Smaill, C.R. “Development of an Electromagnetics Course-Concept Inventory – a work-in-progress”, Proceedings of the 2007 AaeE Conference, Melbourne, Australia, December 2007, 7 pgs.

(31) Chiang, R. I. C., Rowe, G.B. and Sowerby, K. W. “HEARSAY – A Cooperative Power Control Algorithm for a Cognitive Radio Network”, 2008 Virginia Tech Symposium on Wireless Personal Communications, Blacksburg, Virginia, USA, 4-6 June, 2008.

(32) Smaill, C. R., Godfrey, J. E. and Rowe, G.B. “The transition from high-school Physics to first-year Electrical Engineering: How well prepared are our students?”, American Society for Engineering Education (ASEE) Annual Conference and Exposition, Pittsburgh, Pennsylvania, USA, June 2008.

(33) Rowe, G.B. and Smaill, C. R. “Development of an Electromagnetics course concept inventory”**,** American Society for Engineering Education (ASEE) Annual Conference and Exposition, Pittsburgh, Pennsylvania, USA, June 2008.

(34) Smaill, C. R. and Rowe, G. B., “A software tool for the web-based delivery and analysis of concept-based diagnostic tests”,European Society for Engineering Education (SEFI) Annual Conference, , Aalborg, Denmark, July 2008

(35) Austin, A. C. M., Neve, M. J. and Rowe, G. B. "ModellingInter-Floor Radio-Wave Propagation in Office Buildings",IEEE Antennas and Propagation Society International Symposium*,* San Diego*,* USA, July, 2008.

(36) Chiang, I., Rowe, G.B. and Sowerby, K.W. “Investigating Channel Effects on the Spectral Gains for Cognitive Radio”, 2008 Electronics New Zealand (ENZCON) Conference, Auckland, New Zealand, November, 2008

(37) Godfrey, J.E., Smaill, C.R. and Rowe, G.B. “Be prepared! How ready are our students for first year Engineering?”, New Zealand Association for Research in Education (NZARE) National Conference, Palmerston North, New Zealand, November, 2008

(38) Neve, M.J., Austin, A.C.M., Lai, C., Rowe, G.B., Williamson, A.G. and Sowerby, K.W. “Electromagnetic Propagation in Structures and Buildings - Research at The University of Auckland”, The Institution of Engineering and Technology Seminar on Electromagnetic Propagation in Structures and Buildings, London, December, 2008.

(39) Smaill, C.R., Rowe, G.B. and Godfrey, J.E. “What do they know? An entry-level test for electricity”, Australasian Association for Engineering Education (AAEE) Annual Conference, Yeppoon, Queensland, Australia, December, 2008.

(40) Austin, A. C. M., Neve, M. J. and Rowe, G. B., “Modelling RF propagation in buildings using the FDTD method,” in 11th Australian Symposium on Antennas, 17–19 Feb 2009.

(41) Dahama, R., Sowerby, K. W. and Rowe, G. B. “Outage Probability Estimation for Licensed Systems in the Presence of Cognitive Radio Interference”.*IEEE Vehicular Technology Conference, Spring 2009*, *Barcelona*, *26-29 April*, *2009*.

(42) Austin, A. C. M., Neve, M. J. and Rowe, G. B. “Modelling interference for indoor wireless systems using the FDTD method,”*IEEE Antennas and Propagation Society International Symposium/USNC/URSI National Radio Science Meeting*, *Charleston*, *1-5 June*, *2009*

(43) Smaill, C. R., Godfrey, J. E. and Rowe, G.B. “How much do they really understand? An entry-level test for electricity and electromagnetics,”*American Society for Engineering Education Annual Conference and Exposition*, *Proceedings of the 116th ASEE Annual Conference and Exposition*, *Austin, Texas, USA*, *14-17 June*, *2009*

(44) Rowe, G.B., Smaill, C.R., Godfrey, J.E., Carter, L.J., Guillemin, B.J., Andrews, M., Abdulla, W.H.'Dealing with the Tail: Remedial Tutorials for Second-year Electrical-engineering Students', *Australasian Association for Engineering Education Annual Conference*, *Proceedings of the 20th Annual AAEE Conference*, *Adelaide, Australia*, *6-9 December*, *2009.*

(45) Dahama R, Sowerby KW, Rowe GB “Adjacent channel operation of portable unlicensed devices inside DTV service contours”, *IEEE Wireless Communications and Networking Conference, WCNC 2010, Sydney, Australia,* 18-21 April 2010.

