

DEPARTMENT OF STATISTICS

ANNUAL REPORT 2003

Highlights

The single most pleasing event for the Department in 2003 was the winning by the Stage 1 Introductory Statistics Teaching Team of this university's first national Tertiary Teaching Excellence Award. It was presented in Parliament in June. This followed winning two of The University of Auckland's five Teaching Excellence Awards in the first year they were offered (1 of the 4 for "Sustained Excellence" and the sole award for collaboration). These were presented at Graduation in May 2003. Four workshops were run through CPD to share with the university community some of the technical expertise developed by the Team, and papers were published and presented at local and international conferences and workshops.

Professor Alastair Scott and Emeritus Professor George Seber were made Honorary Life Members of the New Zealand Statistical Association. This is particularly notable because only two people in the history of the Association have previously been honoured in this way. Professor Chris Wild became President of the International Association for Statistical Education for a two-year period.

There was significant growth in student numbers. Efts grew by 8.5% from 759 in 2002 to 823 in 2003. This was due to a 20% growth in efts at both Stage 2 and Stage 3 and a 25% growth in postgraduate efts.

Research productivity measured by indicators like numbers of journal articles, etc., once again increased markedly.

In Community Service and outreach, the Department initiated and hosted the first New Zealand CensusAtSchool with participation of 18,000 primary and secondary school students and media attention that included the Holmes show. Our annual Year 13 Workshop held on the Tamaki Campus drew 116 secondary-school teachers, mainly from the Auckland region.

Dr Rachel Fewster won a Fast-start Marsden Grant. Her project involves modelling rat invasions in off-shore islands. This project is complementary to another for which Dr Fewster and A/Professor Brian McArdle gained a Postdoctoral Fellowship.

A new Lecturer, Dr Yong Wang, was appointed in the field of statistical computing. We look forward to advertising 2 Chairs early in 2004.

In February, the Department took occupancy of much of the second floor of the new part of Science Centre Building 303, and in December the Tamaki wing of the Department moved from Building T723 to T721 which adjoins the new Population Health building.

Background

The Department of Statistics is the largest in New Zealand and at most one Department of Statistics in Australia is apparently larger. In 2003 there were approximately 40 full-time-equivalent academic staff, including 20-fte staff with contracts that involve research, and 5-fte general staff. Staffing in 2003 was up by one permanent position from 2002 — the new lecturer in statistical computing. The Department taught 823 equivalent full-time students (efts) in 2003. This included 66 postgraduate efts, the largest number ever. It has continued to generate substantial revenue for the University with a contribution rate for 2003 of approximately 54%. We have been fortunate in avoiding the contraction that has afflicted the Statistics discipline in other Australasian universities. Our good health and growth has been largely due to the retaining of most of the service teaching of statistics within the University, particularly the teaching of business students.

The Department has a sizable presence at Tamaki with 10 full-time academic staff including 5 of our 7 staff-members at Associate Professor and above. There were also 5 PhD students. We taught approximately 102 efts (89 undergraduate and 23 postgraduate) at Tamaki in 2003. The accumulation over time of so many Statistics staff at Tamaki was much more dictated by space constraints in the City than student numbers or research synergies at Tamaki. There is a great deal of travel by Tamaki staff members into the City to teach with subsequent impacts on the staff-productivity and Departmental cohesiveness. New developments at Tamaki such as the arrival of the School of Public Health for 2004 should, however, foster the strengthening of our research collaborations and confer new opportunities in those areas.

I DEVELOPMENTS IN TEACHING

As previously mentioned, the single most pleasing event for the Department in 2003 was the winning by the Stage 1 Introductory Statistics Teaching Team of this university's first national Tertiary Teaching Excellence Award and two of The University of Auckland's five Teaching Excellence Awards made in 2003 for 2002. The team has been sharing its expertise through CPD workshops and invited papers in journals and at local and international conferences.

The Stage 1 Team continued to improve their offerings, most notably by completing a version of the course CD in which the voice-over narrations for all of the lectures are in Mandarin, the next most commonly spoken language after English. (Only about half of Stage 1 students have English as their first language.) This was partially funded by a \$3500 Teaching Improvement Grant. It is hoped that this will ease the transition into English instruction for Chinese-speaking students and improve their English as well as improve learning. The project was only completed during Semester 2 so that it is still too early to say how successful the experiment will be. A frequently-asked-question/message-board system was completed and introduced late in Semester 2 and is already proving a great success. It had 10,000 hits in its first month of operation. A new \$7500 Teaching Improvement Grant was obtained with A/Professor John Morris of Computer Science to build some more interactive learning materials. Experiments with distance learning have continued but the demand appears to be slight.

A project was begun to improve the content and workbooks of the large Stage 2 applied courses in preparation for producing a complete set of narrated lectures on CD of at least as good a quality as we have for the Stage 1 courses. A team approach was used employing people from the Department with a spread of applications backgrounds, Catherine Bentham from the Department of Marketing (the largest client-department for these courses), and an American visitor (Brant Deppa) with extraordinarily creative ideas about teaching these areas. At the time of writing the CD has almost been completed and it will be ready for Semester 1 2004.

Almost all undergraduate courses have Cecil as their (heavily used) flexible-learning delivery platform. Two or three are using stand-alone websites.

There were no major changes in offerings in 2003. Proposals were put through to cancel two courses and introduce two more for 2004. These will be discussed in the 2004 Annual Report. Cooperation in teaching with the Biological Sciences and SGES increased in 2003 with Statistics beginning to teach into BIOSCI 209 and MARINE 302. We are involved in the bioinformatics courses and will have a substantial involvement in the core graduate courses in bioinformatics which come on stream in 2004. These new involvements complement our more-established joint teaching with Engineering Science, Mathematics, and in Forensic Science.

A systematic student evaluation system and timetable for all courses in the Department was implemented.

As in previous years, we were able to offer a comprehensive range of 700-level courses, in part by drawing on the services of lecturers from other Departments in the University (particularly Community Health and the Clinical Trials Research Unit).

Enrolment Patterns

There was significant growth in student numbers. Efts grew by 8.5% from 759 in 2002 to 823 in 2003. There was essentially no change at Stage 1, but efts grew by 20% at both Stage 2 and Stage 3 and postgraduate efts grew by 25%. While there have been some minor increases in retention, almost all of the growth in undergraduate numbers has been pipeline growth from the large increases in numbers of international student entering in 2001 and 2002. This can be seen in the set of tables given on the next page.

We have never been able to uncover a cause for the one-off drop in enrolments in 2000 (which had a significant flow-on effect in 2001) so must think of this as symptomatic of the volatility to be expected in enrolment numbers.

