

## Curriculum Vitae

## Professor Jacqui Ramage FAustMS MAICD

Professor and Head of the School of Mathematics and Statistics at the University of Sydney

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### Qualifications

1993	PhD	Mathematics	University of Warwick, UK
1990	MSc	Mathematics	University of Warwick, UK
1988	BA (First Class)	Mathematics	University of Warwick, UK

### Professional Development

2015	General Management Program	Harvard Business School
2014	Foundations of Directorship	Aust. Inst. of Company Directors
2008	Resolving conflict using emotional intelligence	AVCC workshop

### Employment History

2015–	Professor	University of Sydney	(USyd)
2007–2015	Academic (Levels D–E)	University of Wollongong	(UOW)
1993–2007	Academic (Levels A–C)	University of Newcastle	(UoN)

### Leadership Positions Held

2017	President Elect	Australian Mathematical Society
2017–	Chair	Australian Council of Heads of Maths and Stats Australian Mathematical Society (AustMS)
2017–	Chief Editor	Lecture Series, AustMS, Editor since 2011
2016–	Head	School of Mathematics and Statistics, USyd
2014	Chair	Australian Research Council (ARC) Laureate Fellowship Selection Advisory Committee (SAC)
2009–2013	Head	School of Mathematics and Applied Statistics (SMAS), UOW
2012	Dep. Chair	ARC Discovery Early Career Researcher Award Committee
2008–2009	Director	AMSI Summer School, held at UOW
2006	Director	Women@UoN Program, UoN
2005	Assist. Dean	Marketing and Recruitment, Faculty of Science and IT, UoN
1995–2005	Chair	Committee for the BH Neumann Prize of the AustMS 7 times

### Awards and Recognition

2014	Fellow of the Australian Mathematical Society
2014	Member of the Australian Institute of Company Directors
2014	UOW Vice-Chancellor's Award for Excellence in Research Culture
2013	BH Neumann Award of the Australian Mathematics Trust
2006	Teaching and Learning Excellence Award, Faculty of Science and IT, UoN
1992	BH Neumann Prize of the Australian Mathematical Society

### Media Experience

2017	ABC Radio Q&A Extra, Monday 9 October 2017
2016	Sydney Morning Herald video clip <i>Can you game the ATAR?</i> (>140k hits in 48 hrs)
2014	730 Report on <i>Crisis in Maths</i> , Friday January 24 2014
2011	Life Matters Radio National <i>Is maths a foreign language?</i> , 30 May 2011
1999 – 2005	ABC Radio Newcastle <i>Maths Talkback</i> with Paul Bevan and others

### **Leadership**

I lead by example; my performance makes me a credible leader of both research and teaching endeavours in complex environments. I have strong communication skills that enable me to effectively communicate a vision to both academic and professional staff at all levels.

In my first year as Head of the School of Mathematics and Statistics at the University of Sydney we hired 10 academic staff, undertook major curriculum reform, improved research performance, and delivered a surplus above budget.

I was Head of SMAS at UOW from 2009 to 2013. During that time we: appointed 25 academic staff; increased our annual competitive income by 48%; increased our consultancy income by 560%; increased our ERA score in the 01 FOR code from 3 to 4; increased our undergraduate EFTSL by 24%; increased average entry scores of mathematics undergraduate students; supervised the third-largest cohort of research students in mathematical sciences in Australia; received two national teaching citations; and were part of a successful \$2M national project funded by the OLT. My leadership skills were reflected in the *Your Voice* survey; Engagement in the School increased from 85% in 2007 (the last survey prior to my appointment) to 91% in 2012 (the last survey during my tenure).

I was Deputy Chair of the ARC DECRA Selection Committee in 2012 and Chair of the Australian Laureate Fellowships Selection Advisory Committee in 2014.

### **Research**

Research is a central and critical component of my academic career. I have focused on research across mathematical boundaries, bringing insight and innovation to core areas of interest; for example, I used a combination of algebra, geometry and functional analysis to progress the Baum-Connes conjecture [11]. My mathematical activities have resulted in invitations to give plenary talks at international conferences and the awarding of over \$2M in external competitive research funding since 2002.

