

John Mereu - Instructor of Actuarial Science  
at The University of Western Ontario  
from 1957 to 2009

ACTUARIAL SCIENCE  
AT  
THE UNIVERSITY OF WESTERN  
ONTARIO

Presented to John Mereu  
on the occasion of his retirement



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Department of Mathematics at The University of Western Ontario. The year after taking up his new position in London, Kingston started an actuarial program at The University of Western Ontario. Like Warren's decision, it was a sound one. London was also a growing financial centre. At that time the University was located nearer the downtown core than its present location and London Life was nearby in downtown London. About two years after Kingston's arrival, the University moved to its present location.

In the year prior to Kingston's arrival there was only one mathematics professor in the Department of Mathematics. At least one course was taught by someone outside the department. A junior course (Mathematics 15) called "Business Arithmetic" was taught by Mr. Westervelt, presumably connected to the present day Westervelt College. Another course "Introduction to Statistics" (Mathematics 25), whose teacher is unknown, was also offered. These courses remained on the books for several years. Westervelt taught "Business Arithmetic" for another year or two. After Kingston arrived, there were a total of three mathematics professors in the department. Western's calendar for 1922/23 shows Kingston teaching "Introduction to Statistics" and three new courses in actuarial science.

Mathematics 107b - "The Mathematical Theory of Investment" which covered interest, annuities, amortization of debts, bonds, sinking funds, and depreciation with textbook *The Mathematical Theory of Investment* by

Ernest Skinner. The text was first published in 1913. Mathematics 407a – “Finite Differences” which included interpolation formulae, finite integration, and statistical applications with textbook *The Elements of Finite Differences* by Joseph Burn and Edwin Brown. The book contains solutions to questions from sittings of the first exam offered by the Institute of Actuaries.

Mathematics 407b – “Theory of Probability in Life Insurance” which covered mortality tables, probabilities of life, laws of mortality, and survivorship probabilities with texts *The Mathematical Theory of Probabilities and Its Application to Frequency Curves and Statistical Methods* by Arne Fisher first published in 1915 and the *Institute of Actuaries Text Book Part II* by Ralph Todhunter.

In addition, there was a graduate course “Advanced Actuarial Science” in the mathematics M.A. program listed in the 1922 calendar. It was one of the graduate courses that were “offered from time to time to suit the qualifications of candidates”.

By the 1930s the Department of Mathematics added a senior statistics course to its offerings. Typically three senior courses in actuarial science were offered every year. The courses were given by one of the three or four faculty members in the Department, usually Kingston. Topics covered in the actuarial courses were essentially the same as those in 1922. Textbooks were updated to cover the latest actuarial examination syllabus. The statistics course was

also geared to the actuarial syllabus. In the early 1940s, for example, the textbooks for the probability and statistics course were the classic *Higher Algebra* by Hall and Knight,

*Theory of Statistics* published in 1950, again another classic statistics textbook.

Although there was no actuary in the Department, the actuarial syllabus moved with the times even as the headship of the Department changed from Harold Kingston to Gordon Magee in 1950. C.W. Jordan's classic *Life Contingencies* first published in 1952, was developed for the students preparing for the Society of Actuaries examinations. It was the textbook for Western's life contingencies courses almost as soon as it was published. Throughout the 1950s the actuarial syllabus at Western remained standard with courses in financial mathematics, finite differences, probability and statistics, and life contingencies. The number of full-time faculty members in the Department was usually three or four. Between them all, they covered a wide range of courses. A later hire in the Mathematics Department, John Moore often taught the actuarial courses. Moore wrote several introductory mathematics textbooks.

John Mereu was a student in Western's actuarial program in the late 1940s. He received his B.A. in Mathematics and Physics in 1949. Upon graduation he joined London Life beginning as a clerk working on special calculations. He became an Associate of the Society of Actuaries in 1950 and received his Fellowship in 1955. Working through various actuarial positions in the company, he was promoted to Senior Actuarial Assistant for Valuations after qualifying as a Fellow. Other promotions followed – Assistant Actuary in 1958 and Associate Actuary in 1963.



