

MATHEMATICS IN THE NEW SOUTH WALES INSTITUTE OF TECHNOLOGY 1963 – 1988

This historical record has been adapted from a piece of the same name written by Dr Graeme Cohen for the School of Mathematical and Physical Sciences in 2022. All efforts to maintain the timelines and major actors has been made.

Preamble

In 1964, the NSW Department of Technical Education introduced two diploma courses one in Science, the other in Architecture, leading to the NSW government, in January 1965, inaugurating the NSW Institute of Technology as a “division” of the Department of Technical Education.

The First Appointments

The first to be asked to lecture in one of the diploma courses in 1964 was **Barry Bamber**. He began with the Department of Technical Education in February 1960 and was appointed Lecturer in Mathematics from 9 September 1963. Born in September 1935, Barry first worked as a geophysicist in the Australian government’s Department of National Development from March 1959 and was known in later years for introducing geological applications into his lectures in applied mathematics. He was transferred to the nascent NSW Institute of Technology on 1 January 1965.

John McMillan was appointed Lecturer in the NSW Department of Technical Education on 15 October 1963, five weeks after Bamber. McMillan, also transferred to NSWIT on 1 January 1965, was soon appointed Senior Lecturer in Physics and was instrumental in constructing the first mathematics courses, as well as the physics courses, offered by NSWIT.

Robert Rozsasi was interviewed on 15 December 1964 along with five others. Bob had been teaching mathematics in the NSW Department of Technical Education since 1962 and was invited to lecture in Diploma Mathematics I in 1964. He was successful in the interview and was appointed to NSWIT on 8 February 1965. Bob, like Bamber, retired from NSWIT in the mid-1990s.

The third appointment to NSWIT in mathematics was **Graeme Cohen**, at that time an honours BSc graduate of the University of Sydney, aged just 21. He was interviewed along with six others on 12 October 1965 and appointed to the role on 17 January 1966. Graeme retired in 2002.

The next two appointments were **Peter Sekhon né Singh** and **Pauline Matthews**. Peter was appointed from 5 September 1966 and Pauline from 5 December 1966. Pauline was the first woman appointed to an academic position at NSWIT. Malaysian born Sekhon was educated at the University of Western Australia and the University of New England. He had most previously been the Senior Mathematics Master at Illawarra Grammar School, Wollongong.

More appointments were made over 1969-1970: **Constantine Malanos** was appointed in May 1969; **Kenneth Ozanne** in January 1970; **Leslie Hills** in the area of statistics in May 1970; **Yit Kim Yap** in June 1970; and **Anthony Shannon** in July 1970. Further appointments were made prior to December 1972 including **Carl Chiarella**, **Rollyn Graham**, **Samuel Huxham**, **Gregor Koolen**, **Gordon McLelland**, **Patricia Melville**, **Geoffrey Smith**, **Irving Che-Hong Tang**, **Mansour Youakim**. Significantly, on this date, as recorded in the *NSW Government Gazette No. 127*, all staff of NSWIT, who previously were officially Public Servants, were transferred from the Department of Technical Education to the service of NSWIT.

Rollyn Graham came to NSWIT with degrees in science, aeronautics and astronautics from MIT and a PhD (Calif). Sam Huxham joined Les Hills in taking responsibility for lectures in statistics. He passed in 1994, aged 48. In the 1990s and 2000s, respectively, Gordon McLelland and Geoff Smith served as Head of the School of Mathematical Sciences. Gregor Koolen was the first tutor to be appointed in mathematics, Helen Melville was the first departmental typist/secretary, and Mansour Youakim was the first laboratory attendant. Lectureships to **Raymond Nolan** and **Norman Bakker** were also made but both resigned before December 1972.

The Growing influence of Mathematics at NSWIT

The Director of the New South Wales Institute of Technology in 1965, was also the Director of the Department of Technical Education, **Randolph Dunbar**. He had begun his distinguished career as a teacher of mathematics and science. The registrar of the time was **Ronald Parry** who also started out as a teacher of mathematics and science.