### **Education**

I enjoy teaching, take it very seriously, and received a teaching award from the University of Newcastle Faculty of Science and IT. In my last three Student Evaluations at UOW, the average of the first eight questions was 5.8 out of a possible 6. I am on the Educational Advisory Committee for the Australian Mathematical Sciences Institute, and I served on the national ACARA Advisory Panel for the Australian Senior Secondary Mathematics Curriculum.

### **Service**

I believe that contributions to the immediate and broader community are of paramount importance to the success of individual academics, as well as the discipline and the institutions they serve. As a sample of my contributions, I have served on: the Australian Mathematics Trust Primary Problems Committee since 2003; the UOW Academic Senate 2009–2015; the ARC College of Experts 2010–2012; the Australian Academy of Sciences National Committee for the Mathematical Sciences 2011–2014; the ARC Australian Laureate Fellowships Selection Advisory Committee 2012–2014; the UOW Council 2013–2015; the UOW Central Professorial Promotion Committee 2014; and the ARC Excellence in Research Australia Mathematics, Information and Computing Sciences Research Evaluation Committee 2015.

## Research

### Research Interests

I have broad interests across mathematics and its applications. I have published in group theory, functional analysis, operator algebras, control theory, and statistical analyses of learning outcomes. My current major projects are on: the general structure theory of totally disconnected, locally compact groups; and operator algebras.

*Totally disconnected, locally compact groups.* Groups are the mathematical language of symmetry. Locally compact groups are structures that capture both symmetry and a measure of closeness. They are used, for example, to analyse solutions of differential equations. Every locally compact group can be broken down into, and then reconstructed from, a connected group and a totally disconnected group. The theory of connected locally compact groups is well understood; they can be approximated arbitrarily closely by Lie groups, and a lot is known about Lie groups. Totally disconnected, locally compact groups hold the key to a full understanding of locally compact groups. They were a total mystery until 1994 when my collaborator made a fundamental discovery that has blown the whole subject wide open and led to what is now described as *Willis Theory*. I am driving the development of the geometric aspects of this theory. It's a major undertaking that will take years.

*Operator Algebras.* I work mostly on a class of operator algebras, called  $C^*$ -algebras, that were introduced to provide mathematical models for quantum mechanics. At present, I am interested in classifying the equilibrium states, or KMS states, on  $C^*$ -algebras. I am also interested in exploring the connections between  $C^*$ -algebras and quantum computing.

### Researcher Profiles

In my mathematical papers, authors are listed alphabetically.

ResearcherID profile: <http://www.researcherid.com/rid/D-4449-2012>

ORCID profile: <http://orcid.org/0000-0001-9376-5712>

Google Scholar profile: <http://scholar.google.com.au/citations?user=JFfZfpAAAAAJ&hl=en>

My MathSciNet author ID is 352868. From the University of Sydney this can be accessed via <http://www.ams.org.ezproxy1.library.usyd.edu.au/mathscinet/search/author.html?mrauthid=352868>

### Competitive Funding Awarded

2017–2019	ARCDP: Ramagge, Brownlowe, Raeburn, and Laca, DP170101821, <i>From actions to operator algebras and their equilibrium states</i>	\$ 286,000
2015–2017	ARCDP: Willis and Ramagge, DP150100060, <i>Scale-Multiplicative Semigroups and Geometry</i>	\$ 443,000
2013–2015	ARCDP: Ramagge and Raeburn, DP130100490, <i>States and structure of operator algebras from self-similar actions</i>	\$ 390,000
2010–2013	ARCDP: Ramagge, Raeburn, and Laca, DP1096001, <i>Structure and states of operator-algebraic dynamical systems</i>	\$ 420,000
2009–2014	ARCDP: Willis and Ramagge, DP0984342, <i>Totally disconnected groups in algebra and geometry</i>	\$ 376,868
2007	VolkswagenStiftung: Willis <i>et al</i> (Ramagge 1 of 4), <i>Totally disconnected Groups, Graphs and Geometry</i>	€ 44,000
2005–2007	ARCDP: Willis and Ramagge, DP0556017, <i>Geometric representation of small-rank totally disconnected groups</i>	\$ 234,000
2003–2005	ARCLX: Raeburn, Ramagge, Laca, and Larsen, LX0348081, <i>Hecke Algebras in Algebra and Analysis</i>	\$ 50,600
2002–2004	ARCDP: Willis and Ramagge, DP0208137, <i>Totally disconnected groups and their algebras</i>	\$ 185,000

## Publications

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In the following list, some authors are highlighted as follows:

- Student co-authors are marked with a <sup>s</sup>.
- Post-doctoral coauthors are marked with a <sup>p</sup>.
- Early-career or mid-career coauthors to whom I provided significant mentoring during the collaboration are indicated with a <sup>m</sup>.

