

TECHNA ROUNDS

From Fundamental Science to the Creation and Commercialization of Technology - Axela Inc, Vive Crop Protection and the Impact Centre's 60 other Start-Ups

By Cynthia Goh, PhD

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100 College St, Banting Institute, Room 131

My research interest is in understanding interactions between very large molecules (proteins, polymers, nucleic acids), and the evolution of complex material properties. In this talk I will discuss how this interest naturally led to the creation of technology that has potential benefits to society, and the path that I had taken to realize that potential, in the stories of companies I had co-founded: Axela Inc, Vive Crop Protection and 4 others. I will then present my new 'research' that led to the formation of the Impact Centre, and how we nurture the creation of technology-based start-up companies led by students.

BIOGRAPHY



Cynthia Goh is a Professor at the Department of Chemistry, the Institute of Medical Science, the Munk School of Global Affairs, and Director of the Impact Centre at the University of Toronto. She received her PhD from the University of California at Los Angeles, and carried out postdoctoral fellowships at Columbia University and the University of California, Berkeley, prior to taking a faculty position at the University of Toronto. Professor Goh is a physical chemist with a diverse set of research interests, including fundamental studies of complex systems biomaterials, interfaces, probe microscopy, the development of new research instrumentation and nanotechnology.

She is also known for her interest the translation of scientific discovery to technology and products, and the education of scientist-entrepreneurs. She invented the technique of diffraction-based sensing, a highly sensitive approach for the detection of biomolecules with applications in medical diagnostics and in drug discovery. Together with her students, she founded Axela Biosensors Inc. (www.axelabiosensors.com) to commercialize the technology; Axela's dotLab™ system, is a commercial instrument used by researchers and clinicians for a variety of applications in the bio and medical areas. Her scientific research on understanding of the self-assembly of biomolecules and polymers resulted in a platform technology for making nanoparticles; based on this science, she and her students founded Vive Nano, now Vive Crop Protection (www.vivecrop.com), with over 30 employees targeting agriculture applications. She is also co-founder of Dalenyi BioSurfaces (www.dalenyi.com), a company engaged in immunoassay tools, Sciventions (www.sciventions.com) a scientist-to-scientist e-commerce solutions company, Phantin, an environmental coatings company, and Pueblo Science (www.puebloscience.org), a non-profit company engaged in science literacy for low resource settings.

Professor Goh's interest in the education of scientist-entrepreneurs led her to introduce a non-credit series in 2004, which led to what is now known as Entrepreneurship101 at MaRS, the flagship entrepreneur training program of the MaRS Discovery District, with thousands registered attendees annually. In 2010, she introduced Techno, a one-month intensive training program specifically geared for university scientists intending to build a tech-based company. Techno2010 to 2013 have led to the creation of over 50 start-ups based on the results of scientific research, many of which now have sales and follow-on funding.