

Robert Stevenson (1927-2019)

By Philip Keehn

Professor Emeritus Robert Stevenson of the Department of Chemistry passed away on June 12, 2019 at the age of 91. He is survived by his wife Hilda (Moran) Stevenson of more than 60 years, his son Peter R. Stevenson of Lexington and his daughter Elizabeth C. Stevenson of Waltham. He was a beloved husband, devoted father, renowned chemist, congenial colleague and respected mentor.

Bob was born in Airdrie, Lanarkshire, Scotland in 1927 and raised in Coatbridge. He received his B. Sc. in 1949 and Ph. D. in 1952 from Glasgow. He then came to Harvard as a Merck International Fellow in 1952-53, joining Louis Feiser's lab and stayed on a second year as a Harvard Research Fellow, 1953-54. He returned to Scotland in 1954, and until 1957 was Lecturer in Chemistry at the Royal College of Science and Technology (the principal predecessor institute of the University of Strathclyde) while finishing his Doctor of Science. He married Hilda in 1956 and returned to the United States in 1958, joining the Brandeis Chemistry faculty that year as an Assistant Professor. In 1960 he was promoted to Associate Professor and in 1966 to Full Professor of Organic Chemistry; a position he held until his retirement in 1993.

Dr. Stevenson's area of interest and expertise was in isolation, structure elucidation, conformation and organic synthesis of natural products, with specific interest in lignan and terpenoid compounds. As early as 1951 he made contributions to the synthesis of **cortisone**, in 1965, **otobain**, in 1970, **helioxanthin**, **collinusin** and **justicidin**, in 1973, **thomasic acid**, in 1975, **taiwanin c**, in 1976, **veraguensin**, in 1977, **galbelgin**, **grandisin**, **pterofuran** and **vignafuran**, in 1978, **oroseolol**, **fomannoxin** and **anodendroic acid**, in 1979, **deoxyschizandrin** and **machicendiol**, in 1980, the iso-coumarin, **artemidin** and the lignan **wuweizisu**, in 1981, **ocimin**, **lintetralin**, **phenyltetralin** and **kusunokinin**, in 1982, **niranthin**, **isopteroferan**, **prangosine** and **pluviatolide**, along with the alkaloid, **secoquettamine**, in 1983, **acamelin** and the cannabis constituents, **cannabifuran** and its **dehydroderivative**, in 1985, **ariensin**, in 1986, **calebertin**, in 1988, **parasorbic acid**, and in 1991, **daurinol** and **retrochinensin**. During that same period, from the 1950's to the 1990's, he demonstrated the constitution of **taraxerol**, *alpha*-**amyradiene** and **otobain**, as well as the constitution and stereochemistry of *alpha*-**amyrin**, **ursanes**, **friedelin**, **cerin** and **glutinone**, a new type of *pentacyclic triterpenoid*. He isolated and characterized **alnusenone** from its plant material as well as coming up with a convenient isolation of **friedelin** and other constituents of *Calendula officinalis*.

He had a detective's eye for molecular rearrangements. Thus, during the definition of the structure of **brein**, he uncovered an important *pentacyclic triterpenoid* backbone rearrangement. Similar molecular rearrangements were uncovered in **4,4-dimethylcholestanol** derivatives and a *steroid aromatization rearrangement*. He defined a mechanism for the formation of the unusual *photodegradation* products of **friedelin**.

Though there was other work which we cannot go into now because of the lack of time, starting in 1986 and lasting through the 1990's he began working on the activity of tetrahydrofuran lignans and analogs, as specific **platelet activating factor antagonists**. He wrote a number of

articles in this area and was awarded a **United States Patent 4,595,693** for these analogs in 1986.

He wrote a number of review articles and book reviews which summed up the major advances in his fields at that time: in 1978, on **Diarylindanes** in “**Chemistry of Lignans**”, in 1984, a book review “**Tricho-tecenes – Chemical, Biological, and Toxicological Aspects**”, and in 1990, a review “**Studies in Natural Products Chemistry, in vol. 4 and also in vol. 6**”.

Professor Stevenson published over 160 peer reviewed articles in respected national and international chemical journals and mentored dozens of undergraduate and graduate students. Throughout his decades of teaching, he provided, "superb academic training, with kindness and care" (a quote from Elaine Yamaguchi, one of his former students, but echoed by many other undergraduate and graduate students whom I knew as well.) The guidance he offered his students through their undergraduate research, advanced courses, and graduate studies helped to launch the careers of many, some of whom went on to become faculty members at prestigious universities, and research leaders in the international chemical industry. He was generous with his knowledge, his time and his personal support even after they left Brandeis. During his tenure at Brandeis, and for several years after retiring, he consulted with numerous chemical and pharmaceutical companies, not the least of which was Merck & Co. Some of these interactions were brought in through ties to scientists that were his former students.

He was a collegial member of the Chemistry Department and general Brandeis community, serving on all the critical Departmental Committees, the University Premed Committee and on occasion, addressed the Brandeis University National Women's Committee.

Robert's personal interests were his family, his enjoyment of sports (cricket) and his love of music, especially jazz, popular music of the 40's and 50's and classical; but more specifically, opera. I understand his record/CD collection was enormous!

Professor Stevenson joined Brandeis University in its early days. His critical scientific eye, unwavering dedication to the scientific method, gentlemanly demeanor and positive personal outlook helped to properly put the Brandeis University Chemistry Department on the national and international map. For this we owe him a debt of gratitude. He was a man of principle and integrity who always recognized and appreciated the work of his colleagues, coworkers and support staff. A valued and trusted colleague for many years, he is already sorely missed.

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