(46) Austin, A.C.M; Neve, M.J; Rowe, G.B. 'Developing Indoor Propagation Models from 3D FDTD Simulations', *IEEE Antennas and Propagation International Symposium /USNC/URSI National Radio Science Meeting, Toronto, Canada,* 11 July - 17 July 2010.

(47) Paton, R., Smaill, C.R. and Rowe, G.B. “First-year engineering from the perspective of a high-school teacher.” Proceedings of the Annual Conference of the American Society for Engineering Education, Louisville, Kentucky, USA, 20-23 June 2010

(48) Rowe, G.B., Smaill, C.R., Godfrey, J.E., Carter, L.J., Guillemin, B.G., Andrews, M. and Abdulla, W. “Supplemental instruction: Foundation Tutorials for second-year electrical-engineering students”, Proceedings of the Annual Conference of the American Society for Engineering Education, Louisville, Kentucky, USA, 20-23 June 2010.

(49) Dahama, R; Sowerby, K.W; Rowe, G.B. 'Approximations for Distributions of Aggregate Interference in Spectrum Sharing Systems', *16th Asia-Pacific Conference on Communications (APCC2010), Auckland,* 31 October - 3 November 2010.

(50) Neve, M.J; Sowerby, K.W; Williamson, A.G; Rowe, G.B; Batchelor, J.C; Parker, E.A. 'Physical Layer Engineering for Indoor Wireless Systems in the Twenty-First Century', *Loughborough Antennas & Propagation Conference (LAPC), Loughborough, United Kingdom,* 8 November - 9 November 2010.

(51) Smaill, C.R., Rowe, G.B. and Carter, L.J. “Improving student learning through peer marking in a first-year engineering course”, *Australasian Association for Engineering Education Annual Conference*, *Proceedings of the 21st Annual AAEE Conference*, *Sydney, Australia*, *5-8 December*, *2010.*

(52) Smaill, C.R., Rowe, G.B. and Carter, L.J. “Peer marking – Does it really improve student learning?” Proceedings of the Annual Conference of the American Society for Engineering Education, Vancouver, Canada, June 2011.

(53) Dahama, R., Sowerby, K.W. and Rowe, G.B. “Capacity of an Unlicensed Ad Hoc Network Coexisting with a DTV Primary System”, Proceedings of the 21st Virginia Tech Symposium on Wireless Personal Communications, Blacksburg, Virginia, 1-3 June, 2011

(54) Carter, L.J., Abdulla, W., Rowe, G.B. and Smaill, C.R. “Large-class peer-marked assignments for improving second-year student performance in Electrical and Computer Engineering”, *Australasian Association for Engineering Education Annual Conference*, *Proceedings of the 22nd Annual AAEE Conference*, *Fremantle, Australia*, *December*, *2011.*

(55) Neve, M.J., Austin, A.C.M. and Rowe, G.B. “Electromagnetic Engineering for Communications in the Built Environment”,*Proceedings of the6th European Conference on Antennas and Propagation* (*EUCAP 2012), Prague, Czech Republic*, 26-30 March, 2012.

(56) Bhatti, F.A., Rowe, G.B. and Sowerby, K.W. “Spectrum Sensing using Principal Component Analysis”, *IEEE Wireless Communications and Networking Conference, WCNC 2012, Paris, France,* 1-4 April 2012*.*

(57) Smaill, C., & Rowe, G. (2012). Electromagnetics misconceptions: How common are these amongst first- and second-year electrical-engineering students? Proceedings of the Annual Conference of the American Society for Engineering Education, San Antonio, Texas, June 10-13, 2012.

(58) Smaill, C. and Rowe, G.B. “Electromagnetics: how well is it understood by first- and second-year electrical-engineering students”, Proc. Annual Conference of the American Society for Engineering Education, San Antonio, Texas, June 10-13, 2012.