Authors are listed alphabetically in all but [17]. Author contributions to each paper is equal with that of the other authors except for: [17] in which I did not significantly contribute to the engineering applications discussed; and [13] in which five of the authors were undergraduate students being guided through a research project.

The figure (a/b Qi) represents the SCImago 2015 exact and quartile journal rank.

### Scholarly book chapters:

- [27] A. Ram and J. Ramagge, Affine Hecke Algebras, cyclotomic Hecke algebras and Clifford theory, A tribute to C. S. Seshadri (Chennai, 2002), 428–466, **Trends Math.**, Birkhäuser, Basel, 2003.

### Refereed journal articles:

- [26] U. Baumgartner, J. Parkinson<sup>m</sup>, and J. Ramagge, Scale and tidy subgroups for Weyl-transitive automorphism groups of buildings, 18 pages, submitted 22 October 2017. <https://arxiv.org:1710.07881.pdf>.
- [25] C.E. Praeger, J. Ramagge and G.A. Willis, A graph-theoretic description of scale-multiplicative semigroups of automorphisms, 29 pages, submitted 2 October 2017. <https://arxiv.org:1710.00439.pdf>.
- [24] C. Bruce<sup>s</sup>, M. Laca, J. Ramagge, and A. Sims, Equilibrium states and growth of quasi-lattice ordered monoids, To appear in **Proc. Amer. Math. Soc.** 15 pages, accepted 28 January 2018. <https://arxiv.org:1709.07606.pdf> (73/373 Q1)
- [23] M. Laca, I. Raeburn, J. Ramagge, and M.F. Whittaker<sup>p</sup>, Equilibrium states on operator algebras associated to self-similar actions of groupoids on graphs, **Adv. Math.** 331C (2018) 268–325. (15/420 Q1)
- [22] N. Brownlowe<sup>m</sup>, D. Pask, J. Ramagge, D. Robertson<sup>p</sup>, and M.F. Whittaker<sup>p</sup>, Zappa-Szép product groupoids and  $C^*$ -blends, **Semigroup Forum** 94 (2017) 500–519. (23/78 Q2)
- [21] U. Baumgartner, J. Ramagge and G.A. Willis, Scale-multiplicative semigroups and geometry: automorphism groups of trees, **Groups Geom. Dyn.** 10 (2016) 1051–1075. (5/45 Q1)
- [20] M. Laca, I. Raeburn, J. Ramagge, and M.F. Whittaker<sup>p</sup>, Equilibrium states on the Cuntz-Pimsner algebras of self-similar actions, **J. Funct. Anal.** 266 (2014) 6619–6661. (8/118 Q1)
- [19] N. Brownlowe<sup>m</sup>, J. Ramagge, D. Robertson<sup>p</sup>, and M.F. Whittaker<sup>p</sup>, Zappa-Szép products of semigroups and their  $C^*$ -algebras, **J. Funct. Anal.** 266 (2014) 3937–3967. (8/118 Q1)
- [18] M. Laca, I. Raeburn and J. Ramagge, Phase transition on Exel crossed products associated to dilation matrices, **J. Funct. Anal.** 261 (2011) 3633–3664. (8/118 Q1)