Note that the International/Domestic splits for 2003 are based on August projections of 2003 figures rather than the actual end-of-year figures.

TOTAL Efts							
Level	1997	1998	1999	2000	2001	2002	2003
1	352	347	365	310	371	421	418
2	201	205	210	184	161	187	222
3	94	106	101	106	102	97	116
Grad	29	30	47	48	42	53	66
Total	679	690	723	649	675	759	823

PERCENT INTERNATIONAL Efts							
Level	1997	1998	1999	2000	2001	2002	2003
1				8%	16%	25%	24%
2				7%	10%	17%	27%
3				5%	5%	9%	16%
Grad				10%	9%	11%	18%
Of Total				7%	13%	20%	23%

INTERNATIONAL Efts							
Level	1997	1998	1999	2000	2001	2002	2003
1				24	59	103	99
2				13	16	31	59
3				5	5	9	19
Grad				5	4	6	12
Total				47	85	149	190

DOMESTIC Efts							
Level	1997	1998	1999	2000	2001	2002	2003
1				286	312	318	322
2				171	144	157	164
3				101	96	88	97
Grad				44	38	47	55
Total				602	591	610	638

II OTHER STUDENT MATTERS

Summer Studentships

Disappointingly, budgetary restraints meant that the Department was unable to offer any Summer Studentships at the end of 2003. This is clearly no way to nurture graduate programmes and we hope never to be in such a position again. Three summer students were employed at the beginning of 2003. Three gained summer scholarships from the Faculty of Science (which had substantially fewer on offer this year and they were offered later in the year) and 3 got funding from staff research contracts.

Staff-Student Liaison Committee

Joss Cumming continued her successful running of this committee in 2003. Four meetings were held with good participation from staff and students. The atmosphere at all of these meetings was extremely positive and they have been very valuable as a means of identifying problems students encounter so that they can be solved, and increasing staff understanding of student attitudes and concerns.

Scholarships and Prizes

<i>Senior Scholarship in Statistics:</i>	Wei, Wenxia
<i>Senior Scholarship in Operations Research:</i>	Ockleston, Charlotte Jane
<i>Annual Prizes in Statistics:</i>	Wu, Hsin Ying Wickham, Hadley
<i>Statistics New Zealand Prize:</i>	Wickham, Charlotte
<i>NZ Aluminium Smelters Prize:</i>	Houghton, Jeremy

Senior Prizes:

Guan, Anne Xiaoqiao
Peek, Matthew Charles
Lau, Ying On Jennifer
Webb, Kimberley Anne
Sawyer, Mark William
Hay, Eloise Jayne
Burnet, Timothy Hamish
Small, Anthony James
Wilson, Nathaniel Christopher
Chu, Lai Yi
Harrison, Robert Alexander
Hutton, Troy Raymond
Looney, Alec Robert
Postill, Sarah Anne
Hooper, Emma Anne
Salisbury, Miriam Joy
Jia, Yilin
Ng, Cheung Lun Erik
Pang, Ho Wan
Kim, Jae Young
Kim, Eun-Ji

III EQUAL OPPORTUNITIES

We are very conscious of EEO issues in appointments and promotions processes. We make every attempt to accommodate the needs of those with heavy family responsibilities. Dr Wiremu Solomon Science represents the Department on the Faculty of Science EO Committee and Dr Marti Anderson is Departmental liaison with Women in Science and Engineering.

Maori and Pasifika Staff

We now have 3 FTE Maori teaching staff in the Department. Dr Ross Ihaka is a Senior Lecturer, Dr Wiremu Solomon is a Lecturer who has a joint appointment with Mathematics, Rachel Cunliffe is a Tutor and Susan Wingfield is a half-time Tutor working in the Maori/ Pasifika Rooms. Also staffing the Maori/ Pasifika Rooms are Senior Tutors, Garry Nathan and Viliami Latu (of Tongan origin) who have joint appointments with Mathematics. We now also have one Maori Research Fellow Andrew Sporle.

Staff Gender Equity

Of the 27 equivalent full time positions at lecturer/senior tutor level or above, women comprise 7 FTEs, or approximately 25%. Although no woman is yet above the Senior Lecturer rank, progress is being made as 2 women were promoted over the bar in the 2003 promotions round. Sharon Walker was appointed as the new Departmental Manager.

EEdO

Wiremu Solomon had primary EEdO responsibilities for the Department.

The Department does not have any large problems with gender equity among students. We have very close to gender parity at all levels except PhD where a third of students are female.

The student population is approximately 55% Asian and the Department does have large numbers of students for whom English is not their first language. Recognising the difficulties experienced by the many Chinese students coping with new culture and language, we are trying a novel experiment at first year of making available a CD of the lectures in which in which the voice-over narrations for all of the lectures are in Mandarin (see Section I). At Stage 2 we are teaching structured forms of writing about the messages in data, partly to overcome language difficulties, but more importantly to help students organise their thoughts. The composition of our complement of student-tutors and demonstrators now largely reflects the diverse set of ethnic and language backgrounds of the students they are helping.

The Department continues to cooperate with the Student Learning Centre to provide foundation and supplementary workshops for students who are under prepared for first-year study.

Special efforts being made to help Maori and Pasifika students are described in the next section.

IV TREATY OF WAITANGI

Dr Ross Ihaka serves on the Science Maori Responsiveness Committee and Susan Wingfield serves on the Maori and Pasifika in Science Committee.

Over recent years, the Department has worked in partnership with the Department of Mathematics in pioneering the Tuakana (peer mentoring) Programme concept which has now been adopted quite widely across the university. This and targeted tutorials and workshops at first-year level run through our Maori and Pasifika rooms continue to be our main focus in this area. The Maori and Pasifika operations of the two Departments work together so seamlessly that they are almost a single operation. The distinctions are even more blurred by the fact that many of the staff involved hold or have held joint appointments. The advent of space vacated on the first floor of Building 303 in 2003 allowed significant improvement of the quantity and arrangement of space made available for the Maori and Pasifika rooms. There are now 2 moderately large study rooms and 2 small meeting rooms for Tuakana sessions. Several computers and facilities to facilitate social networking are provided. The rooms are adjacent to the offices of the Maori and Pasifika Tutors. Students are contacted personally by phone and invited to participate. Despite these efforts and the demonstrated benefits of participation, however, there are problems in raising levels of regular participation by Maori and Pasifika students high enough to have a significant impact on problems such as lower pass rates.

