

SYNTHETIC BIOLOGY

An industrial/academic cluster initiative

SYNTHETIC BIOLOGY

is an exciting field that has emerged over the past ten to fifteen years, wherein we seek to control the way cells behave, employing principles from engineering in the rational design of new biological parts and systems. We can create regulatory networks with tailored responses, rewire existing pathways, and more. The practical implications involve benefitting from a more systematic approach to creating biological systems with the properties we want: more efficient or better-controlled biosynthesis; custom-made microbes for bioremediation or biosensing; or biological systems to reside inside the human body and fight disease.

OUR GOAL

We want to reach out and form bottom-up partnerships with businesses with an interest in synthetic biology, and with businesses that may not yet know that they have such an interest.

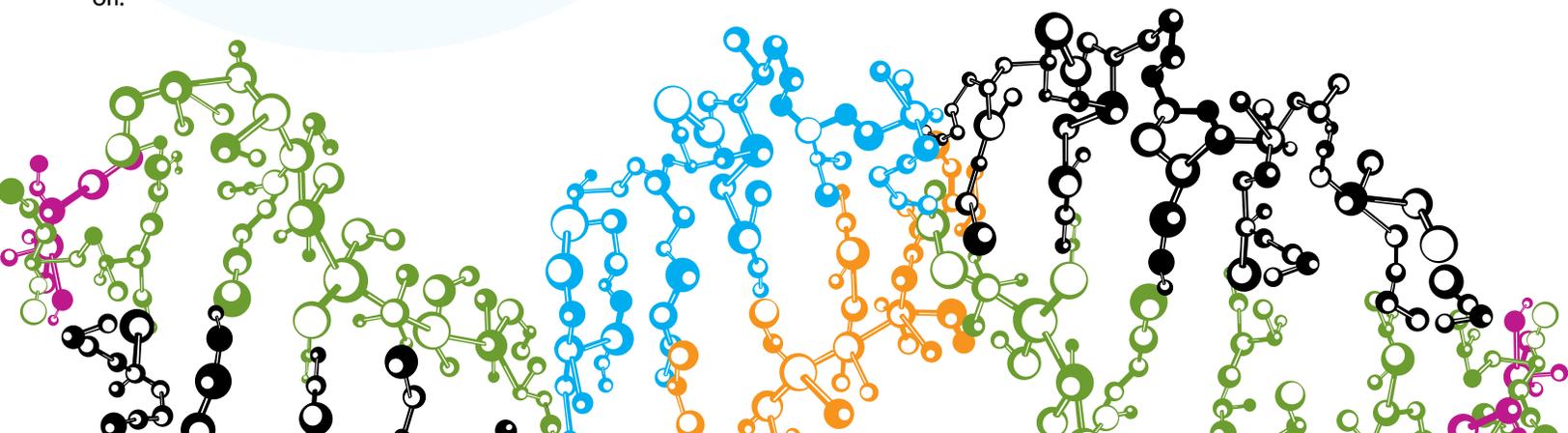
All too often, research work done in academic labs takes a very long time to reach the market. Why is that? Because academics often don't know what problems are important to industry; and companies often don't have inside information on what's being done, or what *could* be done, in academia. The solution is to get together and start talking! We want this workshop to serve as the foundation for an ongoing discussion where everyone learns about one another's capabilities, goals, and needs, so that opportunities to collaborate will emerge naturally as time goes on.



CONNECT
ACCELERATE
CREATE

VISION

Synthetic biology is a disruptive field that will create significant benefits to society. Enough knowledge exists right now to create commercially viable and socially relevant products. Longer term, there are bigger questions: What can biology accomplish if we can fully harness its capabilities? Can we solve grand challenges in global health, food, energy, and the environment?



ABOUT THE CLUSTER

The cluster building effort is led by faculty members from several Southern Ontario universities under the auspices of the Impact Centre at the University of Toronto. We are seeking public and private sectors partners who share our vision and are interested in contributing to the development of a vibrant synthetic biology cluster in Ontario.

We would like to bring together industry partners, researchers, government agencies and end-users through collaborative projects, knowledge sharing and networking events. The goal is to connect academics conducting cutting-edge science with industry innovators to understand the issues and needs faced in the marketplace, and how to address them.

We are seeking partners along the entire synthetic biology value chain: any company that

- is developing fundamental tool kits such as DNA synthesis and DNA sequencing,
- is engaged in the creation of higher-order systems including synthetic genomes and simple organisms,
- or will be affected in downstream markets (medicine, pharma, environment, energy, agriculture, chemicals,...)

There are a number of areas that could benefit from developments in synthetic biology, and we are pooling resources to create a cluster in a field with tremendous potential. Parties interested in joining the discussion are encouraged to contact us.

ABOUT THE IMPACT CENTRE

The Impact Centre is a newly established, crossdisciplinary R&D institute dedicated to creating value to society based on university research excellence in the natural sciences and engineering. We operate at the nexus of chemistry, physics, biology, engineering, materials science, nanotechnology and photonics, and are supported by world-leading faculty members, spanning the various Faculties and units of the University of Toronto.



CONTACTS

Professor David McMillen
Department of Chemical and Physical Sciences
University of Toronto
david.mcmillen@utoronto.ca
Tel: (905) 828-5353

Professor Cynthia Goh
Director, Impact Centre
University of Toronto
cgo@imc.utoronto.ca
Tel: (416) 978-3933

Stanley Wong
Impact Centre
University of Toronto
swong@imc.utoronto.ca
Tel: (416) 978-1457

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