The first 17 appointed teaching staff at NSWIT, all were lecturers - no senior lecturers or higher positions. In mathematics, there was Barry Bamber and Bob Rozsasi, and two in physics – **John McMillan**, and **John Milledge**. In 1966, **Harry Corker** had replaced Willis as Head of the Sydney Division John McMillan was promoted to Senior Lecturer. In 1967, two new positions were created, the newly appointed Head of the School of Engineering, **Jeremy Hirschhorn**, and Head of the Division of Electronic Computation, **John McClelland**. They supported 37 Lecturers and four Senior Lecturers, with Mathematics growing to five Lecturers. There were now Schools of Engineering, Applied Science, and Architecture and Building. John McMillan became Registrar of NSWIT, later that same year (August 1967).

In 1968, **Ronald Werner**, was appointed Deputy Director and Head of the School of Applied Science. Still more structure was introduced in 1969. Within the School of Physical Sciences was now a **Department of Mathematics and Statistics**. Irving Tang was promoted to Head of Department, responsible for the mathematics teaching in an unchanged Physics/Mathematics Strand of the Science Diploma Course. With the retirement of Pauline Matthews came two new appointments, **Ray Nolan** and **Con Malanos**. Malanos came with a BSc in industrial chemistry from Queensland and an MSc from UNSW. He pioneered the teaching of operations research, with academic and industrial experience obtained from twelve years with the Colonial Sugar Refining Company. Later that year and into 1969, the **Division of Information Science** was established.

As the 70's began, the Science Diploma Course offered a Mathematics major as well as the combined Physics/Mathematics major. The former required students to opt for either Science–Engineering Applications or Operations Research Applications. In 1971, the department was renamed as the **Department of Applied Mathematics**, and it now sat within the Faculty of Science. Tang was Head, Malanos was designated Senior Lecturer in Operations Research, and Rollyn Graham had arrived as Senior Lecturer in Mathematics. There were now eleven Lecturers and one Assistant Lecturer in Mathematics. A third stream had been added to the Mathematics major, namely Statistical Applications, and the combined Physics/Mathematics major was no longer offered.

Significant reshaping occurred in 1972 with the formation of the **Faculty of Mathematical and Computing Sciences**, consisting of just one school, the **School of Mathematical and Computing Sciences** with two Departments - the Department of Applied Mathematics and the Department of Information Science. Some of the new faculties in the Institute were headed by a dean; but this one was not. By 1974, the Faculty now consisted of a **School of Mathematical Sciences** and a Department of Information Science. A Head of School had been appointed, **Barry Thornton**, head hunted for the position by Ron Werner while Thornton was Director of Technical Operations at Honeywell Australia. The School that Thornton headed consisted of a single department, the Department of Applied Mathematics, for which a third Senior Lecturer, **George Hoetzel**, had been appointed, in the area of statistics. Hoetzel had recently obtained a PhD from Pennsylvania State University to add to his qualifications in education. This was also the year of the introduction of a “course in Mathematics leading to the degree of Bachelor of Applied Science”, available as either a full-time course over three years, a part-time course over six years, or a combination of the two. A **Graduate Diploma in Operations Research** was also introduced in 1974. This course was designed to train practising professional people in the principles and applications of Operations Research and was open to graduates in any discipline who had a sound working knowledge of calculus and statistics. In 1975, **Tom Wignall** joined as a new Senior Lecturer in the Department of Applied Mathematics, **John Cady** (who would later move to the Department of Computer Science) as a Lecturer and **Bryan Raphael** as an Assistant Lecturer. Tom Wignall was an English statistician with a PhD from the University of Calgary in Alberta, Canada. He maintained connections with oil companies in Calgary. Barry Thornton was also appointed Dean of the Faculty in this same year.