This summer, we have adopted the successful Mathematics Department concept of Aldis Scholarships given to several students who have just completed high school and who will enrol in STATS 108 at Summer School. They also give a sharp focus to school visits.

V RESEARCH

The Department has 20 staff with research expectations in their contracts.

Highlights

Professor Alastair Scott and Emeritus Professor George Seber were made Honorary Life Members of the New Zealand Statistical Association for their work in statistics. This is particularly notable because only two people in the history of the Association had previously been honoured in this way.

Once again there has been striking growth in research productivity. There was a 40% increase in number of journal articles and larger increases over the remaining categories for 2003 over 2002 which in turn showed a marked improvement over 2001.

Dr Rachel Fewster won a Fast-start Marsden Grant. Her project involves modelling rat invasions in off-shore islands. This project is complementary to another, "A stochastic modelling framework for metapopulation dynamics, with conservation applications" for which Dr Fewster and A/Professor Brian McArdle gained a UARC Postdoctoral Fellowship Grant.

In February, Drs Ross Ihaka and Paul Murrell were joined by Robert Gentleman and Bill Venables to host a two-day Workshop on Advanced S Programming. The workshop had 14 participants from research and industrial organizations throughout New Zealand. As an added bonus, John Chambers, the designer of the S programming language and winner in 1999 of the extremely prestigious Software System Award of the Association of Computing Machinery, visited from Bell Labs to give two talks on the past, present, and future of statistical computing. He is returning to present a longer series of lectures in early 2004.

General

Research in the Department is notable for the interactions with other departments and research groups. There are strong connections with the Department of Community Health, the Clinical Trials Research Unit (both now constituents of the School of Population Health), the New Zealand Quality of Healthcare Study, the Department of Engineering Science, ESR, the Forest Research Institute, Crop and Food Research, the Department of Mathematics, the School of Biological Science, and the School of Geography and Environmental Science. Typical links include joint appointments, shared research grants, shared supervision of postgraduate students, and the writing of joint papers.

Members of the Department are working in the areas of statistical computing, sample surveys, experimental design, statistical ecology, statistics in fisheries, Bayesian statistics, medical statistics, forensic science, applied probability and stochastic operations research, and statistics education.

A major ongoing strength is the statistical computing software R. Originally developed by two members of the Department, Ross Ihaka and Robert Gentleman, development of the software is now carried out by an international group that also includes the Department's Paul Murrell and many of the world's foremost experts in

statistical computing. The software has gained enormous recognition worldwide and is included in all major distributions of the Linux software.

PUBLICATIONS

(a) Books

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(b) Book Chapters

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(c) Journal Articles

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CRAIG B.A.³, BLACK M.A., & DOERGE R.W.³ 'Gene expression data: the technology and statistical analysis'. *Journal of Agricultural, Biological and Environmental Statistics*, 8, 1-28, 2003.

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(f) Scholarly Reviews and Comments

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SPORLE A.A. Commentary. 'The Development of Indigenous Research Guidelines' *New Zealand Bioethics Journal* 4 (1), 29-30, Feb. 2003.

(g) Professional and Technical Reports

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). New Zealand Youth: A profile of their health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

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ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Auckland South Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Auckland Northwest Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Bay of Plenty Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Canterbury Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Christchurch Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Hawkes Bay Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Manawatu/Wanganui Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Northland Regional Report: A profile of student health and well

being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

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ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Tasman Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Waikato Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

ADOLESCENT HEALTH RESEARCH GROUP. (WATSON P.D.², CLARK T.C.², FA'ALAU F.², ROBINSON E.M.², AMERATUNGA S.N.², DENNY S.J.², SPORLE A.A., CRENGLE S.M.², SCHAAF D.², DIXON R.S.², ADAIR V.², MERRY S.N.²). Wellington Regional Report: A profile of student health and well being. Early findings of Youth2000 a national secondary school youth health survey. Auckland. University of Auckland 2003.

AFIMEIMOUNGA, H.⁵, SOLOMON, W. & ZIEDINS, I. 'The Downs-Thomson paradox: existence, uniqueness and stability of user equilibria'. Technical Report. The University of Auckland, 22 pp.

AMERATUNGA, S.², LENNON, D.², STEWART, J.², SCOTT, D.J. FOR THE VACCINE EFFECTIVENESS EVALUATION TEAM. 'Post-licensure evaluation of the Meningococcal B Vaccine (MeNZB): Data analysis plan'. Auckland, Department of Paediatrics, University of Auckland, 65 pp, November 2003

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DIXON, R.², THOMAS, D.², ADAIR, V.², SPORLE, A., TAUMOEFOLAU, M.² Interim Report on the Impact/Outcome Evaluation of Family Start. Uniservices. Auckland. 2002

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LEWTHWAITE S.L.³, HOLDEN, J.K.⁵, SIMMONS, L.D.³, SUTTON, K.H.³, & TRIGGS, C.M., 'Production and storage effects on sweet potato root quality over time.' Crop & Food Research Ltd, Confidential Report No. 811. 67p. April 2003.

MCARDLE, B. 'The state of the American Samoan Coral Reef communities.' A report for the Coral Reef Advisory Group, American Samoa. 141 pp. 2003.

RAYMONT, A.², LAY-YEE, R.², DAVIS, P.D.³ & SCOTT, A.J., 'The National Primary Medical Care Survey. Report 1: Family Doctors - methodology and description of the activity of private GPs. Report to the NZ Ministry of Health, 96pp, 2003.

SCHEFFER, J.J.C.³, DEO, B.³, MORGAN, E.R.³, & TRIGGS, C.M., 'Comparison of two tetraploid ulluco clones with a diploid clone in trials in Pukekohe and Lincoln.' Crop & Food Research Ltd, Confidential Report No. 967. 12p. October 2003.

SPICER, S.⁵ & ZIEDINS, I. 'User optimal state-dependent routing in parallel tandem queues with loss'. Technical report. The University of Auckland, 19 pp., 2003.

TAYLOR, R.B.², ANDERSON, M.J., EGLI, D.² & WILLIS, T.J.⁴ 'Cape Rodney to Okakari Point marine reserve fish monitoring 2003: Final Report'. July 2003, prepared for Auckland Conservancy, Department of Conservation by UniServices, Auckland, New Zealand, 38 pp., 2003.

TAYLOR, R.B.², ANDERSON, M.J., USMAR, N.² & WILLIS, T.J.⁴ 'Te Whanganui A Hei marine reserve fish monitoring 2003: Final Report'. August 2003, prepared for Hauraki Area Office, Department of Conservation by UniServices, Auckland, New Zealand, 34 pp., 2003.