- [17] J. Mare<sup>s</sup>, J. De Doná, M. Seron<sup>m</sup>, H. Haimovich<sup>m</sup> and J. Ramagge, When does QP yield the exact solution to constrained NMPC?, **Int. J. Control** 82 (2009) 812–821. (31/598 Q1)
- [16] U. Baumgartner<sup>m</sup>, M. Laca, J. Ramagge and G.A. Willis, Hecke algebras from groups acting on trees and HNN extensions, **J. Algebra** 321 (2009) 3065–3088. (14/78 Q1)
- [15] U. Baumgartner<sup>p</sup>, J. Ramagge and B. Rémy, Contraction groups in complete Kac-Moody groups, **Groups Geom. Dyn.** 2 (2008) 337–352. (5/45 Q1)
- [14] U. Baumgartner<sup>p</sup>, J. Ramagge and G.A. Willis, A compactly generated group, whose Hecke algebras admit no bounds on their representations, **Glasg. Math. J.** 48 (2006) 193–201. (118/373 Q2)
- [13] U. Baumgartner<sup>p</sup>, J. Foster<sup>s</sup>, J. Hicks<sup>s</sup>, H. Lindsay<sup>s</sup>, B. Maloney<sup>s</sup>, I. Raeburn, J. Ramagge and S. Richardson<sup>s</sup>, Hecke algebras of group extensions, **Comm. Alg.** 33 (2005) 4135–4147. (35/78 Q2)
- [12] J. Ramagge and W.W. Wheeler<sup>m</sup>, Cohomology of buildings and finiteness properties of  $\tilde{A}_n$ -groups, **Trans. Amer. Math. Soc.** 354 (2002) 47–61. (25/373 Q1)
- [11] J. Ramagge, A.G. Robertson and T. Steger, A Haagerup Inequality for  $\tilde{A}_1 \times \tilde{A}_1$  and  $\tilde{A}_2$  Buildings, **Geom. Funct. Anal.** 8 (1998) 702–731. (2/118 Q1)
- [10] J. Ramagge and W.W. Wheeler<sup>m</sup>, Posets and differential graded algebras, **J. Austral. Math. Soc. Ser. A** 64 (1998) 1–19. (258/373 Q3)
- [9] J. Ramagge and A.G. Robertson, Factors from trees, **Proc. Amer. Math. Soc.** 125 (1997) 2051–2055. (73/373 Q1)
- [8] J. Ramagge and A.G. Robertson, Triangle buildings and actions of type III<sub>1/q<sup>2</sup></sub>, **J. Funct. Anal.** 140 (1996) 472–504. (8/118 Q1)
- [7] J. Ramagge, A realization of certain affine Kac-Moody groups of types II and III, **J. Algebra** 171 (1995) 713–806. (14/78 Q1)
- [6] J. Ramagge, On certain fixed point subgroups of affine Kac-Moody groups, **J. Algebra** 171 (1995) 473–514. (14/78 Q1)
- [5] J. Ramagge, Affine Kac-Moody groups of types II and III, **C. R. Math. Acad. Sci. Paris** 319 (1994) 207–212. (68/373 Q1)

#### Refereed conference papers:

- [4] J. Ramagge, Groups, representations and Haagerup's inequality for buildings. Functional Analysis, Optimization and Applications, J. Giles and B. Ninness (eds), **Proc. CMA** 36 (1999) 121–126.
- [3] J. Ramagge and A.G. Robertson, Factors from buildings, **Contemp. Math.** 206 (1997) 165–167.

## Other research publications:

- [2] B. Armstrong<sup>s</sup>, M. Fielding<sup>m</sup>, S. Kirk, and J. Ramagge, Factors affecting success in CHEM101 at UOW, **Austral. Math. Soc. Gaz.** 41 (2014) 91–98.
- [1] J. Ramagge, An introduction to Kac-Moody groups, **Austral. Math. Soc. Gaz.** 19 (1994) 207–212. (As recipient of the BH Neumann Award for most outstanding talk by a student at the 1992 AustMS meeting.)

## Selected Invited Presentations and Limited-Attendance Events

I have given talks in over 12 countries across four continents at notable institutions including: Oxford, Warwick, Dartmouth, La Universidad Autonoma de Madrid, and Neuchâtel.

