

Entrepreneurship in the Lifesciences Sector.

J Paul Santerre

Professor of Biomaterials, PhD, FBSE, FAIMBE, FAAAAS, FCAHS

Director of the Health Innovation Hub (H2i), Temerty Faculty of Medicine

Baxter Chair for Health Technology and Commercialization, UHN-Techna

Institute of Biomedical Engineering, Faculty of Dentistry

Translational Biology and Engineering Program

661 University Ave, 14th floor, Room 1435

Toronto, ON, M5G 1M1, Canada

Phone: 1-416-946-8158

Email: paul.santerre@utoronto.ca

Website: <http://www.santerrelab.com>

Abstract:

Why is Biomedical Research ripe for with opportunity for Innovation and Entrepreneurship. This is a question that will be explored with trainees during this lecture/workshop. In 2018, the Global medical device field was a \$423B market, growing at 5% (not including stem cell technologies and other biological therapeutics and diagnostics which were \$10B in 2018 and growing at 25%), [Zion Market Research]. In the US, the health care industry consumes about 18% (specifically, 18% in 2020) of the gross domestic product (in Canada at 11.6% in 2019), and it is *one of the world's largest and fastest-growing industries* [UK was 10% in 2018 and 6.9% in 1997- things are not getting better!!]

It has been observed by many, that the market is often serviced by products that don't necessarily deliver improvements to care, in part because of poor attention given to human factors and customer (patients, clinician, wellness purchasers) needs and consideration. *The system continues to need low cost and highly efficient innovations.* Engineering and science principles are applied in hospitals, nursing homes, diagnostic laboratories, pharmacies, medical device manufacturing, rehabilitations services and many other areas, and *could bring more efficient solutions to these expenses.* These factors when taken together lead to the following conclusion for academic environments: ***The argument is strong that inventors from academic/Hospital institutions should steer towards contributing to applying knowledge in an entrepreneurial manner, e.g. to make the science fit the health needs rather than fitting the health need to the science. Hence, there must be the paradigm shift!!!***

The discussion today will look at two real case studies that the speaker successfully launched from academic research, and dissect them down to look at what made them successful. The presentation will then move to define what is an entrepreneurial skill set, and then map out the resources available to the CRANIA/KITE community here at the University of Toronto. Finally, there will be the presentation of a business canvas that has been used on over 525 venture start ups at the Health Innovation Hub, Temerty Faculty of Medicine since 2014, and has led to > \$110M in early seed capital and sales of product on the market, by trainees of entrepreneurship. *After the general Q&A, the speaker will stay around to speak to trainees or teams in breakout rooms who wish to wish to discuss their ideas for an entrepreneurial venture.*