

Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia in 2003

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This report presents data relating to students who completed Honours or Higher Degrees in Mathematics during 2003. The data is part of an ongoing project for the Australian Mathematical Society and should be read in conjunction with previous reports [1, 2, 3, 4] covering the period 1993–2002.

Table 1 presents data for Honours students completing in 2002 at all Universities in Australia. Within each institution, the data are broken down into male and female and into the three conventional areas of Mathematics: Pure, Applied and Statistics. There is also the general category “Mathematics” for institutions which do not differentiate between the conventional areas. Finally, there is an “Other” category for newer areas of mathematics such as Financial Mathematics. Each category is further broken down into classes of Honours

awarded. The table shows that in 2003 there were 159 Honours graduates in Australia (compared with 162 in 2001 and 161 in 2002), with 119 receiving First Class Honours (compared with 95 in 2002). This shows that although the number of Honours graduates is remaining steady, the quality of the students is improving.

Figure 1 presents the total number of students completing Honours degrees in Mathematics over the period 1959–2003. It shows that in 2003 the number of graduates was similar to that of recent years, which reflects a slight increase over the previous few years.

The figure also shows the numbers of male and female students who completed Honours over the same time period. It is reassuring to see the increase in the number of female graduates over the past few years.

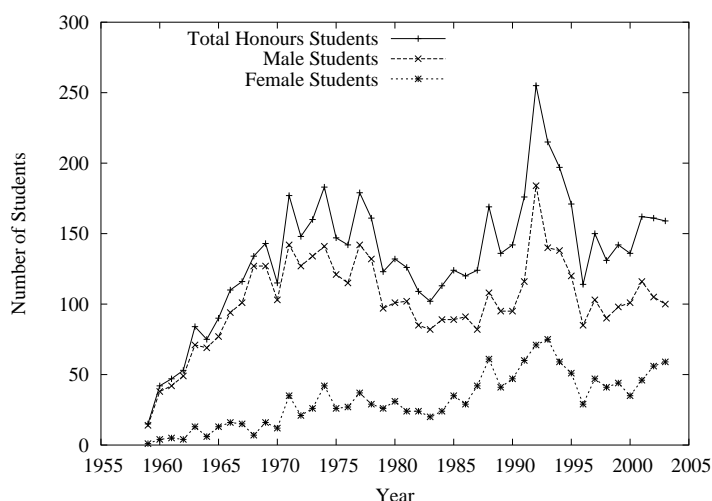


Figure 1. Honours bachelor degrees in mathematics and statistics, Australia 1959–2003.

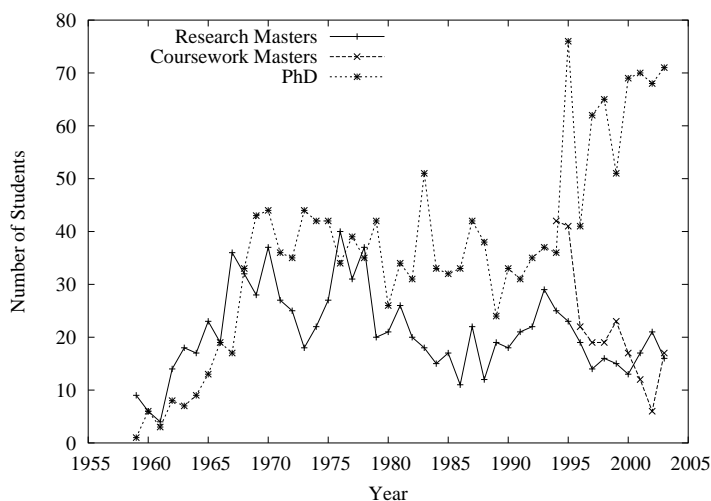


Figure 2. Research higher degrees in mathematics and statistics, Australia 1959-2003.

Table 2 presents the data for Higher Degree completions in 2003. The data are broken down into Coursework Masters, Research Masters and PhD degrees, with the latter two divided into the three typical areas of Mathematics.

These data are also represented in Figure 2, as part of the overall Higher Degree data for the period 1959–2003. The figure shows that: (1) the number of PhD completions has been generally increasing over the past few years; (2) the number of Research Masters completions dropped slightly and (3) the number of Coursework Masters completions increased, reversing the trend of previous years.

Finally, Table 3 gives a list of completed Research Masters and PhD theses awarded in 2003.

For those who are interested in the detailed data, the raw data is available from links on the web page www.cit.gu.edu.au/maths. There is an Excel spreadsheet containing the complete data for 2003 as well as spreadsheets containing cumulative data from 1959 for Honours, Research Masters and PhD degrees.

I would like to thank the many people who took the time and effort to collect this data and forward it to me. This year I received responses from 30 of the 37 possible institutions, a significant increase over previous years. I trust that I can count on similar support for the collection of the data for 2004.

