

HOWARD ALPER

Howard Alper is currently spearheading the initiative by the former Governor General of Canada (Head of State) to enhance global recognition for Canadian research excellence. He is Chair of the Canvassing Committee for the initiative. He is also Distinguished University Professor at the University of Ottawa. The basic research Alper has been pursuing spans organic and inorganic chemistry, with potential applications in the pharmaceutical, petrochemical, and commodity chemical industries.

He has discovered new reactions using homogeneous, phase transfer, and heterogeneous catalysis (e.g. clays, dendrimers, magnetic nanoparticles). He has also used chiral ligands in metal catalyzed cycloaddition and carbonylation reactions, and succeeded in preparing valuable products in pharmacologically active form. Alper developed novel routes using cyclocarbonylation and other transformations, leading to efficient syntheses of small, medium and large ring heterocycles [e.g. carbapenem antibiotics]. He created new highly chemoselective alkoxy-carbonylation or aminocarbonylation processes of importance in drug and natural product synthesis [e.g. avenanthramide A]. Alper was the pioneer in the application of phase-transfer catalysis to transition-metal catalysed organic reactions. He has published 552 papers, has thirty-seven patents, and has edited several books.

Alper has received a number of prestigious Fellowships including the E.W.R. Steacie (Natural Sciences and Engineering Research Council, 1980-82), Guggenheim (1985-86), and Killam (1986-88) Fellowships. Major awards to Alper include the Alcan Award for Inorganic Chemistry (1986), Bader Award for Organic Chemistry (1990), Steacie Award for Chemistry (1993), all of the Canadian Society for Chemistry. The Chemical Institute of Canada has presented Alper with the Catalysis Award (1984), the Montreal Medal (2003), and the CIC Medal (1997), its highest honour. He also received the Urgel-Archambault Prize (ACFAS) in physical sciences and engineering.

In 2000, the Governor General of Canada presented him with the inaugural Gerhard Herzberg Canada Gold Medal in Science and Engineering, the most prestigious award for science and engineering in the country. The following year, he was given the National Merit Award for contributions to the Life Sciences.

Alper was appointed in 1996 as a Titular Member of the European Academy of Arts, Sciences, and Humanities, and in 2003 as a member of TWAS-the Academy of Sciences for the Developing World. In 2002, he received the Le Sueur Memorial Award of the Society of Chemical Industry (U.K.). In 2004, he was made an Honorary Fellow of the Chemical Research Society of India, in 2006, an Honorary Fellow of the Chemical Institute of Canada, and in March 2013, was made an Honorary Foreign Member of the Chemical Society of Japan (CSJ), the first Canadian ever to be so honoured by the CSJ. He was also elected as a Honorary Member of the Colombian Academy of Sciences in 2011, and of the Mexican Academy of Sciences in 2009.

He has served on a number of NSERC committees (e.g. Committee on Research Grants), and as Chair of Boards and Committees including, amongst others, the Partnership Group for Science and Engineering (PAGSE), Council of Canadian Academies, Canadian Research Knowledge Network, and the Steacie Institute of Molecular Sciences. He was named President of the Royal Society of Canada for a two-year term commencing November 2001, and was its Foreign Secretary from 2004-2010. He was also Visiting Executive at the International Development Research Centre during 2006-2010. He has served as advisor to several governments in addition to Canada, including South Africa, Chile, Mexico and South Korea.

In 1999, Alper was appointed as an Officer of the Order of Canada. and in 2002 he was awarded the title of Officer, National Order of Merit, by the President of the Republic of France. In 2014, President Napolitano of the Republic of Italy, bestowed the significant recognition of Alper as Commander of the Order of Merit of the Italian Republic. In 2020, Alper was designated as “Companion of the Order of Canada”, the highest award to a civilian Canadian citizen,”for his significant contributions to organometallic chemistry, and for his internationally recognized leadership in science research and policy.”

In 2004, Alper was elected to a three-year term as Co-Chair of the InterAmerican Network of Academies of Science (IANAS). In December 2006, he was elected Co-Chair of the Inter-Academy Partnership [IAP: The Global Network of Science Academies], for a three-year term, and in January, 2010, was re-elected to a second three year term as Co-Chair. In 2010, he was also appointed to the U.S. National Science Foundation Advisory Committee for International Science and Engineering, to the Science Advisory Committee of the World Economic Forum, to the Board of the African Institute for Mathematical Sciences-Next Einstein Initiative, to the Advisory Board of the Global Young Academy, and as Vice-Chair of the RIKEN Advisory Council. In 2011, he was elected as Chair of the International Advisory Board of the Knowledge Economy Network headquartered in Brussels. In 2015, he was appointed to the Board of the ambitious Smart Villages initiative.

On June 13, 2007, he was appointed inaugural Chair of the Government of Canada’s Science, Technology and Innovation Council (STIC) which provides advice to Cabinet and the Prime Minister on science, technology and innovation issues, and the Council also issues a State of the Nation reports every two years benchmarking Canada’s performance on a global basis. The inaugural report was released in May, 2009, the second report appeared in June, 2011, the third report was released in May, 2013, and the latest report appeared in 2015. In December, 2012, the Government of Canada reappointed him to a third term as Chair of the STIC. He completed eight years as Chair of STIC by the end of his third term in May, 2015

He is passionate about Canada, research and chocolate.