

## INFORMATION FOR CANDIDATES

for appointment as

Lecturer/Senior Lecturer in Statistics  
(Confirmation Path)

### DEPARTMENT OF MATHEMATICS AND STATISTICS

#### THE UNIVERSITY OF OTAGO

##### *Te Whare Wānanga o Otago*

The University of Otago is New Zealand's oldest university. It is a leader across all fields of academic endeavour – the humanities, sciences, health sciences and business – regularly topping the New Zealand Tertiary Education Commission's education performance indicators.

Students can choose from more than 190 undergraduate and postgraduate programmes and are taught by leaders in their fields, reflected by an unparalleled record of success in the country's Tertiary Teaching Excellence Awards.

Research excellence underpins all academic activity: more than 4,500 of the University's 20,000 students study at the postgraduate level. The University has leadership roles in national Centres of Research Excellence and partnership roles in the country's National Science Challenges. It also hosts a raft of multidisciplinary research themes and research centres. It is the home of New Zealand's first medical school and only schools of dentistry and surveying.

The teaching year generally runs from February to November, broken into two 13-week semesters. A number of programmes are offered via Distance Learning and a Summer School is held for six weeks during January and February.

In addition to research and teaching excellence, the University is committed to local, national and international betterment; strong external engagement; sustainable capability; providing outstanding student experiences and campus environments. The main campus is located in Dunedin – internationally recognised as one of the most beautiful campuses in the world – with significant health sciences campuses in Christchurch and Wellington, as well as a presence in Invercargill and Auckland.

The University of Otago is also strategically committed to furthering the aspirations of Māori and its Pacific neighbours and has memoranda of understanding with a number of iwi, in particular Ngāi Tahu, the Mana Whenua of the University's main area of operation.

With more than 80 per cent of students coming from outside Dunedin, the University offers a unique campus-based lifestyle, a special feature of which are the 15 residential colleges located close to the heart of all University activities.

Providing a world-class environment for students and staff is a priority and the University has embarked on a significant capital development programme in recent years. Otago was the first New Zealand University to achieve Fair Trade status and fosters a growing culture of volunteerism among staff and students.

#### THE DEPARTMENT OF MATHEMATICS AND STATISTICS

The University has four divisions, Sciences, Health Sciences (including schools of Medicine, Dentistry, Physiotherapy and Pharmacy), Commerce and Humanities. Mathematics and Statistics is within the [Division of](#)

[Sciences](#) but maintains strong links with other departments and other Divisions through collaborative research and teaching.

The Statistics Group currently includes two Professors, an Associate Professor, seven Lecturers/Senior Lecturers, one Teaching Fellow, and a number of research/postdoctoral fellows. There are also several affiliated statisticians from other departments in the University.

The Mathematics Group comprises 11 permanent academic staff, in addition to research and teaching fellows. The Department is well supported by five administrative and IT staff.

## **DEPARTMENTAL RESEARCH ACTIVITIES AND INTERESTS**

This position offers the opportunity to join a dynamic group of staff committed to high standards in teaching and research. Regular seminars, often with visiting speakers, take place during each semester.

Research areas of Statistics staff include Bayesian inference, ecological and environmental statistics, hidden Markov models, scoring rules, smoothing methods, spatial statistics and point processes, statistical inverse problems, stochastic modelling, clinical trials, epidemiology, quantitative genetics, and statistical genetics. Close collaboration is maintained with other Departments and Research Groups in the University, notably Zoology, Botany, Biochemistry, Geology, Preventive and Social Medicine, Genetics Otago, the Centre for Translational Research in Cancer, the Otago Global Health Institute, and the Pharmacoepidemiology Research Network, and the Otago Earthquake Science Working Group. Staff also collaborate with researchers at other Universities in New Zealand and abroad, and with Crown-owned scientific research groups. The recently established Quantitative Genetics group is funded via a Research Partnerships fund with Beef and Lamb NZ and the Ministry of Business, Innovation and Employment as well as the University of Otago.

Current mathematical research interests in the Department include algebra, anomalous diffusion, applied continuum mechanics, approximation of PDEs, complex analysis, computational modelling, fractional calculus, functional analysis, graph theory, mathematical relativity, numerical methods, numerical relativity, operator semigroups, and polar marine physics and modelling.

Further details about the Department of Mathematics and Statistics, its staff, courses, and research interests can be obtained from their web site <http://www.stats.otago.ac.nz> .