WILLIS, T.J.⁴, ANDERSON, M.J. & BABCOCK, R.C.² 'Te Whanganui A Hei marine reserve fish monitoring 2000-2002: Final Report'. January 2003, prepared for Hauraki Area Office, Department of Conservation by UniServices, Auckland, New Zealand, 42 pp., 2003

WILLIS, T.J.⁴, BABCOCK, R.C.² & ANDERSON, M.J. 'Cape Rodney to Okakari Point marine reserve fish monitoring 2000-2002: Final Report'. January 2003, prepared for Auckland Conservancy, Department of Conservation by UniServices, Auckland, New Zealand, 42 pp., 2003

(i) Patents

ZIEDINS, I. & MITRA, D.³, Method for sharing network resources by virtual partitioning. Japanese patent no. 3432385 granted 23/5/03.

(l) Other Works

ANDERSON, M.J. 'CAP': a FORTRAN computer program for canonical analysis of principal coordinates, new version. Department of Statistics, University of Auckland, New Zealand, 2003.

ANDERSON, M.J. 'DISTLM *forward*': a FORTRAN computer program to calculate a distance-based multivariate analysis for a linear model using forward selection. Department of Statistics, University of Auckland, New Zealand, 2003.

ANDERSON, M.J. 'DISTLM v.2': a FORTRAN computer program to calculate a distance-based multivariate analysis for a linear model, new version. Department of Statistics, University of Auckland, New Zealand, 2003.

ANDERSON, M.J. 'NPDISP': a FORTRAN computer program for non-parametric analysis of multivariate dispersions (for any two-factor ANOVA design) using permutation tests. Department of Statistics, University of Auckland, New Zealand, 2003.

ANDERSON, M.J. 'NPMANOVA': a FORTRAN computer program for non-parametric multivariate analysis of variance (for any two-factor ANOVA design) using permutation tests, new version. Department of Statistics, University of Auckland, New Zealand, 2003.

ANDERSON, M.J. 'PCO': a FORTRAN computer program for principal coordinate analysis, new version. Department of Statistics, University of Auckland, New Zealand, 2003.

ANDERSON, M.J. 'XMATRIX': a FORTRAN computer program for calculating design matrices for terms in ANOVA designs in a linear model. Department of Statistics, University of Auckland, New Zealand, 2003.

BATES, D.³, CHAMBERS, J.³, DALAGAARD, P.³, GENTLEMAN, R.¹, HORNİK, K.³, IACUS, S.³, IHAKA, R., LEISCH, F.³, LUMLEY, T.³, MACHLER, M.³, MURDOCH, D.³, MURRELL, P., PLUMMBER, M.³, RIPLEY, B.³, TEMPLE LANG, D.³, & TIERNEY, L.³, 2003. Versions 1.7.1, 1.8.0 and 1.8.1 of the R System <http://www.cran.r-project.org>, 2003

LUEN, B.⁵, RAMANAN, K.³ & ZIEDINS, I. 'Multicasting and phase transitions in tree loss networks.' *Forty-First Allerton Conference on Communication, Control and Computing*. Urbana-Champaign, Illinois, USA, 1-3 October, 2003, 10 pp. (Invited paper)

MEYER, R. 'Bayesian strategies for astrophysical data analysis', *AWIS (Association for Women in the Sciences) Newsletter*, 14, June 2003.

MEYER, R. CHRISTENSEN, N.³ 'Culling cosmic noise', *Marsden Fund Update*, 24, 3, 2003.

MURRELL, P. (2001-2003) The grid add-on package for R (versions 0.5-1.8.0) <http://www.stat.auckland.ac.nz/~paul/grid/grid.html>

MURRELL, P., 2003 The gridBase add-on package for R (version 0.1) <http://cran.r-project.org/>

SCOTT, DAVID J. 'The HyperbolicDist add-on package for R (Version 0.0-1)'. A package of R functions for the hyperbolic distribution. <http://cran.r-project.org/>, 2003.

PhD Completed

CAI, Bo	Non parametric Bayesian survival analysis
SHEU, Ru-Shuo	Queueing and storage control models"

List of New and Unreported Research Grants

CASWELL, HAL	NZIMA MacLaurin Fellow \$20,000
FEWSTER, Rachel	Marsden Fast Start \$100,000
FEWSTER Rachel & MCARDLE Brian	UARC Postdoc. Fellowship \$110,000
IHAKA Ross & MURRELL Paul	NZIMA \$5,000
MEYER, Renate	RSNZ Marsden \$324,000
MILLAR, Russell and STEWART, Wayne	AURC Graduate Research, \$1,200
PFANNKUCH, Maxine	UARC Staff Research \$9,238
REGAN, Matt	Lion Foundation \$4,000
SCOTT, David	AURC Staff Research, \$905
SCOTT, Alastair (with P. Davis, Otago)	FRST Family and Whanau well-being, PGSciTech, FRST, 2002, \$1.96 M
SPORLE, Andrew (with Koea J)	HRC, \$5,625
SPORLE, Andrew	HRC, \$5,625
(with Koea J, Blair V, Martin I, Pearce N)	
YEE, Thomas	NZIMA \$5000
	UARC Staff Research \$1800

Student Research

PhD Students

BERG, Andreas	Bayesian analysis of financial time series
CAI, Bo	Non parametric Bayesian survival analysis
CLOETE, Nicoleen	Markov chain Monte Carlo methods for population genetics models
DONOVAN, Carl	Non linear multivariate methods in ecology
GRIBBEN, Paul	Biology and distribution of geoducks
HELU, Joe	Stock assessment models of South Pacific tuna
HIROSE, Yuichi	Semi parametric efficiency bounds
JIANG, Yannan	Inference in inverse sampling
LANGLOIS, Tim	Effects of marine reserves and proximity of rocky reefs on soft sediment macro invertebrates
LAW, Derek	New methodologies for three dimensional representations of statistical data
LEE, Arier	Random effect models for ordinal data
MACKENZIE, Monique	Non-linear generalized mixed models: a regression spline approach
MAITRA, Alokandanda	Analysis of survey data. Interviewer effects in sample surveys
PAWLEY, Matt	Geostatistical methods in ecological sampling
REILLY, James	Imputation and data fusion
RUSSELL, James	Invasion ecology of rats on NZ islands
SAUNDERS, Justine	Modelling the multivariate response of kelp holdfast assemblages to environmental change
STEWART, Wayne	Bayesian modeling of fisheries
SU, Ji Zi	Internet traffic: analysis, modeling and control.
SUNBORN-MACDONALD, Gerhard	Cardiovascular disease risk factors in Pacific people
TSO, Jennifer	Bayesian non parametric techniques
UMSTAETTER, Richard	Bayesian strategies for astrophysical data analysis
WELCH, David	Bayesian Estimation of host and FIV genealogies of cat populations in New Zealand.

