

Obituary



Ed Smith

Edgar Roderick Smith was born in Melbourne on 17 September 1944. He obtained his secondary education at Scotch College, where he was Dux of the school in 1961, progressing to the University of Melbourne with the awards of a General Exhibition, a Special Exhibition in Physics and an Education Department Senior Scholarship. At the university, lifelong friend Tony Guttmann recalls that Ed enlivened every activity, frequently joining the engineers for the important task of beer drinking.

Ed graduated from the University of Melbourne with a BSc (1964) and an MSc (1966) and won a Commonwealth Scholarship to Imperial College London. He obtained his PhD in 1971 under the supervision of Oliver Penrose with a thesis entitled *Statistical mechanics of some non-homogeneous lattice systems*.

He then briefly worked at the Open University (UK) and at the ANU, before joining the University of Newcastle (1973–1977). In 1977 he returned to Melbourne University, first as a Senior Lecturer and then as a Reader.

During this period, Simon de Leeuw, John Perram and Ed published ‘Simulation of electrostatic systems in periodic boundary conditions I’, *Proc. R. Soc. Lond.* 373A (1980) 27–56. At the time, Monte-Carlo and molecular dynamics simulations of N interacting particles under periodic boundary conditions could readily be performed by standard methods if the lattice sums involved were absolutely convergent. The paper investigated the case where the lattice sums are (conditionally) convergent, but not absolutely convergent. This publication became an absolute classic, with 867 citations as of August this year (and this despite the result now being in standard texts).

In 1986, Ed was appointed Professor of Mathematics at La Trobe University and immediately took up with zest the roles as a leader in research and teaching

and in influencing the appointment and career development of academic staff. One of his earliest contributions was to play an instrumental role in the appointment of staff who could help implement his vision for applied mathematics. Several of these early appointees have subsequently themselves become professors, thoroughly vindicating his judgment.

Another of his early contributions was to play a leading role in the restructuring of the Department's teaching program, in particular ensuring a solid base at second-year level for the development of applied mathematics. This early work involved Ed constructing from scratch two of the central second-year teaching units, vector calculus and partial differential equations, including the production of printed texts and extensive sets of class problem sheets. At La Trobe, restructuring has been a regular task and Ed always responded by playing a leading role, throughout his career in the Department. His latest contribution of this type was just last year, when he developed revised subjects in mechanics at second-year and scientific computation at third-year level.

Ed was a strong believer in the synergy between teaching and research, and research was for him a passion. When he was excited about a result he had discovered, any colleague who entered his office was given firm instructions to sit down and was then told the details of the discovery. Alternatively, he would emerge from his office and explain to the first suitable colleague what he had been doing. After smoking indoors became forbidden in the University, Ed could frequently be found doing computations or seeing colleagues in his 'outside office' on the veranda, while he enjoyed a cigarette.

Ed's published work extended to over a hundred papers, published in leading journals, including many in the *Proceedings of the Royal Society of London*, whose long tradition of promoting scientific excellence was dear to Ed's heart. In addition to his collaborations relating to the simulation of charged and dipolar fluids, his works published in this journal include his contributions to the theory of the Madelung constant — the electrostatic energy of an ionic crystal. It was shown that for the electrostatics energy to be a minimum, the surface of the crystal must be such that the total dipole moment vanished. Soon after this work was published, Ed was most pleased to receive from an experimentalist stable pieces of ionic crystals confirming his theory.

Ed was a very versatile researcher, using techniques ranging from elaborate computer simulations to intricate technically involved calculations, written out carefully in his elegant handwriting. He used his broad knowledge of science and his considerable skills in mathematical modelling to apply these techniques to a wide range of applied problems. Some indication of this is provided by the range of topics covered by his graduate students, which included statistical mechanics, acoustic scattering and trajectory reconstruction for bloodstains. His public standing as a mathematical modeller led to his role as an expert witness in the Jaidyn Leskie murder trial.

Ed's time available for research was greatly diminished during his tenure as Dean and Pro Vice-Chancellor, but he devoted himself to it with renewed

gusto after his return to full-time work in the Department. During this period he made very significant progress on problems which he had been trying to solve for years. It is a tragedy that this work was cut short by his untimely death.

When the Faculty of Science, Technology and Engineering was established in 1994, Ed's enthusiasm for research and his broad scientific knowledge made him an obvious appointee as the inaugural Associate Dean (Research). In this role, he took a keen interest, not only in the promotion of research activity within the Faculty but also in the academic content of the research itself. His success was indicated by the invitation to take up the position of Dean when it became vacant. In his work as Dean, Ed was able to take advantage of his strong advocacy skills, broad scientific knowledge, enthusiasm for the development of scientific knowledge and belief in the fundamental importance of science within society. It was, however, a very difficult time to be Dean, with the responsibility of implementing decisions, made at University level, which had a negative impact, via budget cuts and staff losses, on both the work of the Faculty and the personal circumstances of staff members. As a deeply caring person, Ed felt the latter to be a particularly stressful feature and, all in all, this was not the happiest time of his career.

After his term as Dean, Ed took on the full-time senior management position of Pro Vice-Chancellor (Information Technology). This enabled him to play a significant role in the development of University policy and to contribute to the key decision making bodies within the University. However, Ed's approach to the position was firmly linked to his passion for teaching and research. One example of this was his decision, following the University's introduction of a Learning Management System, to take a leadership role in the production of on-line teaching materials. He did this by himself developing an on-line unit in fluid mechanics, which was a herculean task leading to an intricately structured teaching resource of high quality. The resulting unit is currently being undertaken by a group of third-year students.

Being a real Renaissance man, Ed was widely read and treasured learning and books. When the University needed a translation of a new staff member's overseas degree, Ed was the only one available in the University who could translate it from Latin!

Ed also applied his considerable woodworking skills (acquired early on when lack of finances led him to make his own home furniture) within the University. He was a highly valued member for many years of a weekly lunchtime discussion group, titled the Seminar on the Sociology of Culture, which met to hear speakers and have discussions on a broad range of intellectual issues. Ed felt that this group deserved a better dining table than it was using and so he built a beautifully crafted, elliptical one himself, including two inlaid stars set at the focal points, made from fragments of the original Lone Pine at Gallipoli — fragments that had been souvenired by his grandfather.

This luncheon group was one of the many ways in which Ed engaged in the broader academic life of the University. His role as professor of the discipline therefore extended to a role as a member of the community of professors, taking forward the academic life of the University. Ed also had a keen sense of the tradition of university scholarship and ceremony and, in his distinctive academic dress, was a regular supporter of traditional academic functions.

Ed was a friendly and generous person, keen to provide help to colleagues when they needed support. Shortly after his return to the Department from his role of Pro Vice-Chancellor, he decided that the esprit de corps would be lifted by celebrating the Department's recent successes in winning teaching awards and in leading the national rankings in the Course Experience Questionnaire. His generosity of approach led him to provide an abundant supply of champagne for a celebratory occasion. Ed also had a strong sense of humour and very clever quick wit. Examples of this should perhaps remain unprinted.

When praising the work of colleagues, Ed liked to quote Geoffrey Chaucer's description of the clerk of Oxenford — 'And gladly wolde he lerne and gladly teche'. This description applied par excellence to Ed.

Ed passed away in London on 27 July 2009. He is survived by his wife Sian, and by his five children. A scholarship in his honour has been established at La Trobe.

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