



Association of Faculties
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AFPC 2020 Faculty Awards

AFPC / PFIZER RESEARCH CAREER AWARD

Dr. Shana Kelley

University of Toronto



Dr. Shana Kelley is a Professor at the University of Toronto and a member of the Departments of Pharmaceutical Sciences, Chemistry, Biochemistry and Biomedical Engineering. She completed a PhD in Chemistry at the California Institute of Technology and was a NIH Postdoctoral Fellow at the Scripps Research Institute. Dr. Kelley has pioneered new technologies for disease diagnosis and platforms advancing the discovery of new therapeutics. As a co-founder of GeneOhm Sciences, she worked to develop tests for methicillin-resistant *Staphylococcus aureus*, which have since been deployed widely to decrease rates of MRSA transmission in hospitals. She has also created devices that allow doctors to run tests right in their office with results obtained after only 20 minutes. Her patented nanostructured electrodes enable infectious pathogens to be identified in clinical samples and she founded Xagenic Inc. to commercialize this rapid diagnostic testing method. Dr. Kelley has also advanced new technologies for the early detection of cancer, which resulted in the founding of Cellular Analytics, a company that has attracted seed funding and is scaling solutions for liquid biopsy. She has also contributed testing technologies to the field of stem cell-based therapeutics and has created tools for high-throughput genomics and infection control.

Dr. Kelley's awards include the NSERC E.W.R Steacie Fellowship, the University of Toronto's Inventor of the Year, the Steacie Prize, the Queen Elizabeth II Diamond Jubilee Medal, the Pittsburgh Conference Achievement Award, being named a "Top 100 Innovator" by MIT Technology Review, and a SLAS Innovation Award. She was also recognized by the broader community as one of the "Top 12 Canadian Innovators" (Globe and Mail) and one of "Canada's Top 40 under 40" (Caldwell Partners). In 2017 she won the American Chemical Society (ACS) Nanoscience Award, which is given to a single investigator worldwide each year. She was also made a Visiting Miller Professor at the University of California, Berkeley in 2017, and was a Distinguished Visiting Fellow at the Rowland Institute at Harvard in 2018.

In addition to leading a world-renowned research group and translating new healthcare technologies into practical tools, Shana is a Board Director for the Canadian Academy of Health Sciences and FACIT. She is also a member of the Executive Leadership Team for Medicine by Design, and was a founding Associate Editor for ACS Sensors, the leading diagnostics science and technology journal of the American Chemical Society. Shana also founded PRiME in 2019, a campus-wide initiative in Precision Medicine at the University of Toronto that has a mandate of fostering collaboration and advancing research focused on drug discovery, disease biology, and diagnostic technology development.