University	Sex	Coursework Masters	Research Masters		Total	PhD			Total	
			Pure	Applied Statistics		Pure	Applied Statistics	Other		
ACU										
ANU	M				0	1		1	2	
	F				0			2	2	
BOU	M				0			2	0	
	F				0				0	
CQU										
CSU	M				0				0	
	F				0				0	
CUT	M			1	1		1	1	2	
	F	2			0		1		1	
DKU	M	1			0		1		1	
	F				0				0	
ECU	M			1	1				0	
	F				0			1	1	
FDU	M				0	1			1	
	F				0		3		3	
GFU	M				0				0	
	F				0				0	
JCU	M			1	1				0	
	F				0				0	
LTU	M			1	1		3	1	4	
	F		1		1			1	1	
MDU	M				0				0	
	F				0				0	
MNU	M			1	4	1	5		6	
	F			3	0				0	
MQU	M				0	1			1	
	F				0				0	
NTU	M				0				0	
	F				0				0	
QUT	M			1	0		3		3	
	F				1		1	1	2	
RMT	M				0				0	
	F				0				0	
SCU										
SUT										
UAD	M				0	1			1	
	F				0				0	
UBR	M				0		1		1	
	F				0				0	
UCB	M				0				0	
	F				0				0	
UMB	M			1	1	2	4		6	
	F				0				0	
UNC	M	3		1	1				0	
	F				0	1			1	
UNE	M				0	1			1	
	F				0				0	
UNS	M	7		1	2	1	1	1	3	
	F	1		1	0		1		1	
UQL	M				0	2	2	1	6	
	F				0	1	3		5	
USA	M				0		1		1	
	F				0		1	1	2	
USN	M			1	1	1	3		4	
	F				0				0	
USQ										
UTM	M				0				0	
	F				0				0	
UTS										
UWA	M				0	2	3	1	6	
	F	1			0		1		1	
UWG	M	1		1	1		1		1	
	F	1			0				0	
UWS										
VUT	M				0			1	1	
	F				0				0	
Totals		17	2	6	8	16	39	13	3	71