In 1957 Mereu received a call from Gordon Magee at his alma mater asking him to teach an actuarial course for the Department of Mathematics for the coming academic year. Mereu took on the course, life contingencies, and taught the course year by year as it changed with the times. The course was the backbone of the actuarial program. It was only in December 2009 that he decided to lay down his chalk. Following on his experiences at London Life and in the classroom, Mereu published papers related to actuarial reserves, various approximations used in actuarial work and annuity valuations. Three papers appeared *Transactions of the Society of Actuaries* over the years 1961 – 1963 and are referenced in the second edition of C.W. Jordan's *Life Contingencies*, the textbook used in Mereu's course. When the Society of Actuaries textbook changed in the 1980s to *Actuarial Mathematics*, a change that adopted a new approach to the treatment of life contingencies, Mereu's published work remained relevant. Two of the early papers are referenced in *Actuarial Mathematics*. Some 1972 work on the computation of expected losses in excess of a stated limit under group life contracts that was published in the *Transactions of the Society of Actuaries*

head in 1967, there were nineteen full-time faculty members in the Department of Mathematics. There were also two part-time faculty members, both actuaries: John Mereu and Geoffrey Horrocks. Part-time instructors from “downtown” became a standard way of dealing with some of the actuarial instruction. John Mereu could always be relied upon. From time to time other “downtown” instructors were hired, including Horrocks. Beginning in the 1970s, Wayne Berney taught an actuarial course for several years until taking a position in Chicago as Education Actuary with the Society of Actuaries in the 1980s.

In one sense, the actuarial program remained the same. Course offerings in actuarial science remained stable at three: mathematics of finance including interest, annuities, life annuities, and standard forms of life insurance (Mathematics 253), finite differences (Mathematics 353), and life contingencies (Mathematics 463). Mereu taught Mathematics 463. One significant change did occur. In 1964, Bertha Mabel Richter decided to donate money to The University of Western Ontario in order to establish a professorship in honour of her late father, John George Richter. Her father, a Fellow of the Actuarial Society of America from 1890, had carried out actuarial work at London Life, served as the company's manager, and then as president for many years until his death in 1932.

The first holder of the Richter Memorial Professorship of Actuarial Mathematics, Leland Ritcey was appointed to the Department of Mathematics in 1966.

Ritcey was an Associate of the Society of Actuaries. Like the origin of the actuarial program, Ritcey was an import from Winnipeg. After obtaining an M.A. in mathematics from Harvard, Ritcey took a position in mathematics at Wesley College (later United College, now the University of Winnipeg). He was an excellent teacher and, in terms of his mathematics, was described as a “quiet, efficient and

of Mathematics. Years later, there were others who followed a similar pattern. David Bellhouse and John Braun have undergraduate degrees in actuarial science; Serge Provost is an Associate of the Society of Actuaries. Although they have all taught some actuarial courses at Western, the vast majority of their work, teaching and research, has been in statistics.

Leland Ritcey retired in 1973 and died the follow-





University ossified with respect to new positions. The number of tenure-track positions within a faculty was usually fixed. That translated into a fixed number for a department. The only way to obtain a new position was to take one from another department. On the other hand, limited term positions that had no obligation to consider tenure were much easier to obtain. There was one catch. After seven years in a full-time limited term position, the incumbent either had to be considered for tenure or was let go. Part-time appointments without benefits could continue forever. Without a tenure-track opening in a department, a faculty member on a limited term contract had no hope of continued employment. As a result of its enrolment surge, the Department of Statistical and Actuarial Sciences was given several limited term appointments.

There was still the tenure-track position in actuarial science to fill. Over a number of years, several people were hired into this position. Most of the new actuarial faculty members came directly from their doctorates into the position at Western. None remained long enough to establish a record that would give them what had become known as the Richter Chair in Actuarial Science. Tenure-track actuarial faculty members during MacNeill's chairmanship included:

Colin Ramsay – His research interests were, and are, in risk theory. He began his career at UWO after finishing a Ph.D. at the University of Waterloo. He is now in the College of Business Administration at the University of Nebraska, Lincoln.