(59) Keith Robinson, Heide Friedrich, Rob Kirkpatrick, Colin Nicholas, Gerard Rowe, “A Template for Change? De-risking the transition to CDIO”, *Proceedings of the 8th International CDIO Conference, Queensland University of Technology, Brisbane, July 1 - 4, 2012*

(60) Bhatti, F.A., Rowe, G.B. &Sowerby, K.W. (2012) Spectrum Sensing using Feature Vectors. The 13th International Conference on Communication Systems IEEE ICCS’12, Singapore, November, 2012

(61) Rowe, G.B., Shepherd, M.A. and Smaill, C.R. (2012) Encouraging Success – measure, mentor and engage, Electronics New Zealand National Conference, *ENZCON2012*, Dunedin, December 2012

(62) Rowe, G.B. and Smaill, C.R., "Electromagnetics: Year 1 student misunderstandings" Electronics New Zealand National Conference, *ENZCON 2013*, Auckland, September 2013

(63) Farrukh A. Bhatti, Claudio R. C. M. da Silva, Gerard B. Rowe and Kevin W. Sowerby. "On the Use of Eigenvectors for Signal Detection and Classification in Multiple Antenna Cognitive Radios", Proceedings of the 25th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications - (PIMRC), Washington D.C., USA, September 2014.

(64) Chen Wang, Gerard Rowe, Nasser Giacaman and Cathy Gunn. "An analysis of the application of intelligent tutoring systems on students' self-regulated learning development". Proceedings of the annual conference of the Australasian Association for Engineering Education, Wellington, December 2014.

(65) Roopak Sinha and Gerard Rowe "The Lecture Checklist: Inexpensively Improving Teaching Performance".Proceedings of the annual conference of the Australasian Association for Engineering Education, Wellington, December 2014.

(66) Bhatti, F. A., Da Silva, C. R. C. M., Rowe, G. B., &Sowerby, K. W. (2015). *On the use of eigenvectors for signal detection and classification in multiple antenna cognitive radios*. Presented at IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC. (753-757). doi:10.1109/PIMRC.2014.7136265

(67) Tian, J., Berber, S. and Rowe, G. "Power allocation and partner selection for energy efficient decode and forward cooperation in wideband wireless sensor networks", Proceedings of the 9th International Conference on Signal Processing and Communication Systems (ICSPCS), Cairns, Australia, December 2015, DOI 10.1109/ICSPCS.2015.7391758

(68) Tian, J., Berber, S. and Rowe, G. "Energy efficiency of decode and forward cooperation in WSNs over frequency-selective channels", Proc. 22nd IEEE Asia-Pacific Conference on Communications (APCC), Yogyakarta, Indonesia, pp 365-370, 25-27 Aug, 2016

(69) Varoy, E., Giacaman, N. and Rowe, G.B. "Enhancing Students' Conceptual UnderstandingUsing Visualisation Software and Collaboration", Electronics New Zealand National Conference, *ENZCON2016*, Wellington, November 2016

(70) Hadisantono, Rowe, G.and Giacaman, N. "Customizing the EPSA Rubric to Cover Local Curriculum Content for Assessment of Engineering Professional Skills", Proceedings of the 27thannual conference of the Australasian Association for Engineering Education, Coffs Harbour, Australia, December 2016

(71) Collis, B., Rowe, G. and Donald, C. "Fundamental concept tutorials to support first year engineering students' understandings in electric circuits", Proceedings of the 27thannual conference of the Australasian Association for Engineering Education, Coffs Harbour, Australia, December 2016

(72) Goh, Y.Z., Neve, M.J.and Rowe, G. B., "Implications of Complex Wall Structures on Indoor Wireless Systems Performance," in 15th Australian Symposium on Antennas, Sydney, Australia, 7–8 Feb 2017.

(73) Collis, B, Wang, C., Rowe, G., Rata, E. & McPhail, G. "Towards an informed course design". Proceedings of the 28th annual conference of the Australasian Association for Engineering Education, Sydney, Australia, December 2017.

