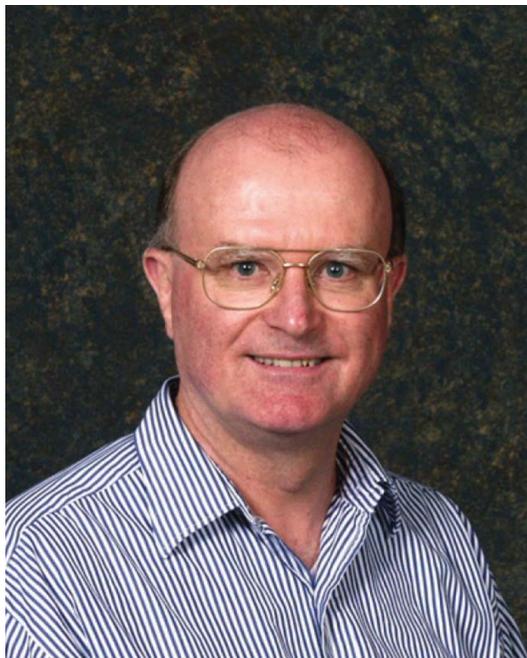


**Louis Delbaere (1943–2009)**

It was with great shock and sadness that the crystallographic community learned of the sudden death of Louis Delbaere on October 5, 2009. Louis was a current member of the IUCr Executive Committee, and was known and respected around the world as a scientist of great integrity. Like many others, I felt personally privileged to count him as a close friend and colleague, and it has taken me some time to come to grips with his loss. It is an honour to be able to write this short tribute.

Louis was born in Saint Boniface, Manitoba, the third child of a family of 12. Shaped by this upbringing, his relationships with family and friends remained central throughout his life. A chance event led Louis into crystallography. While pursuing a PhD in synthetic chemistry at the University of Manitoba, he was scooped by a competitor. Undeterred, he grew some beautiful crystals of a copper complex, solved its structure and was hooked. A period as a Postdoctoral Fellow at the University of Oxford, with Keith Prout, followed and it was there that his horizons expanded, scientifically, socially and geographically. As it was for many of us from 'the colonies', it was a chance to make life-long friends and get a sense of where science was going.

Following his time in Oxford, Louis looked to return to Canada. His strong sense of family led him to look to the Canadian prairies, where he grew up, and it was there that he developed the rest of his scientific career. Fortunately, Michael James had also returned to Canada from Oxford a few years before, and established a Medical Research Council-funded protein crystallography group at the University of Alberta, in Edmonton. Seeing the opportunity to apply his chemical and crystallographic skills to biology, Louis joined him as a Postdoctoral Fellow in 1974.

The period that followed saw an extraordinary flowering of research in the Edmonton lab, in which Louis played a central part. Beginning with the bacterial serine protease SGPB, the first protein structure to be solved in Canada, a series of highly influential papers on proteases, their structures, mechanisms and evolution appeared. Much of this was pioneering, world-leading work, because the methods of protein-structure refinement were only then being worked out, along with the limits of what could, or could not, be reliably interpreted from the electron density.

In 1979, Louis moved further east to take up a Faculty position in the Department of Biochemistry at the University of Saskatchewan. Scientifically, this led him into new research themes, including protein–carbohydrate interactions, antibody–antigen interactions, drug design and an abiding interest in phosphoryl transfer systems. From among many highlights one could single out a striking piece of work on the binding of an antipsychotic drug to calmodulin. This revealed an unexpectedly large conformational change that explained the role of this drug in inhibiting cancer cell growth. Central to his work was his interest in molecular recognition, a legacy of his chemistry background. Crystallography was more than a tool, for Louis, however – it was a passion, and he continued to look for new ways to advance not only his own research but the role of crystallography in Canadian science. His lab was the first in Canada to crystallize a protein in space, and he was a key figure in advocating and helping to realize the building of a Canadian synchrotron, the Canadian Light Source in Saskatoon.

The same generosity of spirit, unselfishness and integrity that shaped his whole life was reflected in the wider crystallographic community in his willingness to work for the common good. He was a very active member of the American Crystallographic Association, serving as President in 2005. He served on the IUCr Commission on Synchrotron Radiation, served for ten years on the important IUCr Subcommittee on the Union Calendar, and was elected a member of the Executive Committee at the Osaka Congress in 2008. He also prepared and presented, on behalf of Canadian crystallographers, the successful proposal to host the 23rd Congress of the IUCr in Montreal in 2014. Nobody present will forget his delight at this success, and had he lived to see it, this Congress would have been a fitting tribute to his energy, warm personality and international outlook.

Louis Delbaere's scientific achievements were many, and were well recognized. He was a Fellow of the Royal Society of Canada, and at the time of his death he was in the second year of a seven-year renewal of a Tier 1 Canada Research Chair in Structural Biochemistry, and was about to receive an earned DSc from the University of Saskatchewan.

What I found most inspiring about Louis, however, was the sense of balance in his life. He was modest, loyal and good-humoured; I can still hear his chuckle in my mind. He had an unfailingly positive outlook on life, seeing science as an adventure, and always able to see the potential in others, appreciating their successes as much as his own. His family held the highest priority for him: his wife Carol, children Christian and Michelle and their spouses, and his four grandchildren. And he loved the get-togethers of the wider Delbaere family. Friends were treated with the same warmth and courtesy, and frequently became part of his wider family. The move to Saskatoon led to a very happy scientific partnership with Wilson Quail, which soon embraced their respective families as well. Bryan Anderson, another friend from New Zealand, remembers going for a holiday in Europe with Louis, Carol and Carol's mother in a tiny racing-green MGB-GT

sports car, which required them all to get out and rotate positions every hour, to relieve cramped limbs.

Louis' scientific and professional accomplishments could have come at a cost to his family and friends, but they did not. He was, above all, a complete person, happy in what he was doing, grateful for the opportunities he had been given in life, and surrounded by people he loved and respected. Highly regarded on the world stage, he was nevertheless firmly rooted in his native Canada, among family and friends.

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