MSc Thesis

DAVY, Marcus	Bayes analysis of microarrays
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Postdoctoral Fellow

Dr Richard Ford Monitoring soft-sediment fauna of estuaries in the Auckland region

Research Fellows Andrew Sporle, Stephen McTaggart

Medium-term Visitors to the Department

Professor Keith Worsley	McGill University, Canada, April-June 2003
Professor Brant Deppa	Winona State University, USA, Semester 1 2003
Dr Robert Easterling	Sandia National Laboratories, USA, Semester 1 2003
Dr Gerald Cheang Hock Lye	Nanyang Technological University, Singapore, June to Sept. 2003
Assoc. Prof. Masayuki Jimichi	Kwansei Gakuin University, Japan, 9 September-1 October 2004
Dr Jonathan Reeves	U. New South Wales, September 2003-Feb 2004

Invited Conference Papers and Workshops

Marti Anderson

- Annual Conference of the New Zealand Ecological Society, Auckland, November 2003
- International Temperate Reef Symposium 6, Canterbury, January 2003

Week-long invited Workshops at

- Tjärnö Marine Biological Laboratory, Strömstad, Sweden.
- Department of Biological and Environmental Sciences and Technology, University of Lecce, Italy.
- Corso di Alta Formazione of the University of Bologna, Centro Interdipartimentale di Ricerca per le Scienze Ambientali, University of Bologna, Ravenna, Italy.

Mik Black: Seventh Purdue International Symposium on Statistics, West Lafayette, IN, USA.

Rachel Cunliffe

- IASE Satellite Conference on Statistics and the Internet, Berlin
- Invited half-day workshop at OZCOTS 5, Melbourne, December 2003

Ross Ihaka: Invited speaker at the "Workshop on Modern Statistical Visualization and Related Topics" at the Institute of Statistical Mathematics (Toyko), 11-12 December 2003

Paul Murrell: Workshop on Modern Statistical Visualization and Related Topics at the Institute of Statistical Mathematics (Toyko), December 2003

Maxine Pfannkuch

- Auckland Mathematics Association, May 2004
- 54th Session of the International Statistical Institute, Berlin, August 2003 (Invited speaker and Session Organiser for another session)

Matt Regan

- IASE Satellite Conference on Statistics and the Internet (Berlin, August)
- Invited Panel Member Delta03 - Fourth Southern Hemisphere Symposium on Undergraduate Mathematics Teaching (plenary, Queenstown)

Chris Wild

- Interamerican Statistical Institute (plenary, Rio de Janeiro, July)
- 54th International Statistical Institute (Berlin, August)
- American Statistical Association (San Francisco, August)
- IASE Satellite Conference on Statistics and the Internet (Berlin, August)
- Delta03 - Fourth Southern Hemisphere Symposium on Undergraduate Mathematics Teaching (plenary, Queenstown, November)

Thomas Yee

- Special Wagenings Biometric Colloquium on the occasion of "Cajo ter Braak: 20 years in the statistical ecology", Wageningen, Holland, December

- 1-day Workshop, Biometris, Wageningen University, Modern multivariate analysis using vector generalized linear and additive models (VGGLM & VGAM) and R, December

Ilze Ziedins

- ICIAM 2003 (The 5th International Congress on Industrial and Applied Mathematics), Sydney, Australia, 7-11 July, 2003.
- The Forty-First Annual Allerton Conference on Communication, Control and Computing. Urbana-Champaign, Illinois, USA, 1-3 October, 2003.

Seminars by Visitors

12/2/2003 Professor Bryan F.J. Manly (Western EcoSystems Technology)

Title: Tests of Bioequivalence with Non-normal Distributions and Unequal Variances

17/2/2003 Dr John M. Chambers (Lucent Bell Laboratories)

Title: Who will use statistics? Making statistical software available.

24/2/2003 Professor Kavita Ramanan (Carnegie Mellon University)

Title: Analysis of an optimal scheduling discipline for telecommunication networks

7/3/2003 Professor Daryl Daley (Australian National University)

Title: Modelling Long Range Dependence and Point Processes

27/3/2003 Dr. Yoshihiko Maesono (Kyushu University)

Title: Asymptotic Distributions of U-statistics

1/4/2003 Professor Trevor Hastie (Stanford University)

Title: Independent Component Analysis by Product Density Estimation

7/4/2003 Dr Robert G. Easterling (Sandia National Laboratories)

Title: Statistical Foundations for the Validation of Computer Models

10/4/2003 Professor Keith J. Worsley (McGill University)

Title: Heritability random fields

15/5/2003 Professor Pip Forer (School of Geography & Environmental Science)

Title: Subtleties of Space: Gaps in the Armoury of Geographic

5/6/2003 Dr Gerald Cheang (Nanyang Technological University)

Title: An Introduction to Exotic Options

12/6/2003 Dr Gerald Cheang (Nanyang Technological University)

Title: A Simple Approach to Pricing Options with Jumps

13/6/2003 Professor David Boyce (University of Illinois at Chicago)

Title: Congestion Management by Road Pricing : Implications for Urban Travel Forecasting Models

4/9/2003 Dr Tony Blakely, Public Health Physician & Sr Research Fellow, (Dept. of Public Health, Otago)

Title: Death and Statistics - Using data matching techniques to correct biases in New Zealand mortality data.

5/9/2003 Dr. James M. Curran (Waikato University)

Title: Modelling The Distribution Of Recovered Glass

24/9/2003 Professor John S. Gray (University of Oslo)

Title: The estimation of species richness: a new method and its application to marine data from Norway and Hong Kong.

24/9/2003 Dr Moshe Haviv (Hebrew University of Jerusalem)

Title: Queues with relative priorities

24/9/2003 Professor Nicholas T. Longford, (De Montfort University, Leicester, England)

Title: Examples of multiple imputation

25/9/2003 Dr Greg Ewing (SBS Auckland)

Title: Inferring migration rates from DNA sequence data using reversible-jump MCMC

9/10/2003 Heidi Larsson, (University of Aarhus, Denmark)

Title: Perinatal factors, Parental Psychiatric History, Socioeconomic Status and Autism in Denmark- A Register-Based Case-Control Study

18/12/2003 Lara Jamieson (Statistical Laboratory and Department of Plant Sciences, Cambridge University)

Title: Bayesian Modelling of spatial and temporal spread of an epidemic.