(74) Collis, B, Rowe, G., Donald, C. “Redeveloping a first course in microcontrollers through the lens of educational theory”, Proceedings of the 28th annual conference of the Australasian Association for Engineering Education, Sydney, Australia, December 2017.

(75) Rowe, G., Collis, B., Wang, C, McPhail, G. and Rata, E. Depth Pedagogy and Academic Knowledge. New Zealand Association for Research in Education (NZARE) Annual Conference, Hamilton, 2017.

(76) Goh, Y.Z., Neve, M.J. and Rowe, G.B., “Effects of Complex Wall Structures on Antenna Radiation Characteristics, IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, July 2018, Boston, Massachusetts

(77) De Ruvo, G., Tempero, E., Rowe, G. B., & Giacaman, N. Understanding Semantic Style by Analysing Student Code. Accepted for presentation at ACM International Conference Proceeding Series. 10.1145/3160489.3160500, Montana, USA, December 2018

***** *This paper was awarded the New Zealand Electronics Institute (NZEI) prize for the best technical paper presented at NELCON 93.*

Invited Lectures

(1) Joint meeting of IPENZ Electrotechnology Group and Engineers for Social Responsibility (Auckland Branch) “CellphoneTowers: An Engineers View” (16 July 1998)
(2) General Studies 2 “CellphoneTowers: An Engineers View” (March 1998)
(3) ENGGEN 402 (Professional Development 4) “Risk, Responsibility and Radiation” (1 April 2004)
(4) Faculty of Engineering Promotion and Continuation Seminar (July 2004)
(5) CPD Teaching and Learning Showcase “If You Must Lecture… 2 Decades of Reflection on Lecturing Technique” (22 November 2004)
(6) CPD Introduction to Teaching and Learning “Teaching Large Classes” (17 February 2005)
(7) Faculty of Engineering Teaching Seminar (22 February 2005)
(8) ENGGEN 402 (Professional Development 4) “Risk, Responsibility and Radiation” (10 March, 2005)
(9) Faculty of Engineering Teaching Seminar “Toward Better Student Learning, Assessment and Grading” (7 July 2005)
(10) Faculty of Engineering Promotion and Continuation Seminar (22 July 2005)
(11) School of Biological Sciences Research Seminar Series “ 2 Decades of Reflection on Lecturing Technique”
(12) Department of Mathematics Special Seminar on Degree Restructuring (23 June 2005)
(13) CPD Introduction to Teaching and Learning “Teaching Large Classes” (14 February 2006)
(14) SCIGEN 101 (Communicating for a Knowledge Society: The NZ Context) “Risk, Responsibility and Radiation”, (26 May 2006)
(15) Faculty of Engineering Teaching Academy Seminar “Putting a Good Course Together”, 7 July 2006.
(16) ENGGEN 403 (Professional and Sustainability Issues) “Risk, Responsibility and Radiation” (24 July, 2006 – delivered twice as course had two streams.)
(17) Faculty of Engineering Promotion and Continuation Seminar (26 July 2006)
(18) SCIGEN 101 (Communicating for a Knowledge Society: The NZ Context) “Risk, Responsibility and Radiation”, (29 September 2006)
(19) JointSchool of Population Health – Faculty of Engineering Workshop “Dosimetry and Bio-Interaction: Outer and Inner Fields”, (17 April, 2008)
(20) Victoria University of Wellington teaching seminar, “Engineering the transition, and beyond...”, Wellington, 25 September, 2013
(21) AkoAotearoa Northern Hub Teaching and Learning Symposium, “Encouraging Success – measure, mentor and engage”, Auckland, 6 November 2013.

Technical Reports

(1) Rowe, G.B. "Evaluation of a Solar Panel as a Remote Power Source", School of Eng Report No 253, April 1981.

(2) Rowe, G.B., Williamson, A.G. and Egan, B. "Mobile Radio Propagation in Auckland at 465MHz", School of Eng Report No 302, Feb. 1983.

(3) Rowe, G.B., Williamson, A.G. and Egan, B. "The Variability of Mobile Radio Path Loss in Auckland at 465MHz", School of Eng Report No 319, Feb. 1983.

