

Hall, Peter Gavin (1951–2016)

by Matt Wand

Peter Gavin Hall (1951–2016), theoretical statistician and professor of statistics, was born in Sydney on 20 November 1951. His mother, Ruby Payne-Scott, had a distinguished scientific career as Australia's first woman radio astronomer. His father, Bill Hall, worked as a telephone technician during Peter's childhood. His younger sister, Fiona Margaret Hall AO, became an esteemed artist and sculptor.

Peter's childhood was spent in the suburb of Oatley in Sydney's south. He attended West Oatley Primary School and then Sydney Technical High School in the Sydney suburb of Bexley. His parents were zealous bushwalkers and they instilled a love of Australian nature in their children. The family did not own a car and relied upon the suburban railway network to move around Sydney and its hinterland. Peter became fascinated by trains and also developed an interest in photography. During his teenage years he would camp with friends near railway tracks in the bush around Sydney with his camera on the ready. Photography, especially concerning trains, became a life-long passion.

During the early 1970s Peter studied for an undergraduate degree in mathematics at the University of Sydney, achieving first class honours. In 1974, he commenced graduate study at the Australian National University (ANU) under Professor Christopher C. Heyde, working in probability. Soon after starting at ANU, he was awarded a scholarship from Brasenose College at the University of Oxford. This was a surprise since he thought that he had cancelled all such applications after deciding to do doctoral studies at ANU. The lure of overseas travel and study was irresistible, so he moved to Oxford later in 1974. In keeping with his interest in trains, he flew from Australia to Japan and then made his way overland to Europe via the Trans-Siberian Railway. Peter received a DPhil from Oxford University in 1976 for a thesis on limit theorems in probability. His ANU work was converted to a Master's thesis.

During his time at Oxford, Peter met a student from Hong Kong named Jeannie Jean Chien Lo. They were married in Hong Kong on 15 April 1977. Around this time, Peter and Jeannie moved to Melbourne where Peter took up a short-term lectureship in the Department of Mathematics at the University of Melbourne and Jeannie started a job with the Victorian government. However, difficult financial circumstances at the University of Melbourne meant that it was unable to make Peter's position permanent despite his publishing some solo-authored papers in leading probability journals.

Consequently, in 1978, they moved to Canberra where Peter was granted a lectureship at the Department of Statistics back at ANU, with Jeannie switching to a public service position in the Australian federal government. They would stay with these employees for the next 28 years.

Peter's head of department at ANU encouraged Peter to move his research focus from probability to statistics, to align better with the mission of the department. This was a pivotal event since, during the next decade, he made a name for himself as an excessively talented and theoretical statistician. By the late 1980s, he was publishing about twenty statistics papers a year and leading the charge to unravel theoretical properties of new-wave computationally intensive statistical methods such as bootstrapping, projection pursuit and automatic smoothing parameter selection. A ranking of statistical theory researchers by page counts in top-tier journals for the period 1980–1986 was published in 1988 and Peter Hall was first in the world by a big margin. He was acclaimed internationally and courted by some of the best statistics departments in the world, but chose to stay in his home country. He was promoted to professor at ANU in 1988 and in 1990 helped set up the university's Centre for Mathematics and its Applications.



Peter Hall, n.d.

Life Summary [\[details\]](#)

Birth

20 November, 1951
Sydney, New South Wales, Australia

Death

9 January, 2016 (aged 64)
Parkville, Melbourne, Victoria, Australia

Cause of Death

cancer (leukemia)

Education

- Oatley West Public School (Sydney)
- Sydney Technical High School
- University of Sydney
- Australian National University
- Oxford University

Occupation

- academic
- mathematician
- statistician

Awards

- Presidents' Award (Committee of Presidents of Statistical Societies)
- Guy Medal in Silver (Royal Statistical Society, UK)
- Officer of the Order of Australia

Legacies

- Peter Hall Building (University of Melbourne)

Key Organisations

- Australian Academy of Science
- Royal Society of London (UK)
- Royal Society of Edinburgh (Scotland)
- National Academy of Sciences (US)
- Academy of the Social Sciences in Australia

Workplaces

- University of Melbourne (mathematics)
- Australian National University (statistics)
- University of Melbourne (statistics)

The excellence of Peter's research and service was recognised in numerous ways throughout his career. He was elected as a Fellow of the Australian Academy of Science in 1987, a Fellow of the Royal Society of London in 2000, a corresponding Fellow of the Royal Society of Edinburgh in 2002, a foreign associate of the US National Academy of Sciences in 2013 and a Fellow of the Academy of the Social Sciences in Australia in 2015. In 1989 he received the Committee of Presidents of Statistical Societies Award, which is awarded annually to a young statistician, usually in their thirties, in recognition of outstanding contributions to the profession of statistics. In 2011 the Royal Statistical Society awarded him the Guy Medal in Silver. He also received honorary doctorates from the Université Catholique de Louvain, Belgium, the University of Glasgow, United Kingdom, the Universidad de Cantabria, Spain, and his undergraduate alma mater, the University of Sydney. In 2013 he was awarded the Order of Australia for distinguished service to mathematical science.

In 2004 Peter took up a one-quarter appointment at the University of California, Davis, USA. He visited Davis for a few months a year until 2013 and taught a graduate course there for most of those years. Then, in 2006, Peter left ANU and moved back to the University of Melbourne. This time he had certainty in Melbourne and held a professorship within its Department of Mathematics and Statistics for the remainder of his life. In 2013 Peter played a leading role in winning a major multi-university grant within the mathematical sciences. The resultant Australian Research Council Centre of Excellence for Mathematical and Statistical Frontiers commenced in 2014 with Peter as its inaugural director.

Peter mentored about fifty graduate students and post-doctoral research fellows and had about 240 distinct co-authors. Those who worked with him were struck by his brilliance and speed. Many of them felt that it was only he that could solve particular statistical theory problems, at least in a reasonable amount of time. Overseas researchers were known to keep lists of difficult theoretical problems for the next time they saw Peter.

Despite his high profile and intellect, Peter was unassuming, down-to-earth and personable. He particularly enjoyed lunch and tea breaks and was an erudite and often jovial contributor to their conversations.

Starting in April 2014, Peter suffered a prolonged period of serious illness and in May 2015 he was diagnosed with acute leukaemia. He passed away on 9 January 2016 in The Royal Melbourne Hospital, survived by his wife Jeannie and his sister Fiona.

In late 2016, the University of Melbourne renamed the Department of Mathematics and Statistics building in his honour.