Table 2. Research higher degrees in Mathematics and Statistics, Australia 2003

Uni.	Sex	Degree	Area	Name	Title
ANU	M	PhD	Appl	Christian Rau	Curve Estimation and Signal Discrimination in Spatial Problems
	M	PhD	Stat	Brownen Whiting	Boundary Correction Methods for Multivariate Density Estimation
	M	PhD	Appl	Verdana Andreas Axelsson	Boundary value and transmission problems for Dirac operators on Lipschitz domains
	F	PhD	Stat	Jacki Wicksr	Mapping genetic trait loci in humans using nuclear families
DKU	M	Mast.	Appl	Leo Ryan	Wireless LAN standards - a future perspective.
	M	PhD	Appl	Daniel Stonier	Stability Theory and Numerical Analysis of Non-Autonomous Dynamical Systems
ECU	F	PhD	Math	Tuyet Tran	Wavelet based simulation of geological variables
	M	MSc	Math	Mark Murphy	Geostatistical optimisation of sampling and estimation in a Nickel laterite deposit
LTU	M	PhD	Stat	John Byrne	Short Exact Confidence Intervals from Discrete Data
	F	PhD	Stat	Ning LI	Statistical Analysis of Infectious Disease Data
	M	MSc	Stat	Sellapperumage Fernando	Determination of change points in Australian accident data
	M	PhD	Appl	Darren Condon	Numerical solution of eigenvalue problems for differential operators
	M	PhD	Appl	Jonathan Aldridge	Aspects of the inverse problem in the calculus of variations
	M	PhD	Appl	Apostolos Iatrou	Integrable mappings of the plan preserving biquadratic invariant curves
	F	MSc	Pure	Shamsun Begum	A study of the standardness problem for ordinary unary algebras
	M	MSc	Appl	James Scully	A search for improving numerical integration methods using rooted trees and splitting
MNU	M	MSc	App	J. Gill	An analysis of the seasonal influences on tropical cyclogenesis in southern hemisphere
	M	MSc	Stats	J. Lowe	Nonparametric tests of inference
	M	MSc	Stats	T. Padazelos	Spatial statistics with applications to Palaeomagnetism
	M	MSc	Stats	E. Katsavos	Logistic regression for binary response data
	M	PhD	App	A. Crouch	The interaction of solar oscillations with magnetic field
	M	PhD	Pure	D. Graham	Geometric measure theory and geometric evolution equations
	M	PhD	App	J. Kepert	The wind-field structure of the tropical cyclone boundary layer
	M	PhD	App	S. Muir	A relativistic, 3 dimensional smoothed particle hydrodynamics algorithm and its applications
	M	PhD	App	T. OKane	The statistical dynamics of geophysical flows
	M	PhD	App	Y. Skrynnikov	Nonlinear coupled waves in stratified flows
MQU	M	PhD	Pure	Roger Patterson	Creepers: real quadratic fields with large class number
UAD	M	PhD	Pure	Peter Lawrence	Yang-Mills connections on $U(n)$ -bundles over compact Riemann surfaces
UBR	M	PhD	Appl	Musa Mammadov	Fuzzy derivative and its applications
UNE	M	PhD	Pure	Andrew Percy	An Eckmann-Hilton Duality to the Π -algebras of Homotopy Theory
UNS	M	MSc	Appl	Bradley D. Morris	Infragravity waves on the Sydney Coast
	M	MSc	Stat	Matthew Maccallum	The long term behavior of some interacting particle systems
	F	PhD	Stat	Daniela Leonte	Flexible Bayesian modeling of gamma ray count data
	M	PhD	Pure	Chi Mak	On complex reflection groups $G(m, 1, r)$ and their Hecke algebras
	M	PhD	Appl	Vladimir Gubernov	Instabilities in Combustion
UQL	M	PhD	Appl	Cristian Baloi	The investigation of factors governing ignition and development of fires in heathland vegetation
	M	PhD	Pure	Andrew Blinco	Some applications of genetic algorithms in electricity - power generation
	M	PhD	Pure	Nicholas Cavenagh	Graph Decompositions, Theta Graphs and Related Graph Labelling Techniques
	M	PhD	Other	Francis Clark	Latin cubes
	F	PhD	Appl	Bevina Handari	An investigation into the operation of genetic regulatory networks from an information theory perspective
	F	PhD	Appl	Ratna Herdiana	Numerical methods for SDEs and their dynamics
	M	PhD	Appl	Gatot Hertono	Numerical methods for SDEs with various stepsize implementations
	F	PhD	Appl	Kathryn Hogarth	Waveform relaxation techniques for stochastic differential equations
	F	PhD	Other	Annette Masters	An analysis of twist in diving
	F	PhD	Pure	Maithili Mehta	Some extensions to support vector machines
USA	M	PhD	Stat	Peter Toscas	New solutions of the Yang-Baxter equation associated with quantised orthosymplectic Lie superalgebras
	M	PhD	Appl	Guy Eitzen	Extended Poisson Process Models
	F	PhD	Appl	Maria John	Integer Programming Methods for solving multiskilled workforce optimisation problems
USN	M	PhD	Appl	Greg Lemon	Optimisation models for the generation of data cycle maps and regional surveillance
	M	PhD	Pure	Emmanuel Letellier	Quantification of the relationship between fish populations and seagrass
	M	PhD	Pure	Emmanuel Letellier	Mathematical modelling of some aspects of intracellular second messenger signalling
	M	PhD	Pure	Emmanuel Letellier	Fourier transforms of invariant functions on a finite Lie algebra

	M	PhD	Appl	Jonathan Turner	Signal processing applied to satellite magnetic data
	M	PhD	Appl	Peter Zeitsch	Symmetry groups for hypergeometric partial differential equations
	M	MSc	Appl	Lei Zhang	The interaction effect of self-heating packages in a shipping container
UWA	M	PhD	Pure	John Bamberg	Inately Transitive Groups
	F	PhD	Appl	Amanda Buckingham	Edge Detection and Image Retrieval Techniques in the Interpretation of Magnetic Fields for Mineral Exploration
	M	PhD	Appl	Mahmoud El-Hirbawy	Calculation of EM Fields of Power Transmission Lines
	M	PhD	Appl	Thomas Hanselmann	Approximate Dynamic Programming with Adaptive Critics and the Algebraic Perception as a Fast Neural Network related to Support Vector Machines
	M	PhD	Stat	Nazim Khan	Statistical Modelling and Analysis of Ion Channel Data based on Hidden Markov Models and the EM Algorithm
	M	PhD	Pure	Maska Law	Flocks, Generalised Quadrangles and Translation Planes from BLT-Sets
	M	PhD	Appl	Sasha Roscoe	Algorithms for Detection of Geometrical Features

Table 3: Higher Degrees in Mathematics and Statistics, 2003

References

- [1] P. Petocz, *Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia 1993*, AustMS Gazette **23** (1996), 123–133.
- [2] P. Johnston and P. Petocz, *Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia in 1994 and 1995*, AustMS Gazette **29** (2002), 62–72.
- [3] P. Johnston, *Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia between 1996 and 2001*, AustMS Gazette **30** (2003), 42–44.
- [4] P. Johnston, *Higher degrees and honours bachelor degrees 2002*, AustMS Gazette **30** (2003), 315–320.

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