(4) Rowe, G.B., Williamson, A.G. and Egan, B. "Mobile Radio Propagation in Auckland at 76MHz", School of Eng Report No 325, Oct. 1983.

(5) Rowe, G.B. "A Land Mobile Radio Coverage Area Prediction Model for New Zealand", School of Eng Report No 354, June 1984.

(6) Perera, S.C.M., Rowe, G.B. and Williamson, A.G. “Modelling of Radio Wave Propagation In Microcellular Environments”, UniServices Report No. 6938, Prepared for Telecom New Zealand Ltd, June 1997.

(7) Williamson, A.G., Sowerby, K.W. and Rowe, G.B. “Indoor Wireless Propagation Modelling and System Capacity Estimation”, UniServices Report No 6939, Prepared for Telecom New Zealand Ltd., December 1997.

Research Grants / Funding:

(1) 141 Engineering 146, April 1985, "Cellular Radio Systems Study", AucklandUniversity Research Committee, $2,063. (Jointly with Professor A.G. Williamson.)

(2) 417.151, October 1985 "Mobile Radio Data Transmission Study", AucklandUniversity Research Committee, $5,000. (Jointly with Professor A.G. Williamson.)

(3) 391.691, August 1987, "Mobile Radio Systems Engineering", University Grants Committee, $35,000. (Jointly with Professor A.G. Williamson.)

(4) 391.698, September 1988, "Mobile Radio Systems Engineering, Phase II", University Grants Committee, $30,000. (Jointly with Professor A.G. Williamson.)

(5) 3417241, October 1990, "Wideband Channel Characterisation", AucklandUniversity Research Committee, $4,000.

(6) 3417311, April 1993, "Experimental Electromagnetic Dosimetry Studies", AucklandUniversity Research Committee, $7259.

(7) 3417363, November 1994, “Experimental Electromagnetic Dosimetry Studies”, AucklandUniversity Research Committee, $6,500

(8) 3417387, April 1995, “Linear Antenna Design and Measurement”, AucklandUniversity Research Committee, $4,500. (Jointly with Dr M J Neve.)

(9) 3417449, October 1996, “Monitoring of ELF-VLF magnetic fields professionally and environmentally encountered in NZ”, Auckland University Research Committee, $3,000. (Jointly with Dr A W Green.)

(10) 3603024 April 2003, “Characterisation of the Powerline Communications Channel”, AucklandUniversity Research Committee, $10,000. (Jointly with Dr S. Berber).

(11) University of Auckland Teaching Improvement Grant, August 2005, “Development of an OASIS Question Composer”, $8000, (Jointly with C. Smaill, JT Boys, M Andrews, C Coghill and A Bigdeli.)

(12) University of Auckland Teaching Improvement Grant, August 2006, “Development of an Electromagnetics Course Concept Inventory and an associated OASIS based delivery system”, $8000, (Jointly with C. Smaill.)

(13) Faculty Research Development Fund Grant 3609577/9273, August 2007, “The Transition from Year-13 Physics and Mathematics to the BE Part 1 Electrical Engineering Course: An Action Research Study”, $37,000 (Jointly with CR Smaill and JE Godfrey)

(14) University of Auckland Teaching Improvement Grant, August 2010, “To improve the support and retention of academically “at-risk” second-year Part II Engineering students”, $10,865, (Jointly with C. Smaill and M. Shepherd).

(15) Vice-Chancellor's Strategic Development Fund 2015, Engineering Course Design and Student Achievement ECD+SA”, $94,000 (Jointly with E Rata, Graham McPhail, Bill Collis and Chen Wang)

(16) FRDF 2015 “Improving software quality with automatic detection of violations in best coding practices”, $160,000, (PI Nasser Giacaman, AIs Andrew Luxton-Reilly, Ewan Tempero, Gerard Rowe)

(17) FRDF 2016 “Development of an indoor wireless system modeling toolkit”, $65,000, (PI Michael Neve, AIs Kevin Sowerby and Gerard Rowe)

In addition, I have supported several research programs via UniServices Contracts with Telecom New Zealand Ltd. The details of these contracts are:

(18) UniServices Job No: 3726 - Outdoor Mobile Radio Communication
Customer: Telecom Corporation of New Zealand Ltd
$27,000 plus GST, May 1990

