

Professor Peter Gavin Hall

The honorary degree of Doctor of Science was conferred upon Professor Peter Gavin Hall at the Faculty of Science graduation ceremony held at 2.00pm on 16 October 2009. Professor Hall is a statistician and Federation Fellow.



The Academic Board Chair Professor Bruce Sutton (left) conferring the honorary degree upon Professor Hall, *photo, copyright Memento Photography.*

Citation

Professor Sutton, today we honour Peter Gavin Hall, a distinguished graduate of this university. Professor Hall was born on 20 November, 1951. He graduated from the University of Sydney with First Class Honours and the University Medal in Mathematical Statistics in 1974, obtained a Master of Science degree from the Australian National University and D. Phil from the University of Oxford, both awarded in 1976.

After completing his doctorate Peter Hall returned to Australia to a lectureship at the University of Melbourne and then moved to the Australian National University in 1978 where he was appointed to a professorship in statistics in 1988, a position he held until 2006. Professor Hall is currently an ARC Federation Fellow at the University of Melbourne and has a joint appointment with the University of Melbourne and the University of California, Davis.

Professor Hall is an outstanding researcher in the areas of probability and mathematical statistics. He is one of the most prolific and highly cited people in this field with over 500 research papers and four monographs. His early work was in fundamental probability theory resulting in three monographs, the first being the widely used Martingale Limit Theory and its Applications. He has made important contributions to the study of spatial processes and stochastic geometry including the book *An Introduction to the Theory of Coverage Processes*.

It is his highly technical and innovative contributions that provide theoretical explanations of the behaviour of various nonparametric techniques used in modern statistics have won many international accolades. These techniques include the widely used bootstrap technique, curve estimation, smoothing methodologies, density estimation and bandwidth selection. His paper "Theoretical comparison of bootstrap confidence intervals" has been reprinted in the *Breakthroughs in Statistics* collection. His monograph *The Bootstrap and Edgeworth Expansions* is a classic, giving a clear exposition of the theoretical underpinnings of the bootstrap technique, a new computer intensive methodology introduced in 1979 that is now widely used in applied statistics. His research on fractal-based statistical methods for quantifying surface roughness has been a major breakthrough. Professor Hall's work is often motivated by practical modelling problems and has had an impact in many different areas including economics, physics, engineering and the biological sciences.

Professor Hall is an ISI Highly Cited Researcher with over 6,750 citations. His research has been honoured by his election to the Australian Academy of Science in 1987 at age 36, and election as a Fellow of the Royal Society of London in 2000. He has received numerous awards including the Rollo Davidson Prize in

probability in 1986, the Australian Mathematical Society Medal, the Lyle Medal, the inaugural Hannan Medal and the Matthew Flinders Medal awarded by the Australian Academy of Science, and the Pitman Medal from the Statistical Society of Australia. He has been invited to give numerous prestigious named lectures by many professional bodies around the world.

Professor Hall is currently on the Editorial Boards of seven leading international journals. He was President of the Bernoulli Society for Mathematical Statistics from 2001 to 2003, an international professional organisation, and President of the Australian Mathematical Society from 2006 to 2008. He has been involved in the recent National Strategic Review of Mathematical Sciences Research and has been very active in campaigning for more recognition of the significance of mathematical research and research training to the ongoing well being of Australia.

This year marks the fiftieth anniversary of the foundation of the Department of Mathematical Statistics at this university; an appropriate year to honour one of the university's most outstanding graduates.

Professor Sutton, I have great pleasure in presenting to you, for admission to the degree of Doctor of Science (honoris causa), Peter Hall, and invite you to confer the degree upon him.