Beda Chan – His research interests were in risk theory. He



Canada, the United Kingdom, the United States, France and Poland. Included in the Canadian contingent were John Mereu and another lecturer from Western, Steve Kopp.

Kopp was one of those who held a non-tenure-track actuarial teaching position in the Department of Statistical and Actuarial Sciences. He was joined by a few others, most notably Mary Millard. Both had come through Western as undergraduates and both continued on to a Master's degree. Millard initially worked as a statistical consultant in the Department's Statistical Laboratory from 1982 to 1984. From Western she went to London Life where she worked in various actuarial positions, rising to Actuary for Retirement Products. She obtained her Fellowship in the Society of Actuaries in 1991 while at London Life. Kopp began teaching at Western in 1984 after receiving his Master's degree. In 1990 he took a position at London Life but continued to teach a course for the Department on a part-time basis.

The 1990s was a difficult decade financially for the University and, as a result, for the Department of Statistical and Actuarial Sciences. There were budget cuts every year during the decade. The number of tenure-track positions remained static, although money was available for full and part-time limited term positions. At the same time, the University changed its policy on the full-time positions. They could be renewed indefinitely instead of the seven-year maximum.

Through all the expansion, cuts, and turbulence,



Department in 1988 working in the area of operations research, began to take a research interest in actuarial science, particularly risk theory. This interest has continued to the present day.

After Bellhouse became Chair of the Department of Statistical and Actuarial Sciences in 1992, Bruce Jones decided to move from Iowa to the London area. Jones, the first Fellow of the Society of Actuaries holding a Ph.D. since Harry Panjer, was hired in 1996 as an Assistant Professor. The following year he was promoted to Associ-

theory. Jiandong Ren, who has research interests in risk theory, was hired in 2003. Kristina Sendova, whose research interests are also risk theory, was hired the next year. She spent a year in a postdoctoral fellowship before arriving in the Department in 2005. In the same year, she received a University Faculty Award from the Natural Sciences and Engineering Research Council of Canada.

The year 2003 saw John Mereu honoured for his contributions to teaching. In his capacity as President of the Society of Actuaries, Hay Panjer decided to devote the President's Awards that year to six outstanding teachers within the Society. One of them was John Mereu. Panjer's comments on Mereu at the time were:

“John is a really special person to me. He's remarkable. He has never been a full-time academic. John joined the University of Western Ontario's actuarial program in 1957, a position he still holds. He has taught continuously at Western Ontario since that time and is still teaching. He is now in his 47 year of continuous teaching of actuarial students. Every student in the actuarial program there since 1957 has taken a class with John. I was one of those 35 years ago. Although he has not made a full-time career of actuarial teaching, his career is certainly equivalent to a full-time career.”

Changing the number of years teaching to 52 and allowing for his recent retirement, the sentiment remains the same.

In 2004 Bruce Jones was appointed to the chairmanship of the Department. He was able to bring another faculty member into a tenure-track position in actuarial

science. Xiaoming Liu joined the Department in 2006. She works in the modelling of mortality. Under Jones's leadership the graduate program in actuarial science, both at the Master's and doctoral levels, has expanded; further, an actuarial research group has been formed for the purpose of discussing and pursuing current research topics.

The Department has also undergone a complete curriculum review for all its courses – probability and statistics, actuarial science, and finance. For several years Kopp and Millard have kept the undergraduate program current with the Society of Actuaries syllabus based on their professional and academic experiences. Kopp also brings an insider's point of view to the table. Since 2004 he has been the chair of the Society of Actuaries Exam C/4 on the construction and evaluation of actuarial models. The outcome of the Department's curriculum review for actuarial science is the ability to build on current strengths. Students now have a better breadth of learning and are better prepared to write the professional examinations in a timely fashion. The Department is also now well-positioned should the professional actuarial organizations go to an accreditation system.

Currently, the Department has on staff three Fellows of the Society of Actuaries (Jones, Kopp and Millard), three additional faculty members whose research is devoted totally to actuarial science (Liu, Ren and Sendova) and two whose research programs are, in part, devoted to actuarial problems (Stanford and Zitikis). The department offers

strong and successful actuarial programs at both the undergraduate and graduate levels.

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