

THE AXEL BECKE PRIZE FOR EXCELLENCE IN RESEARCH IN CHEMISTRY

Honouring a Legacy of Research Excellence

Professor Axel Becke (1953–2025) was one of Canada's most influential scientists. His groundbreaking work transformed theoretical chemistry, reshaped modern computational science, and established a legacy that continues to influence research around the world.

In recognition of his extraordinary contributions — and his enduring impact on Dalhousie University — the Department of Chemistry has established **The Axel Becke Prize**. Created in his memory, the prize honours Professor Becke's lifelong commitment to research excellence by recognizing faculty whose work reflects the originality, rigour, and transformative impact that defined his remarkable career.

A Career Dedicated to Research

From an early age, Axel Becke pursued excellence with remarkable determination. Whether setting a Canadian age-class record in the long jump, winning the Canadian Accordion Competition, or graduating with the Gold Medal in Engineering Physics from Queen's University, he consistently demonstrated an exceptional ability to excel. That same drive led him to become one of the world's foremost theoretical chemists.

After earning his graduate degrees in Physics from McMaster University, Professor Becke began his career as a postdoctoral fellow at Dalhousie University before returning in 2006 as a Distinguished Professor. Much of his most influential work was accomplished during his 23 years at Dalhousie.

His pioneering contributions to Density Functional Theory fundamentally changed how scientists model the behaviour of electrons in atoms and molecules. Today, his methods are embedded in computational chemistry software used worldwide to advance discoveries in pharmaceuticals, materials science, nanotechnology, energy, and aerospace.

His scientific achievements earned Canada's highest honours, including the NSERC Gerhard Herzberg Canada Gold Medal for Science and Engineering and the Canada Council Killam Prize in Natural Sciences. Internationally, he was recognized by organizations including the Royal Society of London, the International Academy of Quantum Molecular Sciences, and the World Association of Theoretical and Computational Chemists. In 2014, Nature ranked two of his single-author publications among the 100 most-cited scientific papers of all time.

The Axel Becke Prize For Excellence in Research in Chemistry celebrates research that reflects the same commitment to scientific excellence and enduring impact.



Leadership Through Impact

Professor Becke's influence extended far beyond his own discoveries. His work created a foundation upon which generations of scientists continue to build, enabling advances across disciplines and around the globe.

Although internationally celebrated, those who knew him remember a scientist who was thoughtful, curious, generous, and remarkably humble. He led through the quality of his ideas and the example he set for others, demonstrating that the greatest scientific leadership is measured not only by recognition, but by the lasting influence of one's work.

In that spirit, **The Axel Becke Prize For Excellence in Research in Chemistry** recognizes a **full-time faculty member in Dalhousie University's Department of Chemistry** whose research represents either a single outstanding achievement or a distinguished body of work developed over a sustained period. Like Professor Becke's own contributions, the research honoured by the prize should advance knowledge and leave a lasting impact on the discipline.

Building a Life in Research and Teaching

Professor Becke believed that excellence in research and excellence in teaching were inseparable. Throughout his career, he challenged students to think deeply while making even the most complex scientific concepts understandable. His engaging teaching earned multiple awards and inspired generations of young scientists.

His career reflected a life dedicated not only to discovery, but also to nurturing curiosity, encouraging rigorous thinking, and fostering the next generation of researchers. **The Axel Becke Prize For Excellence in Research in Chemistry** recognizes this broader vision of academic excellence: a community strengthened by exceptional scholarship, intellectual curiosity, and an enduring commitment to advancing scientific knowledge.

A Lasting Legacy

Professor Axel Becke's discoveries continue to shape modern science every day. His work remains fundamental to the computational tools researchers rely upon to understand the behaviour of matter, enabling breakthroughs that continue to improve our world.

His greatest legacy, however, is the standard of excellence he established. Through this annual award, Dalhousie University's Department of Chemistry honours not only Professor Becke's extraordinary achievements, but also the values that defined his career: originality, perseverance, intellectual curiosity, and a relentless pursuit of discovery.

Awarded annually to a faculty member whose research exemplifies these ideals, **The Axel Becke Prize For Excellence in Research in Chemistry** ensures that Professor Becke's legacy will continue to inspire excellence in research for generations to come.

Please join us in honouring Axel's legacy by making a contribution to this award at giving.dal.ca/axelbecke. Together, we can ensure this award is as remarkable and inspiring as Axel.

For more information, please contact Christine Baker at christine.baker@dal.ca.



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