## **UNDERGRADUATE PROGRAMME IN STATISTICS**

A full range of undergraduate courses in statistics is offered, primarily within the Division of Sciences and leading to BSc or BSc(Hons) degrees. A full description of papers currently taught is available on the Department webpage <http://www.stats.otago.ac.nz>. Two first year Statistics papers are offered, with around 1500 students in total. Students majoring in Statistics and/or Mathematics can choose from papers that cover a wide range of interests. The University also offers a major in Data Science within the Applied Sciences degree, into which Statistics staff teach.

## **POSTGRADUATE PROGRAMMES IN STATISTICS**

These include the Postgraduate Diplomas (PGDipSci, PGDipApStat, DipGrad), a two-year Master of Science (requiring one year of course work and one of research), a Master of Applied Science degree in Quantitative Genetics (consisting of 18 months of course work), and a three-year PhD programme (entirely research).

## **DUTIES AND RESPONSIBILITIES**

The successful applicants should have a PhD with expertise in the area of statistics and an aptitude for teaching.

The successful applicant will be required to conduct research in statistics, to participate in undergraduate- and postgraduate-level teaching, to undertake research independently of and/or complementary to an established programme, to contribute to the continuing development of programmes in Statistics, and to carry out such administrative duties as the Head of Department may require.

The area of research that could be pursued by the applicant will not be prescribed. It is expected that in due course the appointee will develop an autonomous research programme.

The appointee will be directly responsible to the Head of Department, and have functional relationships with academic and general staff colleagues, undergraduate and postgraduate students.

Refer also: <https://www.otago.ac.nz/humanresources/training/academic-staff/academic-titles/index.html>

### **WORKLOAD EXPECTATIONS**

In general, the University of Otago expects academic staff to devote 40% of their work time to research, 40% to teaching, and the balance to community service and administration.

The research/teaching nexus is emphasized at Otago and the Department structures teaching loads to facilitate personal scholarship of its academics as well as to expose students to research-informed teaching.

### **TREATY OF WAITANGI AND THE MĀORI STRATEGIC FRAMEWORK**

The Division of Sciences and the Department of Mathematics and Statistics are committed to its obligations under the Treaty of Waitangi and the University's Māori Strategic Framework.

### **EQUAL EMPLOYMENT OPPORTUNITIES**

The Department is strongly committed to diversity in staffing and we encourage applications from women and other groups that are under-represented in the mathematical and statistical sciences. Parental leave without pay of up to 52 weeks is available, including twelve weeks of paid parental leave. The parental leave policy is flexible, and if both parents work for the University they may choose to share the leave entitlements as best suits the needs of their family. The University operates childcare centres covering the period birth to five years.

### **CONFIRMATION PATH**

This is a Confirmation Path position, please refer to the Confirmation Path Policy:  
<https://www.otago.ac.nz/administration/policies/otago003122.html>

### **APPLICATIONS**

To ensure that appropriate credit can be given by the search committee to a variety of areas of activity, not only academic achievements, we encourage you to supply a broad-based curriculum vitae describing your productivity and creativity in all areas you wish to have considered.

### **REFEREES**

The University may contact all three or four referees listed in the application. The candidate should also state their relationship with each referee. Referees will only be contacted after prior consultation with the

candidate. It is the candidate's responsibility to ensure that their referees are willing to provide reports when contacted.

The University reserves the right to seek reports on the suitability of candidates from experts in the field, other than those nominated by the candidate. Should an applicant not wish a specific person or persons to be contacted, please advise the recruitment team at the time of application.

## **DATE OF APPOINTMENT**

Applicants are asked to indicate the date they would expect to be available to take up the appointment. The appointment is available from 1 July 2020.

## **THE DIVISION OF SCIENCES TE REOHE A AHIKAROA**

The Division of Sciences has research and teaching strengths in the fundamental and applied sciences, in human performance and health, and in environmental sciences. It offers several disciplines unique to Otago and hosts a number of nationally and internationally acclaimed research centres.

## **RESEARCH EXCELLENCE**

Research and science are inseparable – science marches forward because of research and, as it does, we understand more of the physical and biological subtleties of our existence.

Otago's Division of Sciences includes many departments and centres world-renowned for the quality – and impact – of their research. The Division is also the proud host of two national centres of research excellence (CoREs): the Dodd-Walls Centre for Photonic and Quantum Technologies and the Brain Research New Zealand Rangahau Roro Aotearoa (co-hosted with the University of Auckland). Continued success in securing major contestable and commercial funding, and international partnerships further strengthen our research capabilities.