- 2016 [Women in Operator Algebras, Banff International Research Station](#)  
2018 [Main speaker, Young Women in  \$C^\*\$ -algebras, KU Leuven](#)  
2016 [Permutation Groups, Banff International Research Station](#)  
2012 [Baumfest, Australian National University](#)  
2012 [Combinatorics, representations, and structure of Lie type, University of Melbourne](#)  
2012 [Distinguished lecturer, University of South Australia](#)  
2010 [Keynote speaker, New Zealand Mathematics Colloquium](#)  
2009 [Plenary speaker at Australian Mathematical Society Annual Meeting](#)  
2007 [Totally disconnected groups, graphs and geometry](#)  
in Blaubeuren, Germany, fully funded by VolkswagenStiftung  
2007 [UK lecture tour funded by the London Mathematical Society](#)  
2007 [Buildings and combinatorial representation theory at AIM](#)  
2006 [The property of rapid decay, American Institute of Mathematics \(AIM\)](#)  
2001 [Random walks and geometry, Erwin Schrödinger Institute, Vienna](#)  
2001 [Operator Algebras, New Zealand Mathematics Research Institute](#)  
1999 [National Conference on Algebra, Beijing Normal University](#)  
1993,5 [Séminaire Claude Chevalley](#)

## Research Students

Timothy Bywaters	current PhD student
Nur Sa'Aidah Ismail	MMath 2008, Lecturer, Universiti Teknologi Mara, Malaysia
Jason Kimberley	PhD 2006
Paul Cutting	PhD 2005, working in the Department of Health and Ageing
Matt Skerritt	Honours 2005, currently PhD student at UoN
Summer 2002/3	James Foster, Jacqui Hicks, Helen Lindsay, Ben Maloney and Sarah Richardson, see [13]
Leah Ratliff	Honours 2000, completed PhD at USyd in 2006

At least eight students I have supervised for vacation scholarships and project work have gone on to undertake PhD studies.

## Education

### Teaching Experience and Evaluations

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I have taught classes from primary school level to postgraduate coursework level varying in size from 5 to over 500. The delivery style has included workshops, tutorials, lectures, electronic delivery, multi-campus video-conference, and multimedia presentations.

At USyd my teaching load in 2016 and 2017 has consisted of one section of a large main-stream first-year unit on Discrete Mathematics. These are evaluated *en masse*. At UOW the benchmark for student evaluations is the average of the first 8 questions on a standard questionnaire. My last three evaluations there had averages of 5.8 out of 6.

### Educational Development

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One of my first actions as Head of School at the University of Sydney was to initiate a full curriculum review. This has dovetailed nicely with the subsequent review of institutional offerings. We are rolling out three completely redeveloped majors (Mathematics, Statistics, and Financial Mathematics and Statistics) and one new major (Data Science) under the new framework in 2018. Our School strategic plan included a stated intent to develop a graduate school culture. In support of this I have driven the development of a Master of Mathematics degree. The plan is to replicate the qualifying exam component of the PhD system in most institutions in the USA, market this in combination with our PhD program, and thereby compete with PhD programs in the USA. We expect the MMath will also be available as a vertically integrated Masters in the future.

I was a driving force in the development of the *Bachelor of Medical Mathematics* at UOW. It is particularly popular with females, who constituted 33% of the UOW mathematical sciences cohort by the time I left.

I initiated and coordinated the development of a new major in the Bachelor of Mathematics and Finance in *Quantitative and Computational Trading*. This is a highly challenging major and was developed with extensive consultation with industry partners *Tibra Capital* who are world leaders in computational trading. Tibra Capital now provides over \$110,000 per year in scholarships and prizes at UOW.

I developed and implemented a suite of mathematics content subjects for prospective primary school teachers. My efforts in this area are global and include teaching into the *Vermont Mathematics Initiative*. I received an individual mention in the Go8 *Review of Education in Mathematics, Data Science and Quantitative Disciplines* in 2009 for my work in this area.

As well as curriculum development, I have led teaching innovation. During my tenure as Head of School at the University of Sydney, we have modified all first-year mathematics tutorials so as to deliver them as Board tutorials whereby students work at whiteboards in small groups on problems they have not seen before. I was the first person in the School to use an iPad instead of a visualiser to give live lectures in large lecture theatres and am actively encouraging the use of mixed modes of instruction.

### Educational Funding

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| 2009-2010 | DEEWR: AMSI (Ramagge a member of the module-writing team), \$2,000,000<br><i>The Improving Mathematics Education in Schools project</i>  |
| 2008-2009 | Australian Mathematical Sciences Institute: \$220,000<br><i>AMSI Summer School</i> (Ramagge as Director)   |
| 2008-2011 | ALTC: Porter <i>et al</i> (Ramagge a Unit Leader), LE8-783, \$220,000<br><i>Building leadership capacity for the development and sharing of mathematics learning resources across disciplines and universities</i> |

## Leadership, Management, and Professional Experience

### Head, School of Mathematics and Statistics at the University of Sydney

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I have been Head of the [School of Mathematics and Statistics](#) at USyd since 1 January 2016. In my first year as Head we hired 10 ongoing academic staff, undertook major curriculum reform, improved research performance, and delivered a surplus above budget.

