

Dr. Toone, the former director of Duke I&E, launched the Duke Innovation and Entrepreneurship Initiative in 2013 and served as its leader until May 2017, when he left Duke to join Breakthrough Energy Ventures.

He received his doctoral degree in organic chemistry from the University of Toronto, studying applied enzymology under the supervision of Professor J. Bryan Jones. Following post-doctoral studies at Harvard University with George Whitesides he began his independent career at Duke in 1990, and is currently professor of chemistry and professor of biochemistry.

Professor Toone has authored more than 220 original papers, reviews, book chapters and abstracts in physical organic and biophysical chemistry, including applied and mechanistic enzymology, ligand binding in aqueous solution and the chemistry and biology of nitric oxide. He is also listed as an inventor on more than 20 patents in a range of biomedical fields. With Professor Jonathan Stamler Toone founded Vindica Pharmaceuticals, which leveraged fundamental research in novel C-nitroso donors of nitric oxide to develop NO-eluting coatings for medical devices. In 2006, working with Professor David Epstein, Chair of Ophthalmology and Director of the Duke Eye Center, and Casey Kopczynski, Toone founded Aerie Pharmaceuticals. Aerie, which became publically traded in 2013, is currently advancing novel kinase inhibitors through Phase III trials for the treatment of glaucoma.

From 2009 to 2012 Professor Toone was detailed to the U.S. Department of Energy where he was a founding member of the Advanced Research Projects Agency – Energy (ARPA-E). During that time, he served both as program director and deputy director for technology before leaving the Agency in 2012. As a program director, Professor Toone devised and implemented ARPA-E's Electrofuels program, which explores the use of non-photosynthetic autotrophic organisms for the production of energy-dense, infrastructure-compatible liquid fuels.