(19) UniServices - Microcellular Propagation Modelling for Personal Communications Systems (PCS) Planning
Customer: Telecom Corporation of New Zealand Ltd
$25,000 plus GST, September 1996
(Jointly with Professor A G Williamson)

(20) UniServices - Indoor Wireless Propagation Modelling and System Capacity Estimation
Customer: Telecom Corporation of New Zealand Ltd
$25,000 plus GST, September 1996
(Jointly with Dr K W Sowerby and Professor A G Williamson)

(21) UniServices – Antennas for Indoor Wireless Systems
Customer: Telecom Corporation of New Zealand Ltd
$25,000 plus GST, 1999
(Jointly with Professor A G Williamson)

Research Supervision

PhD

Completed

M J Neve "Mobile Radio Propagation Prediction in Built-Up Environments Using Ray-Methods", December 1992. (Sole supervisor.)

I-C R Chiang “Feasibility Investigation of Cognitive Radio Systems” (Principal supervisor, jointly supervised with Assoc. Prof. K. W. Sowerby) 2009.

A C Austin “Interference Modelling and Mitigation for Indoor Wireless Systems” (Co-supervisor, jointly supervised with Dr M. J. Neve) 2011

R. Dahama “Cognitive Radio”. (Co-supervisor, jointly supervised with AssocProf. K. W. Sowerby). 2012.

F. A. Bhatti “Cooperative Spectrum Sensing in Cognitive Radio Networks” (Principal supervisor, jointly supervised with Assoc. Prof. K. W. Sowerby) 2013

J Tian “Power Efficient Cooperative Communications for Wideband Wireless Sensor Networks Applications” (Co-supervisor, jointly supervised with Dr S Berber) 2018.

Under Supervision

C Wang “An Intelligent Tutoring System for Engineering Education” (Principal supervisor, jointly supervised with Dr Nasser Giacaman and Dr Cathy Gunn). Commenced 1 November 2013.

Y Z Goh “Antenna Selection, Configuration and Deployment for Optimum Indoor Wireless System Performance” (Co-supervisor, jointly supervised with Dr M J Neve). Commenced 1 September 2014.

H Santono “Challenges and Opportunities in Assessment of Engineering Education: A Legal and Technical Approach based on ISO 9001:2008” (Principal Supervisor, jointly with Dr Nasser Giacaman). Commenced 1 November 2014

S Gautam “Conceptual Foundations of Electromagnetism”, (Principal supervisor, jointly with Dr Michael Neve). Commenced 1 October 2017.

Under Examination

W Collis “Improving the conceptual understandings of electrical engineering students” (Principal supervisor, jointly Dr Leonie (Claire) Donald. Commenced 1 February 2015.

ME Thesis

Completed

K V S Reddy "Investigation of MWM Technique for Hyperthermia Applicator Design ", October 1994

R D Shackleton “Development of a Wideband Channel Sounder”, August 1996
(Jointly supervised with Mr L J Carter)

A C Watson “Investigation of PEMF Treatment for Bone Non-Union”, September 1996

D F Chew “Mobile radio propagation prediction using regression analysis”, October 1997
(Jointly supervised with Dr K W Sowerby)

I L Mackenzie “The development of a prototype subsampling receiver”, December 1997
(Jointly supervised with Dr B J Guillemin and Professor A G Williamson)

J K L Wong “Estimation of Mobile Transceiver Position”, June 1998
(Jointly supervised with Professor A G Williamson

S C M Perera “Modelling of Wave Propagation in Microcellular Systems”, January 1999” (Jointly supervised with Professor A G Williamson)

D F Edgley “Indoor Wireless Propagation”, February 1999 (Jointly supervised with Professor A G Williamson)

E T Y Au “Diffraction Loss Prediction for Mobile Radio Systems”, July 2004 (Jointly supervised with Dr M J Neve)

A Yeung “RF Scale Modelling for Diffraction Loss Prediction” (Jointly supervised with Professor A G Williamson), April 2005

J. S-W Lin “The Effect of Propagation Models on the Performance of Wireless Ad Hoc Networks”, April 2006

N Parmar “The Effect of an Improved Physical Layer Model on Performance Metrics of Ad Hoc Networks”, April 2006

L Zang “Improved Modelling of Mobile Ad Hoc Networks”, February 2007.