Even before taking up the role of Head of School, I had already developed a strategic plan for the School. The key goals are to: increase our research profile within the institution, nationally, and internationally; build a graduate school environment; transform the undergraduate curriculum through curriculum redesign and the incorporation of learning analytics; and work to increase the proportion of women undertaking mathematical sciences at all levels. We are well on the way to turning those dreams into realities.

The overall aim is to *Think Maths, Think USyd*, whereby the University of Sydney is the first institution that comes to mind whenever anybody in Australia thinks of mathematical sciences. Two tangible examples of this at the community level have been the introduction of mathematics prerequisites for many degrees and the production and release of popular material demystifying the ATAR and its calculation.

### Head, School of Mathematics and Applied Statistics at UOW

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I was Head of the [School of Mathematics and Applied Statistics](#) at UOW from August 2009 to December 2013. During that time I was responsible for: leading teaching and research in the School; operationalising the UOW strategic plan; and performance management of staff. Initially I was line manager of all staff including all postdoctoral researchers and all professional staff. Over time I developed a more sophisticated managerial structure with more appropriate reporting lines for staff. Throughout my time as Head, I was responsible for the management of all Professors despite being an Assoc. Prof. at the time of my appointment.

The School thrived under my leadership. We appointed 25 new academic staff, many funded from external sources, and supervised the third-largest cohort of research students in the mathematical sciences in Australia. We increased our performance and enhanced our reputation in both research and teaching. In research we

- increased our annual income from national competitive grants by over 48% (from \$725k to \$1.08M per annum), including a [Future Fellow](#) and a [DECRA](#);
- increased our annual income from consultancy by over 560% (from \$449k to \$2.53M per annum);
- increased our Excellence in Research in Australia ([ERA](#)) score in 01 Mathematical Sciences from world class (3) to above world class (4).

In teaching and learning we

- increased our annual undergraduate EFTSL by over 24% (463 to 575);
- increased the average entry score of undergraduates in mathematics from a UAI of 79 to an ATAR of 87;
- received two national teaching citations for [Rodney Nillsen](#) and [Caz Sandison](#);
- were part of a successful \$2M project, *Inspiring mathematics and science in teacher education*, funded by the Office of Learning and Teaching.



There were also some challenges. Some were managerial, such as an academic whose appointment was not confirmed at the end of his probationary period. Some were critical incidents: the sudden unexpected death of a young member of staff; the suicide of a student; and the deaths of two other students in separate accidents. Although traumatic, the School emerged stronger and more united after each of these incidents.

My leadership is also reflected in the results of the *Your Voice* survey; the School's overall Engagement score increased from 85% in 2007 (the last survey prior to my appointment) to 89% in 2010 and to 91% in 2012 (the last survey during my tenure).

### **Australian Research Council**

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As a member of the Engineering, Mathematics and Informatics panel of the [ARC College](#), 2010–2012 I helped award: Discovery Projects, Linkage Projects, Future Fellowships, Discovery Early Career Researcher Awards (DECRA), and Discovery Outstanding Researcher Awards (DORAs). During 2012–2014 I served on the [Australian Laureate Fellowship](#) Selection Advisory Committee. In 2012 alone I had carriage of over 260 applications across all programs except LIEF. In 2016 I served on the Marsden Fund Mathematics and Information Sciences Panel for the Royal Society of New Zealand.

I served on the ERA Research Evaluation Committee for Mathematics, Information and Computation Sciences in the consecutive rounds of 2015 and 2018.

### **Institutional contributions**

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I have served on appointment committees for other disciplines (three HoS positions, one team relocation, and three targeted appointments). I am a member of, and regularly contribute at, the University Executive Education Committee. I am a member of the University of Sydney Science in Australia Gender Equity Self-Assessment Team, and a key member of the team's working party on Culture. We are currently drafting the institutional submission for a bronze award.

