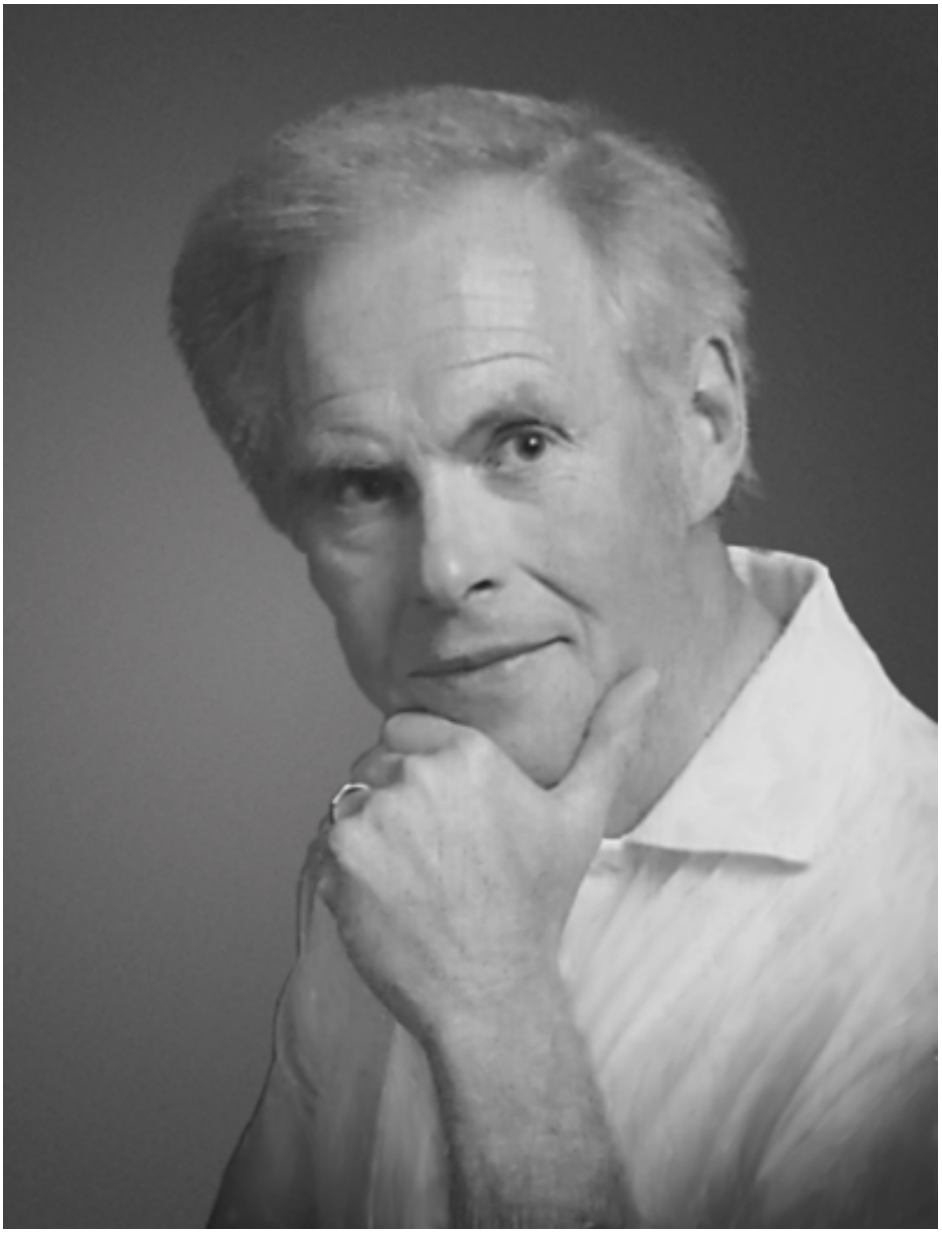
MARIO A. MONTEIRO

Gerald Oliver Aspinall
1924-2005



Prof. Gerald Aspinall, B.Sc., Ph.D. (University of Bristol), D.Sc. (University of Edinburgh), Distinguished Research Professor Emeritus, died on September 11th, 2005, in Toronto (Canada). Gerald was born in Chesham Bois, a small village in Buckinghamshire (England) and completed his pre-University schooling in the late 1930s at the Merchant Taylors' School at Moor Park (Middlesex). At Bristol University, Gerald obtained his Ph.D. (1948) with Prof. Wilson Baker in the field of aromatic/alicyclic chemistry. Subsequently, Gerald moved to Edinburgh University as Lecturer and joined the carbohydrate chemistry research group of Sir Edmund Hirst, a field in which Gerald was to made great strides in the area of plant polysaccharide chemistry.

