



*L. W. Jorner*

## GEORGE W. GOVIER

1917–2016

Elected in 1979

*“Contributions to the understanding of multiphase flow and leadership in applying technology to energy conservation and utilization.”*

BY KHALID AZIZ

**G**EOERGE WHEELER GOVIER, former professor, dean, senior government administrator, and a leading Canadian conservationist, died February 22, 2016, in his 99th year. He championed the conservation of hydrocarbon resources when economic forces were against such policies.

He was born in Nanton, Alberta, on June 15, 1917, to George Arthur Govier of Parry Sound, Ontario, and Sarah Gertrude Govier of Minnesota. He grew up in Nanton, a small town about 60 miles south of Calgary; Penticton, another small town about 260 miles east of Vancouver; and Vancouver.

After graduating from the University of British Columbia with a degree in chemical engineering he moved to Edmonton and started his long and distinguished academic career at the University of Alberta as an instructor. At the same time he pursued an MSc degree in physical chemistry, which he completed in 1945. He took a leave of absence from the university to complete an ScD in chemical engineering in 1949 at the University of Michigan.

He returned to the University of Alberta as head of the Department of Chemical Engineering and served in this capacity for 11 years, establishing the department as a leading Canadian center for research and learning. From 1959 to 1963 he was the university's dean of engineering.

He embarked on a research program on the flow of complex mixtures and non-Newtonian fluids in pipes. He and his students made significant contributions to the flow of gas/liquid, solid/gas, solid/liquid mixtures, capsule transport, and the flow of thixotropic fluids in pipes. His pioneering contributions were based on careful experiments and sound theoretical analyses. This research culminated in the 1972 publication of *The Flow of Complex Mixtures in Pipes* (Van Nostrand Reinhold Co.), which I was honored to coauthor with him. The book, a thorough treatment of the fluid mechanics of the flow of different types of complex fluids and fluid mixtures in pipes, was republished (with some additions) by the Society of Petroleum Engineers in 2008 and is still in print and widely used.

As part of his interest in conservation and the orderly development of oil and gas resources, Dr. Govier pushed research to enhance recovery of oil from Alberta's vast oil sands and conventional fields. He was instrumental in establishing the Petroleum Recovery Research Institute and the Computer Modelling Group (1978) in Calgary.

He also saw the need for improved testing of natural gas wells to determine their long-term potential. He challenged his students in 1958 in a course on Advanced Natural Gas Engineering at the University of Alberta to propose techniques for modernizing gas well testing procedures. This effort, in which Dr. Govier's interest and leadership were crucial, led to the 1964 publication of a monograph *Theory and Practice of the Testing of Gas Wells* (published by the Energy Resources Conservation Board, ERCB). It has been updated several times and is the basis of well testing practices around the world.

While serving as department head and dean, he also shaped Alberta's policies related to the use and conservation of energy resources as a member of the ERCB (later named the Alberta Energy and Utilities Board and now called Alberta Energy Regulators).

In 1975 he left the University of Alberta to chair the ERCB and the family moved to Calgary. During his 30 years with the ERCB he spearheaded the development of conservation policies that have been admired and emulated around the

world. Starting in 1971 he served as chief deputy minister of energy and natural resources of Alberta. After his retirement from government service in 1978, he was active on the boards of several corporations and worked as an international consultant on conservation policies before fully retiring in 2006. He was president of the Association of Professional Engineers of Alberta and of the Canadian Institute of Mining and Metallurgy. He played a strong role in organizing World Petroleum Congresses for about 20 years starting around 1960, and chaired the Scientific Program Committee for eight years.

Dr. Govier was honored for his contributions both nationally and internationally. In addition to his election as an NAE foreign associate in 1979, he was inducted into the Canadian Petroleum Hall of Fame in 1999, received the Alberta Order of Excellence in 2013, and was named an Officer of the Order of Canada in 1982. He received the University of Michigan Sesquicentennial Award for his contributions as a “resource conservationist educator” in 1967, and was awarded honorary degrees from the Universities of Calgary, Waterloo, and McGill.

He was an honorary member of the Calgary Petroleum Club, where he and his wife Doris (née Kemp) often displayed their ballroom dancing skills. The couple also enjoyed fishing, cruising, and playing bridge. They often welcomed and entertained students, particularly international students and their families, at their home.

Skiing was one of George’s passions and one that he enjoyed into his early 90s. He organized a group known as the Canadian Classic Skiers and gathered his many skiing friends annually at exciting ski resorts. He was always eager to share his passion for the mountains and skiing with colleagues, friends, and students. I have fond memories of him teaching my children how to ski.

He was a perfectionist in everything he did and demanded perfection from all who worked with him. Yet even at his busiest George always made time for his students, his colleagues, and various professional organizations.

An interview with Govier’s first PhD student, Robert Ritter—who himself went on to serve as both head of chemical

engineering and dean of engineering at the University of Calgary—observed that “The relationship between student and professor can be life-changing for both. One influences the other, back and forth. Strong bonds form when the chemistry is mixed just so. The exchange of ideas, the debates, the hours of work and camaraderie can lead to a lifetime of collaboration and friendship” (University of Alberta *Engineer Magazine*, spring 2016).

It was my privilege, honor, and pleasure to know George for almost 60 years, first as a professor in 1957, then as my MSc advisor. I worked with him on research related to gas well testing and we coauthored *The Flow of Complex Mixtures in Pipes*. I was amazed to read the comments about Ritter’s relationship with George; I thought I was the only one who had this kind of close relationship with him. It seems many of his students enjoyed his warmth and camaraderie!

Doris passed away in 2014. They are survived by daughters Trudy (Anton Colijn), Katherine (Nick Rundall), and Sue (Jan Millington); five grandchildren; and five great-grandchildren.