In 1976, the School of Mathematical Sciences was split into the Department of Applied Mathematics and the **Operations Research and Statistics Unit**. The former had Tang as head and Graham as Senior Lecturer. The Lecturers were Bamber, Chiarella, Cohen, McLelland, Ozanne, Shannon, Smith and Yap. A new appointment as Assistant Lecturer was a Canadian, **Hugh Pite**. There were two Tutors, **Ronald Sorli** and **R. J. (Jamie) Simpson**. Simpson's background was in physics, but he later sought higher qualifications in mathematics. **Lyn Freeman** was also appointed as a new Assistant Lecturer. The School of Computing Sciences had a new Head of School, **Vance Gledhill**. In this same year, the first three to graduate from NSWIT with a BAppSc in Mathematics, Stephen Robert Buckley, Sidney John Grant and Peter Fritz were celebrated.

In 1977, Gledhill took over from Thornton as Dean of the Faculty. The only other major staff change was the appointment of **Gerard Sutton** as Senior Lecturer in the Department of Applied Mathematics. Tony Shannon was promoted to Senior Lecturer in the Department of Applied Mathematics in 1978. **M. S. (Stuart) Craig** had been appointed to a lectureship and **Do Le Minh** to a lectureship in the Operations Research and Statistics Unit.

In 1979, another reorganisation of the School of Mathematical Sciences was undertaken. Thornton and Woods were Head and Associate Head, respectively. **Lindsay Botten** was appointed this same year and **Cameron Kidd** as an Assistant Lecturer. The **Department of Operations Research** had Thornton as Head, Senior Lecturers Malanos and Wignall, Lecturers Bamber, Chiarella and Rozsasi, and Sorli as Tutor. Finally, an **Education Unit** was established with Shannon as Senior Lecturer and Ozanne and Singh as Lecturers. The degree of **Master of Applied Science (by Thesis)** was now being offered and a year later the **Master of Applied Science (Operations Research)** was introduced. The latter was by course work and included such subjects as Business Operation and Financial Control, Operations Research in Health Services 1 and 2, Energy and Environmental Modelling, and Manpower and Facilities Planning.

In 1980, Gerard Sutton was Acting Associate Head of School, as well as Head of Department and Principal Lecturer in the Department of Stochastic and Statistical Methods. The only new staff were **Edward Lidums** and **Donald Reid** as Assistant Lecturers in that department. Carl Chiarella had been promoted to Senior Lecturer in 1981. **Brian Stephenson**, a former school teacher and a student, joined the School and the Mathematics Education Unit as a Tutor in 1982. Thornton replaced Gledhill as Dean of the Faculty in 1983. He remained as Head of School, with Sutton as Associate Head. Tony Shannon was now Head of the Mathematics Education Unit, Ken Ozanne in that Unit had been promoted to Senior Lecturer and a new Tutor, **Felicity Dewar**, had been appointed. **Beverley Moore** was a newly appointed Lecturer in the Department of Applied Mathematics; she would later serve as Head of School. In 1984, Stephenson was promoted to Senior Tutor and Cohen and McLelland to Senior Lecturers. The former student **Tim Langtry** was appointed as a Tutor in their Department. Tim would become Head of School some 25 years later. Lindsay Botten was promoted and joined Chiarella, Cohen and McLelland as Senior Lecturers in the Department of Applied Mathematics in 1985, but Carl Chiarella resigned from his position soon after and was appointed an honorary associate of the School. He would return to UTS in future years.

There were new appointments in 1986, lecturers **Jeff Hogg** in Operations Research, **Ray Liffers** and **Will Sy** in Computing, and a Senior Tutor, **Martin Sayers**. Sam Huxham and Geoff Smith were promoted to Senior Lecturer and Ed Lidums to Lecturer in 1987. **Peter Petocz** was appointed as a Lecturer in Statistics. The following year saw the conversion of NSWIT to the **University of Technology Sydney**. Beverley Moore and Will Sy were promoted to Senior Lecturer and Tim Langtry to lecturer that same year. A new senior tutor and former graduate student, **Layna Groen**, was also appointed in the area of Operations Research. She later became the University Ombudsman.