22/12/2003 Professor David Brillinger (Department of Statistics, U California, Berkeley)

Title: Some experiences with random effect (generalized) linear models

V. STAFF LEAVE AND CONFERENCES

Dr Marti Anderson	Sabbatical Leave Taken Semester 1, 2003 Annual Conference of the New Zealand Ecological Society, Auckland, November 2003. Sixth International Temperate Reef Symposium, Christchurch, January 2003,
Dr Mik Black	Seventh Purdue International Symposium on Statistics New Zealand Statistical Association
Ms Rachel Cunliffe	IASE Satellite Conference on Statistics and the Internet, Berlin, August 2003 54 th Session of the International Statistical Inst., Berlin, August 2003 Talking Teaching / Thinking Learning Conference, Nov. 2003 (Invited Keynote) OZCOTS 5, Melbourne, December 2003
Mr Richard Ford	New Zealand Marine Sciences Society 2003 Sixth International Temperate Reef Symposium, Christchurch, January 2003
Dr Ross Iheka	Distributed Statistical Computing, Vienna, 2003 Modern Statistical Visualisation and Related Topics, Tokyo, December, 2003
A/Prof Alan Lee	54th Session of the International Statistical Inst., Berlin, August 2003 Workshop on: Boosting and Support Vector Machines, Waikato, June 2003
A/Prof Brian McArdle	2 months Leave was taken to complete a Uniservices contract in American Samoa (15th August – 15 th October) Biostatistics Workshop “Recent developments in statistical methods for evidence synthesis.” University of Auckland, Dec 4-5, 2003
Dr Patricia Metcalf	Biostatistics Workshop “Recent developments in statistical methods for evidence synthesis.” University of Auckland, Dec 4-5, 2003
Dr Renate Meyer	Sabbatical Leave until May 03 International Workshop on Bayesian Data Analysis, Santa Cruz, August 2003
Dr Arden Miller	Sabbatical leave (both semesters). Statistical Society of Canada Meetings, Halifax Canada, June 2003
Dr Paul Murrell	Research and Study leave (July 1 – December 31) Distributed Statistical Computing, Vienna, 2003 Joint Statistical Meetings, San Francisco, August 2003 Modern Statistical Visualisation and Related Topics, Tokyo, December, 2003
Ross Parsonage	Talking Teaching / Thinking Learning Conference, Nov. 2003 (Invited Keynote)
Dr Maxine Pfannkuch	ISI-54 Conference, 13-20 August, Berlin IASE Satellite Conference, 11-12 August, Berlin DELTA 03 Conference, 23-27 November, Queenstown LOGOS #12 Seminar Day, 11 December, Auckland

Dr Geoff Prichard	38 th ORSNZ Conference (Hamilton).
Mr Matt Regan	54 th Session of the International Statistical Inst., Berlin, August 2003 DELTA 03, 23-27 November, Queenstown
Prof. Alastair Scott	54 th Session of the International Statistical Inst., Berlin, August 2003 NZSA Annual meeting, Palmerston North, July 2003
A/Prof David Scott	NZSA Annual Conference Biostatistics Workshop of "Recent developments in statistical methods for evidence synthesis. University of Auckland, Dec 4-5, 2003
Dr Wiremu Solomon	38 th ORSNZ Conference
A/Prof Chris Triggs	International Society for Computational and Molecular Biology Brisbane, 30 June – 4 July, 2003
Prof Chris Wild	Workshop on: Boosting and Support Vector Machines, Waikato, June 2003 Interamerican Statistical Institute (Rio de Janeiro, July) International Statistical Institute (Berlin, August) American Statistical Association (San Francisco, August) IASE Satellite Conference on Statistics and the Internet (Berlin, August) Delta03, Queenstown, November 2003
Dr Yong Yang	Workshop on: Boosting and Support Vector Machines, Waikato, June 2003
Dr Thomas Yee	Leave without pay starting July 2003. Visiting Associate-Professor at the Department of Statistics, National University of Singapore, for 12 months. Workshop on: Boosting and Support Vector Machines, Waikato, June 2003 Special Wagenings Biometric Colloquium on the occasion of "Cajo ter Braak: 20 years in the statistical ecology", Wagengin, Holland, 11 Dec 2003.
Dr Ilze Ziedins	Short leave in Semester 1, taken in Auckland, Waikato, Cambridge with visits to Oxford, Durham and Heriot-Watt universities ICIAM 2003 (The 5th International Congress on Industrial and Applied Mathematics). Sydney, Australia, 7-11 July, 2003. The Forty-First Annual Allerton Conference on Communication, Control and Computing. Urbana-Champaign, Illinois, USA, 1-3 October, 2003. Workshop on Point Processes in Reliability Models, Wellington, 6-7 September, 2003

VI COMMUNITY SERVICES

Highlights

Professor Chris Wild became President of the International Association for Statistical Education.

David Scott accepted an invitation to serve on the Advisory Committee being set up by Statistics New Zealand to review the Consumer's Price Index (CPI).

In Community Service and outreach, the Department initiated and hosted the first New Zealand CensusAtSchool with participation of 18,000 primary and secondary school students and media attention that included the Holmes show.

Our annual Year 13 Workshop held on the Tamaki Campus drew 116 secondary-school teachers, mainly from the Auckland region. This was considerably up on the previous record of 80 participants set in 200. The focus this year was on correlation and regression, a recent addition to the year-13 syllabus. The workshop format, which includes elements to broaden teacher awareness of the use of statistics in the world with specific teaching help down to the level of some lesson plans that can be employed immediately in the classroom, seems to be a very successful. It is important work as there are virtually no secondary teachers with any experience of real data-analysis. It comes at a cost, however. More than 3 person-weeks went into preparing the 2003 workshop.

Four workshops were run through CPD to share with the university community some of the technical expertise developed by the first-year Team in the wake of the teaching awards, and related papers were published and presented at local and international conferences and workshops such as the IASE Satellite Conference on Statistics and the Internet, and the Fourth Southern Hemisphere Symposium on Undergraduate Mathematics Teaching.

There has been an increase in the degree to which members of the Department served in Editorial capacities on international and regional journals and also on programme committees and in related roles for international, regional and local conferences – listings are given below. Not only is fulfilling such roles a valuable service to the profession and research environment, being invited into them is an honour and shows international recognition of the research standing of the individuals involved.