While at UOW I served on a number of institutional committees, including the Professorial promotions committee and a group convened to advise on Financial Targets and Policies for the UOW 2013–2018 Strategic Plan.

### **Review Panels**

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I have served on three review panels: one review of a Faculty at the University of Sydney, one review of a School at another institution, and one review of an ARC Centre of Excellence.

### **Relocating a Research Team**

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I negotiated the relocation of a team of four mathematicians from the University of Newcastle to the University of Wollongong in 2007. At the time this was a complete novelty in mathematics. I was not the most senior member of the team and am still awed by the trust placed in me by my colleagues during that process.

### **Directing Events and Programs**

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I was Director of the Australian Mathematical Sciences Institute [2009 Summer School](#) at UOW. This was a four-week residential summer school attended by 70 Honours and PhD students from around the country and overseas. My responsibilities as Director included: chairing the program committee; preparing the timetable and booking rooms; organising accommodation for students and lecturers; organising social events; coordinating photographers and media releases; mentoring the participants; and general day-to-day management. The budget for the event was \$220,000 and I delivered the event under budget.

In 2006 I was Director of the [Women@UoN](#) program at UoN, a professional development program for both academic and professional female staff. During my tenure as Director I broadened the scope of the program to better meet the needs of both academic and professional staff. Engagement significantly increased and attendance at events doubled.

## Mentoring and Professional Development

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I have a long-standing interest in professional development at all levels. As well as directing [Women@UoN](#) I have: been a mentor for the UOW [Early Career Development Program](#) since its inception 2011 until my departure in 2015; mentored a Head of School from another Faculty; mentored UOW [Laureate Fellowship](#) applicants; presented at the AustMS Early Career Workshops in 2012, 2013, and 2016; mentored postgraduate students in the mathematical sciences via the [BH Neumann Prize](#) both personally and in writing <sup>1</sup>; and presented at Leadership programs. My role as Head of School necessarily involves mentoring, both informally and formally within the various career development processes at UOW and USyd. This has included career planning with outcomes ranging from promotions to successful Fellowship applications.

## Selected Memberships

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2017	Three review panels: one Faculty (USyd), one School (external), one ARC CoE
2016–	Board of the <a href="#">Australian Mathematics Trust</a>
2016	Royal Society of New Zealand , Member of <a href="#">Marsden Fund Mathematics and Information Sciences panel</a>
2015, 2018	<a href="#">ARC Excellence for Research in Australia</a> , member of <a href="#">Mathematics, Information and Computing Sciences Research Eval. Committee</a>
2014–2015	UOW Strategic Course Development Committee
2014–2015	UOW Academic Staff Professional Development Committee
2013–2015	<a href="#">UOW Council member</a> elected by academic staff
2010–2014	ARC: <a href="#">College of Experts</a> (2010–12) and <a href="#">Laureate Fellowship SAC</a> (2012–14)
2012–2014	ARC <a href="#">Australian Laureate Fellowships Selection Advisory Committee</a>
2012	<a href="#">Australian Curriculum, Assessment and Reporting Authority (ACARA)</a> : Senior Secondary Mathematics Curriculum Advisory Panel
2011– 2014	<a href="#">Australian Academy of Science</a> : <a href="#">National Committee for the Mathematical Sciences</a>
2011–	<a href="#">Editor</a> of Lecture Series of Australian Mathematical Society (AustMS)
2010–2012	<a href="#">ARC College: Engineering, Mathematics and Informatics Panel</a>
2010–2011	<a href="#">Australian Mathematical Sciences Institute (AMSI)</a> : TIMES writing team
2009–	<a href="#">Australian Mathematical Sciences Institute Educational Advisory Committee</a>
2009–2015	<a href="#">UOW Academic Senate</a>
2009–2013	<a href="#">AustMS Nominations and Publications Committee</a>
2009–2011	<a href="#">Council of the AustMS</a>
2004–2006	Board of the <a href="#">Hunter Valley Grammar School</a>
2003–	<a href="#">Australian Mathematics Trust Primary Problems Committee</a>

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<sup>1</sup>J. Ramage, *How to make life hell for the judges of the B.H. Neumann Prize*, Austral. Math. Soc. Gaz. 23 (1996) 186–187.