R Zhang “Underwater Position Estimation”, February 2010.

L Hong“Investigation of the Unfairness problem in Ad-Hoc networks “,February 2011.

V MRavooru “Investigation of Ad-Hoc Communications for Smart Metering Systems”, February 2012.

W F Collis “Development and exploration of a visualizer to support novice students’ understandings of embedded systems hardware and software”, February 2014.

M Sandhu “Investigation of Fractal Antennas”, March 2015

E. Varoy “Improving Conceptual Understanding Using Visualisation, Collaboration and Experiential Learning in a Software Environment” (Jointly supervised with Dr N Giacaman.), February 2017

ME / MEngSt Project

Completed

G Nagendra "Investigation of Improvement of the Methods of Calcium Ion Detection in Heart Tissue Using the PhotoproteinAequorin and a Fibre Optic Link", ME Project A, November 1992.

S T Kuik “Review of Techniques for Calculating Diffraction Loss over Multiple Terrain Obstacles”, ME Project A, November 1993.

S T Kuik “An Investigation of Scale-Modelling and Theoretical Techniques for Calculating Diffraction Loss”, ME Project D, May 1994.

G H Feng “Measurement of Electric Field Strength at Mobile Radio Frequencies”, ME Project D, May 1994.

B. Ng “Implementation of a Multiple-Scatterer Based Model of a Wideband Mobile Radio Channel”, ME Project A, November 1995.

W W-H Chan “Urban Out-of-Sight Radio Propagation Modelling”, ME Project A, November 1995.

G Y C Wong “A Statistical Model for an Indoor Radio Propagation Channel”, ME Project A, November 1995.

N Pillay “Review of Studies of Biological Effects of Extremely Low Frequency Fields”, ME Project A, December 1995

Y-W Chan “Review of Biological Effects of Radio Frequencies”, ME Project A, December 1995

Y-W Chan “Review of Studies of CDMA Access Strategy for PCS Systems” ME Project B, December 1995

S N Wong “Loss Prediction and Area Coverage for Land Mobile Systems”, ME Project D, February 1996.

G Y C Wong “Modelling of an Indoor Propagation Channel”, ME Project D, February 1996.

B Ng “Channel Modelling for Wideband Communications”, ME Project D, February 1996.

W W-H Chan “Propagation Modelling for Microcellular Environments”, ME Project D, February 1996.

D Auger “The Design of an Antenna Range”, ME Project D, July 1996. (Jointly supervised with Professor A G Williamson)

K P Yu “Interaction Mechanisms of Weak Electromagnetic Fields and Biological Systems”, MEngSt Project Z, December 1997.

J L H Hung “Stochastic Modelling of a Single Calcium Channel”, MEngSt Project Y, March 2002.

J L H Hung “A Study of Biological Effects of Electromagnetic Fields”, MEngSt Project Z, March 2002.

N Deng “Review of Path Loss Prediction Techniques for Mobile Radio Communications”, MEngSt Project X, December 2004.

D Xu “Investigation of Ray Shooting Techniques for Indoor Radio Path Loss Prediction”, MEngSt Project Z, December 2004.

J C-C Shen “Investigation of Image Theory Techniques for Indoor Radio Path Loss Prediction”, MEngSt Project Z, December 2004.

S X Lu “Channel Modelling for Power Line Communications”, MEngSt Project X, December 2004.

Y Zhang “Modelling of Peer-to-Peer Wireless Networks”, MEngSt Project Z, December 2004.

K B Ch’Ng “Investigation of Weak-Field Electromagnetic Bio-Interaction”, MEngSt Project X, December 2004.

Post-Doctoral Fellowship Supervision

Completed

Dr M J Neve "Deterministic Radiowave Propagation Modelling", NZ Science and Technology Post-Doctoral Fellowship, 1 June 1994 to 31 May 1996. (Jointly supervised with Professor A G Williamson and Dr K W Sowerby.)