Submission to the Ministry of Education on Mathematics with Statistics
Scholarship Standard (Pfannkuch, Parsonage, Paterson, Regan, Wild)
(re-introduction of NCEA to Year 13 from 2004)

In 2003 members of the Department continued to offer statistical consulting services to members of the University and the wider community. Graduate students from other Departments commonly obtain advice from members of the Statistics Department. Work was undertaken with the Departments of Accounting, Community Health, Geography, Medicine (Clinical Trials Research Unit), Paediatrics, and Psychology, and the Schools of Biological Science, Engineering, and Environmental and Marine Science. Other clients included the Department of Conservation, Cancer Research, Crown Research Institutes, and several commercial clients contracted through UniServices.

Editorial, Professional Society Officers, and Conference Organisation

Dr Ross Ihaka

One of 3 invited judges for the John Chambers Prize for Statistical Software (top international Prize in the area)
Co-President of the R Foundation for Statistical Software

A/Prof Alan Lee

Associate Editor of the *Australian and New Zealand Journal of Statistics*

A/Prof Russell Millar

Editor (Applications) of the *Australian and New Zealand Journal of Statistics*
Editorial Board member of *New Zealand Journal of Marine and Fisheries Research*
Editorial Board member of the *Canadian Journal of Fisheries and Aquatics Sciences*

Dr Arden Millar

Associate Editor for the *Australian and New Zealand Journal of Statistics*
Member of the “College of Reviewers” for the Canada Research Chairs Program

Dr Paul Murrell

Associate Editor for *Computational Statistics*
Program Chair of the Section on Statistical Graphics of the American Statistical Association, 2003
Assistant Editor for the Statistical graphics Section of the American Statistical Association

Dr Maxine Pfannkuch

Session Organiser for International Statistical Institute-54, Berlin, 2003
Topic Convenor for ICOTS-7, Brazil, 2006
Topic Group Committee for ICME-10, Copenhagen, 2004
Forum Convenor for SRTL-4, Auckland, 2005

Prof Alastair Scott

Associate Editor for the *Australian and New Zealand Journal of Statistics*
Member of the FRST Post-doctoral Reference Group
Governing Board of NZIMA
Honorary Life Member of the New Zealand Statistical Association (there are only 4 life members)

A/Prof David Scott

Scientific Programme Committee of Delta 03

Convenor of the Organising Committee for Statistical Society of Australia/NZSA 2006

Webmaster for the New Zealand Statistical Association

Prof George Seber

Honorary Life Member of the New Zealand Statistical Association (there are only 4 life members)

A/Prof Chris Triggs

Associate Editor of *Biometrics*

Prof Chris Wild

President, International Association for Statistical Education

Council Member of the International Statistical Institute

Associate Editorships:

International Statistical Review

Australian and New Zealand Journal of Statistics

Statistics Education Research Journal

Program Committees

IASE Programme Committee for ISI 54, Berlin 2003 (ISI is International Statistical Institute)

ISI 55 Programme Co-ordinating Committee, Sydney 2005

Chair IASE Programme for ISI 55, Sydney 2005

IASS Programme Committee for ISI 55, Sydney 2005

Advisory Committee, 3rd Int. Research Forum on Statistical Reasoning, Thinking, and Literacy, 2003

Scientific Committee, 7th International Conference on the Teaching of Statistics, 2006

Advisory Committee, International Statistical Literacy Project

Dr Ilze Ziedins

Associate Editor for Stochastic Models

Associate Editor for Australian and New Zealand Journal of Statistics

East Asian and Pacific Regional Committee of the Bernoulli Society

In addition, the following staff reported serving as referees for the indicated publications:

Marti Anderson	Biometrics, Ecological and Environmental Statistics, Journal of Theoretical Biology, Journal of Statistical Planning and Inference, Austral Ecology, Journal of Vegetation Science, Journal of Experimental Marine Biology and Ecology
Mik Black	Referee for Applied Bioinformatics, Biometrics, Brian Research, Journal of the American Statistical Association, Journal of the Royal Statistical Society (Series B), Plant Cell.
Rachel Fewster	Referee for JASA, Biometrics, and Wildlife Research in 2003.
Patricia Metcalf:	Reviewer for Health Research Council of New Zealand, Diabetes Care, Australia and New Zealand Journal of Statistics, New Zealand Medical Journal, Age and Aging.
Renate Meyer:	Referee for CJFAS, Ecological Modelling, ANZJS, Journal of Computational and Applied Mathematics
Russell Millar:	Reviewer for Canadian Journal of Fisheries and Aquatic Sciences, Australian and New Zealand Journal of Statistics, Applied Statistics, New Zealand Journal of Marine and Freshwater Research
Arden Miller:	Reviewer for the Journal of Quality Technology and Technometrics.
Maxine Pfannkuch	Referee for Journal of Applied Mathematics and Decision Sciences, Mathematics Education Research Journal, MERGA Conference proceedings, DELTA Conference proceedings and SRTL-3 International Forum proposals
Geoff Pritchard:	Referred for The Tail Behaviour Of Correlation Measures. <i>J. Theoretical Probability</i> , Offer Stack Optimization For Price Takers in Electricity

Markets, *Operations Research*, Market Offering Strategy for Hydro-electric Generators, *Operations Research*, Financial Transmission Rights in Convex Pool Markets, The Eigenvalues of the Empirical Transition Matrix of a Markov Chain.

Alastair Scott:	Reviewer for Biometrics, Biometrika, Annals of Statistics, J.Linear Alg & Applications, Statistics in Medicine
David Scott:	Referred for Australian Journal of Statistics, Biometrics, Australian Research Council.
Chris Triggs:	Reviewer for Biometrics, Annals of Statistics, Law Probability and Risk
Chris Wild	Referred for Biometrika, International Statistical Review, Statistics Education Research Journal, 3rd International Research Forum on Statistical Reasoning
Thomas Yee:	Refereed an article called "Stable and efficient multiple smoothing parameter selection for generalized additive models" for the <i>Journal of the American Statistical Association</i>
Ilze Ziedins:	Reviewer for Journal of Applied Probability, Operations Research, New Zealand Journal of Mathematics, Bulletin of the Allahabad Mathematical Society

VII OTHER MATTERS

Staffing changes

Dr Yong Wang joined the staff as a lecturer in statistical computing.

Promotions were obtained by Mike Forster, Patricia Metcalf, Renate Meyer, Geoffrey Pritchard and David Smith.

Marti Anderson, Arden Miller and Ilze Zedins undertook successful Research and Study Leaves.

Thomas Yee took leave-without-pay from July 2003 at the National University of Singapore where he will be until June 2004.