During this time in Edinburgh, Gerald met Joyce Brading, and in 1953 Gerald and Joyce married; their son John was born in 1957, and daughter Jill in 1963. These family additions were accompanied by a D.Sc. degree in 1958 and promotion to Senior Lecturer in 1961 and Reader in 1963.

While at Edinburgh University, Gerald covered an extensive range of plant compounds, with special attention being paid to hemicelluloses, and other saccharide-related products derived from grasses, mosses, cereals and trees. Due to their commercial importance and relationship to other plant glycans, research into the fine structure of gum polysaccharides was also a focal point in his structural studies and numerous keynote articles describing major advancements in this field were published by the Aspinall group at Edinburgh. Many of these early investigations are still the foundation for present day polysaccharide research.

In 1967, Gerald moved to Trent University (Peterborough, Ontario) and served as Chair in the Department of Chemistry until 1972. Soon after, Gerald accepted a position as Chair in the Department of Chemistry at York University (Toronto, Ontario), a position he would hold until 1979. Gerald's many administrative responsibilities during the 1970s did not prevent him from maintaining an active research group as he continued to make advances in the area of structural carbohydrate chemistry.

In 1980, upon returning to full teaching and research duties, Gerald focused his attention on microbial polysaccharides. The structural elucidation of complex glycopeptidolipid antigens exhibited by *Mycobacterium spp.* were also accompanied by the first chemical synthesis of saccharide moieties expressed by *Mycobacterium spp*. In 1986, Gerald was awarded the Claude S. Hudson Award in Carbohydrate Chemistry of the American Chemical Society. In 1988, Gerald become a Distinguished Research Professor, and in 1991, he was elected into the Royal Society of Canada as a member of the Academy of Science (Academy III), Division of Mathematical and Physical Sciences (MPS).

Gerald formal retirement in the early 1990s did not affect his devotion to research; in fact, some of his best science was yet to come. During the 1990s, fine structural investigations into the complex cell-surface saccharides expressed by *Campylobacter* and *Helicobacter spp*. revealed how these microorganisms exhibited molecular mimicry, a finding that would help other scientists clarify the clinical features of *Campylobacter* and *Helicobacter* infections. Gerald discovered that *C. jejuni* expressed structures homologous to human glycosphingolipids as

components of their lipo-oligosaccharides and that the capsular polysaccharides expressed rare heptoses of unusual configurations. Gerald's last research endevours focused on the lipopolysaccharide structures produced by the human gastric pathogen *Helicobacter pylori*, the lipopolysaccharides of which were found to express structures similar to human histo-blood groups. The potential role of molecular mimicry between *H. pylori* cell-surface carbohydrates and human gastric mucosa cells is the basis for the hypothesis that some *H. pylori*-related disease may be a result of autoimmunity.

Gerald contributed defining reviews in *Advances in Carbohydrate Chemistry and Biochemistry*, *Annual Reports on the Progress of Chemistry*, *Annual Review of Biochemistry*, and *Pure and Applied Chemistry*. In particular, his three volume text "The Polysaccharides" (1985, Academic Press) remains a point of reference in the field of polysaccharide chemistry. Since its inception in 1965, Gerald served in the Editorial Board of *Carbohydrate Research*.

In his younger years, Gerald enjoyed rugby, but time would force him to turn his sporting interests to cricket and golf. His love of the outdoors was satisfied with holidays spent mountaineering in the English Lake District and hiking in the Dolomite mountains of Northern Italy. Even in later times, Aspinall family holidays were spent in Ardnamurchan in North West Scotland, camping in the provincial parks of Eastern Canada, and the Adirondack Mountains of northern New York State. Gerald was a well-versed music listener and he subscribed regularly to the Toronto Symphony and the Toronto Opera Company. Gerald was a devout churchman of the Anglican tradition and he felt no conflict between his faith and his science.

Gerald was a hard-worker and an extremely diligent researcher, whose character was based on high morals and principles, qualities that his students did well to emulate. As his last Ph.D. student, and on behalf of all his students, friends and colleagues, I acknowledge our great indebtedness to him.

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(Author's title given as of the time of writing)