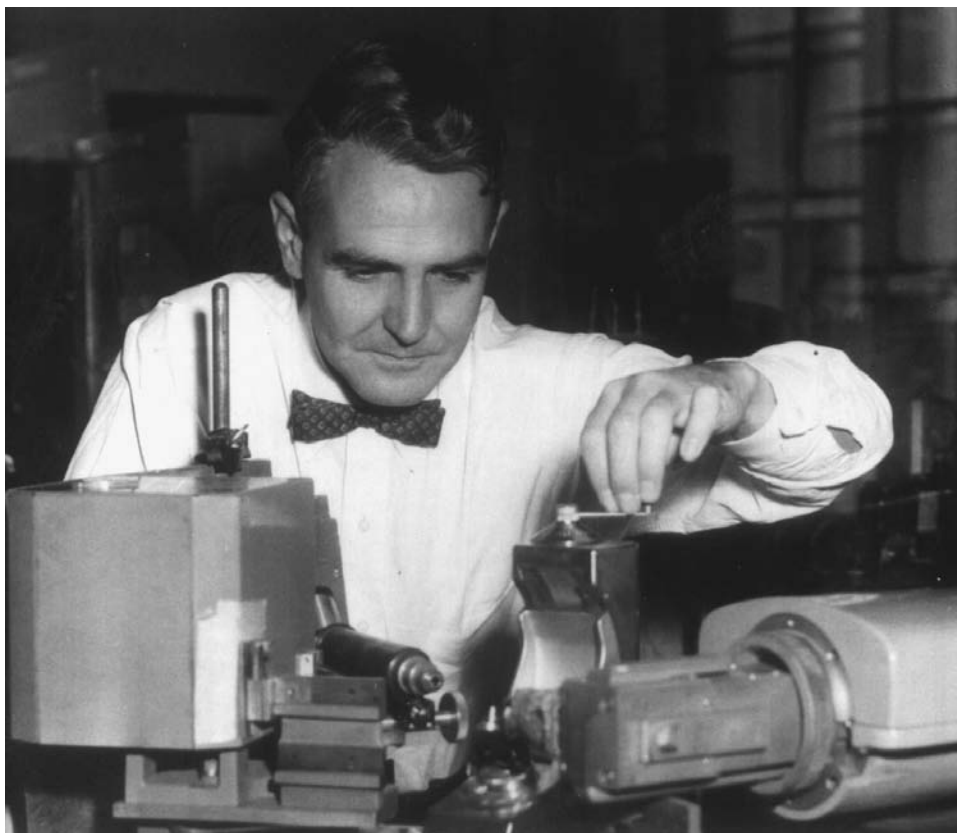


## George A. Jeffrey (1915–2000)

Professor George Jeffrey (known as Jeff) died at his home in Pittsburgh on February 13. At 84 years old, Jeff was enjoying a full life, but he contracted amyotrophic lateral sclerosis (Lou Gehrig's disease) which progressed rapidly.

As a structural crystallographer, Jeff was widely known for his studies of hydrogen bonds. These provide the weak attractions that hold together biological molecules ranging from water to DNA and proteins. Jeff specialized in determining the molecular arrangement and hydrogen bonding in crystals of carbohydrates and in crystals where water molecules form cages to trap other molecules. He was the author of two books on hydrogen bonds and also more than 300 research articles. In the early 1950s, Jeff became a pioneer in the use of digital computers for X-ray crystal structure analysis. At a time when his laborious computations involved slide-rules and cash registers that added in pounds, shillings and pence, Jeff foresaw the importance of the digital computers which now make possible the crystal structure determination of the giant molecules necessary for life.

George Jeffrey was born in Cardiff in Wales and was educated in England. He received his Ph.D. in Chemistry from the University of Birmingham in 1939 and a D.Sc. in 1953. His Ph.D. thesis was on the crystal structure of salts of the carbohydrate glucosamine. During the war, he was a research physicist at the British Rubber Producers Research Association. There he worked out the crystal



structure of geranylamine hydrochloride, which contains a subunit of rubber. These early organic structures were among the first to be analysed by three-dimensional X-ray crystallography. After a Lectureship at the University of Leeds, Jeff came to the University of Pittsburgh, Pennsylvania, first as a visiting professor and then to stay, in 1953. He remained at Pitt until his retirement in 1985, except for 2 years (1974–1976) at the Brookhaven National Laboratory. Until 1966, he held a full professorship in the Departments of Physics, Chemistry and Earth and Planetary Science. Then he was honored with the shorter title, University Professor. After 1985, he remained active as University Professor Emeritus.

Jeff rapidly built up the Crystallography Laboratory at Pitt and was soon attracting students, postdoctoral fellows and visiting professors from all over the world. Formal evening classes in X-ray crystallography were attended by his research group and also by scientists from the many corporate research laboratories in the Pittsburgh area. Jeff's success depended not only on scientific excellence, but also on his ability to make his co-workers feel like members of his crystallographic family. Jeff and Maureen made them all welcome at their home. Jeff was a strong leader. The sign on his desk said 'Be reasonable, do it my way'. Jeff's style was to develop a logical plan and then to back it by his powers of persuasion. Invariably, his way seemed to be the right way. In 1969, he persuaded the University to establish Crystallography as a graduate department, the only one of its kind in the US. At most times there were about 40 members, including up to five tenure-stream faculty and 15 students. Adjunct faculty appointments linked the Crystallography Department with other research groups, notably the Biocrystallography Laboratory at the nearby V. A. Medical Center. Eventually, 76 students obtained their Ph.D. in Crystallography and another seven obtained their M.Sc.

Jeff first served the IUCr as Chair of the Commission on Computing (1960–1963). In 1969, he was Program Chair for the 8th Congress at Stony Brook, New York, and for the years 1973–1984 he was a US Co-editor of *Acta Crystallographica*. Jeff also served as President of the American Crystallographic Association in 1963. He took every opportunity to travel in the US and abroad. He was an American Chemical Society Tour Speaker (1964, 1969 and 1974), Robert Welch Foundation Lecturer (1979), UNESCO advisor to Pakistan (1967), visiting professor at the University of Sao Paulo (1970), Senior Fulbright Scholar in Portugal (1973), Hassel Lecturer in Norway (1975), Alexander von Humboldt US Senior Scientist Awardee in Germany (1983) and Director of NATO Advanced Study Institutes in Portugal (1987) and Spain (1990).

Among his awards, Jeff received the Hudson Award of the American Chemical Society (1980), the Buerger Award of the American Crystallographic Association, and the Haworth Award of the Royal Society of Chemistry of the United Kingdom (1998).

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