Administration

Many people contributed to the smooth running of the Department in 2003. Special thanks are due to all our administrative staff, but in particular to Departmental Secretary Shobha Herle for incredible resourcefulness and grace under pressure over the almost two months in which we were without a Departmental Manager, to Kathy Henry for continuing to help us over this period and to the Mira Szászy Research Centre for allowing her to do so. The following staff provided valuable service to the Department in specific areas:

- | | |
|----------------------------------|--|
| • HoD | Chris Wild |
| • Department Manager | Kathy Henry (Jan-July) Sharon Walker (Oct-Dec) |
| • Tamaki Head | Alan Lee |
| • Director of Consulting Service | Chris Triggs |

Committee Convenors

- | | |
|------------------------|----------------|
| • Consulting | Chris Triggs |
| • Graduate | David Scott |
| • IT | Ross Ihaka |
| • Library | Ilze Ziedins |
| • Research | Russell Millar |
| • Staff-Student | Joss Cumming |
| • Student life | Rachel Fewster |
| • Teaching Development | Ross Parsonage |

Year-level coordination

- | | |
|-----------|--------------|
| • Stage 1 | Matt Regan |
| • Stage 2 | Mike Forster |
| • Stage 3 | Chris Triggs |

Postgraduate

- Graduate Officers David Scott, Alastair Scott
- Graduate Advocate Rachel Fewster

Operations Research Programme Ilze Ziedins

Research Group Leaders

- Bayesian Statistics Renate Meyer
- Statistical Ecology and Bioinformatics Marti Anderson
- Industrial Statistics Arden Miller
- Medical Statistics Patricia Metcalf
- Operations Research & Stochastic Processes Ilze Ziedins
- Statistical Computing Ross Ihaka
- Statistics Education Matt Regan

Other

- Maori and Pasifika Wiremu Solomon, Susan Wingfield
- Timetable Matt Regan
- Undergraduate Enrolment Christine Miller
- Library Ilze Ziedins and Thoams Yee
- Seminars Arden Miller and Brian McArdle
- Open Day Coordinator Mik Black
- Tamaki Demonstrators Ross Parsonage
- Databases Paul Murrell
- CECIL Liaison Mat Regan
- Coordinator BTech (IM) David Scott
- Women in Science and Engineering Marti Anderson

Departmental Representative or Service on Faculty Committees

- Fac. Science Academic Geoffrey Pritchard
- Fac. Science IT Managers Werner Schmidt
- Fac. Science IT Academic Paul Murrell
- Fac. Science EO Wiremu Solomon
- Fac. Science Maori Responsiveness Ross Ihaka
- Fac. Science Maori and Pacifika in Sci Susan Wingfield
- Fac. Science Library Ilze Ziedins
- Fac. Science Staffing Ilze Ziedins, Chris Triggs
- Fac. Med & Health Sci. Staffing Chris Triggs
- Faculty of Bus. And Econ. Chris Wild
- Faculty of Arts Geoffrey Pritchard
- Faculty of Arts BUGS Maxine Pfannkuch

PBRF Mirror Panels Alan Lee, Alastair Scott, Chris Wild

Marsden Fund Mirror Panels Renate Meyer

Women in Science and Engineering Marti Anderson

Also, Chris Triggs served as Associate Dean of Science (Tamaki), Alastair Scott served as a member of the FRST Post-doctoral Reference Group, was Chair of Economics Review, and on the Executive of the Centre for Health Services Research and Policy. Chris Wild served on the Review Committee of the Department of Engineering Science and in late 2003 was appointed to the Board of Studies for General Education as representative of the Professoriate.

Uniservices

Year	Revenue	Increase	Billings	Increase
2001	\$41,642		\$52,549	
2002	\$103,841	149%	\$162,525	209%
2003	\$247,747	139%	\$299,805	84%

VIII OVERALL COMMENTS ON PROGRESS WITHIN THE DEPARTMENT

Student numbers, including graduate numbers were at an all-time high in 2003 and we won a national teaching award. The financial health of the Department depends on the continuation of our role as the providers of Statistics service teaching across the University. We take this role very seriously, and continuously strive to improve the quality of our courses so the teaching awards received in 2003 gave a welcome external imprimatur of quality.

Research productivity was up. Uniservices revenues were up by 139%. It was particularly pleasing to note the big contributions being made by our strong group of younger staff members who are brimming with energy and ideas and excelling across the board. We had one new academic appointment (Dr Yong Wang) in 2004 and look forward to advertising 2 new Chairs at the beginning of 2004, to replace foundation Professors George Seber (who retired at the end of 1998!!) and Alastair Scott who is to retire at the end of 2004.

At the beginning of 2003, we took over much of the second floor of the newly-built wing of Building 303 and relinquished some space on Floor 1. This gave a net gain in space (and quality of space) that temporarily relieved the pressures of growth. Room was found for a meeting room for the Department that also doubles as a Departmental Library. More space was given to the Maori and Pacific Rooms and offices of the Tutors on Floor 1. Vital additional postgraduate teaching space was also found on Floor 1 though the long-term use allotment of these teaching rooms has yet to be made so teaching space for postgraduate courses continues to be a worry. Moving our Tamaki base into building T721 adjacent to the new Population Health building close to our biostatistical colleagues from what was the Department of Community Health and also the Clinical Trials Research Unit should result in better collaborative opportunities, both for research and postgraduate education.

The advent of the new part of 303 and the housing of the undergraduate computer labs in that new space as part of the Computer Science complex of laboratories also saw the Computer Science Department taking over the running of the teaching labs. We are very happy with the new arrangements and compliment the Computer Science Department on doing the job extremely well.

There were changes to the internal administration of the Department with Committees set up to administer and provide leadership in the areas of Research, Consulting, Postgraduate, Information Technology, Library, Student Life, and Teaching Development. An Academic Committee is to be added for 2004. The success of the new arrangements has been good in some areas and mixed in others. More effort will be required in 2004 to bed the new systems in and get them working optimally. Likewise the formulation of formally-constituted research groups in a research culture that has been very much based on the individual will take a while to take shape and reap full benefits.

I am very grateful for the support of my predecessor Alan Lee, all staff in Statistics and the great team at the Faculty of Science in this my first year as Head of Department. Particular thanks are due to the general staff of the Department in a year which was also marked by a change in Departmental Manager. The pressure was greatest on Departmental Secretary Shobha Herle who showed extraordinary resourcefulness and grace under pressure over the almost two months in which we were without a Departmental Manager. We are grateful to departing Manager Kathy Henry for her years of loyal service and for continuing to help us over the transition period, to the Mira Szászy Research Centre for allowing her to do so, and our new Departmental Manager Sharon Walker for a successful start in her new role.

Chris Wild

HoD, Department of Statistics