Research centres and themes focus on brain health and disease; memory, cognition and emotion; human development across the lifecourse; Māori physical education and health; indigenous science; the profitability and sustainability of New Zealand's primary industries; quantum science; polar environments; ocean acidification; catchment management; and energy with strong affiliations to research in other areas of the University. Applied research centres in several departments further strengthen and diversify the range of research within the Division.

## **TEACHING, FACILITIES AND SUPPORT**

The Division's outstanding research performance enriches a broad range of high-quality teaching programmes spanning the fundamental sciences, applied sciences, human performance, health, neuroscience and multidisciplinary curricula in the ecological and environmental sciences.

The pursuit of teaching and research excellence in a friendly supportive environment is a priority. This is complemented by superb laboratories and facilities for in situ fieldwork that meet and, in most cases, exceed the standards necessary to remain at the cutting edge of knowledge. Field teaching capitalises on Otago's terrestrial, marine, built, and wild environments.

The Division of Sciences also has a well-established Sciences Outreach programme, run by both staff and students. This includes Hands-On at Otago, the Otago University Advanced Schools Sciences Academy, and Science Wānanga for Māori secondary school students. Its departments, schools and research centres offer more than 150 outreach programmes to local, national and international communities each year. In

collaboration with the Otago Museum, the Division also hosts an extensive interactive expo as part of the International Science Festival – a major event in Dunedin’s biennial calendar – highlighting research from across the Sciences disciplines.

## **DIVISION OF SCIENCES DEPARTMENTS**

- Botany
- Chemistry
- Computer Science
- Food Science
- Geology
- Human Nutrition
- Marine Science
- Mathematics and Statistics
- Physics
- Psychology
- School of Physical Education, Sport and Exercise Sciences
- School of Surveying
- Zoology

### ***The Division offers inter-departmental programmes in:***

- Applied Science
- Ecology
- Environmental Science
- Genetics
- Neuroscience
- Plant Biotechnology
- Science Communication
- Wildlife Management

## **LIVING IN DUNEDIN**

The University of Otago’s southern roots are anchored in its formal relationship with mana whenua Ngāi Tahu and the legacy of the city’s Scottish settlers who established a university here within just 21 years of founding the province from which the University takes its name.

Dunedin grew rich on the back of the 1860s Otago gold rush, a wealth that is reflected today in streetscapes of outstanding Victorian and Edwardian architecture. With a population of around 120,000, this is a small but sophisticated city, boasting many of the amenities and cultural richness usually only found in much larger urban centres, while still retaining its traditional friendliness and ease of getting around.

In Dunedin there are professional theatres, outstanding art galleries, museums and libraries. Dunedin is also recognised as a UNESCO City of Literature. For those who enjoy sports, Dunedin offers world-class sporting facilities – including New Zealand’s only covered stadium. For those who enjoy the outdoors, Dunedin has beautiful beaches and internationally acclaimed wildlife sanctuaries. The world’s only mainland Royal Albatross Colony is located on the headland at the entrance to Otago Harbour.

The heart of the city is lined with cafés and restaurants, and modern shopping complexes trade alongside interesting boutiques and a weekly farmers’ market that provides an outlet for much of the area’s first-rate produce. Housing is affordable, both to buy and rent. Thanks to the foresight of the early planners, there are many parks and green spaces, and outstanding views are commonplace from the city’s hillside suburbs.

Dunedin is also the gateway to Central Otago: the resort towns of Wanaka and Queenstown – New Zealand's adventure capital – are just over three hours' drive away. Skiing, snowboarding, boating, mountain-biking and wine tasting are just a few of the many activities to be enjoyed.

However, it is education that is one of Dunedin's most defining features and its major industry. This is a true student city. In addition to the University of Otago, the city hosts a thriving polytechnic and excellent pre-school, primary and secondary education facilities. University students, staff and their families comprise more than one quarter of the population of urban Dunedin, enriching the intellectual, cultural and sporting life of the city.

And, while Dunedin is located in the south of New Zealand, it is very well connected. The region has two international airports with direct flights to Australia, and is New Zealand's first GigCity with one gigabit per second broadband services. Sister city relationships are fostered with Edinburgh (Scotland), Otaru (Japan) and Shanghai (China).

More information about living in Dunedin is available at: <https://www.dunedinnz.com/>