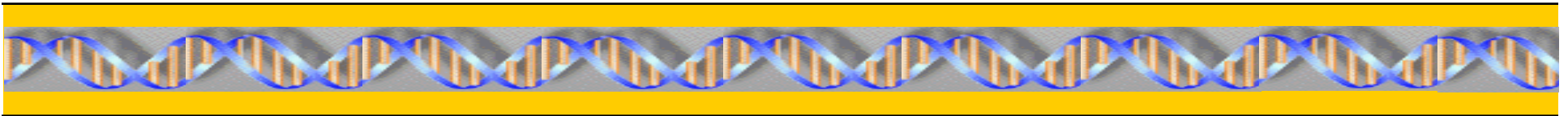


Ontario Genomics Institute: Building Genomics & Proteomics Resources



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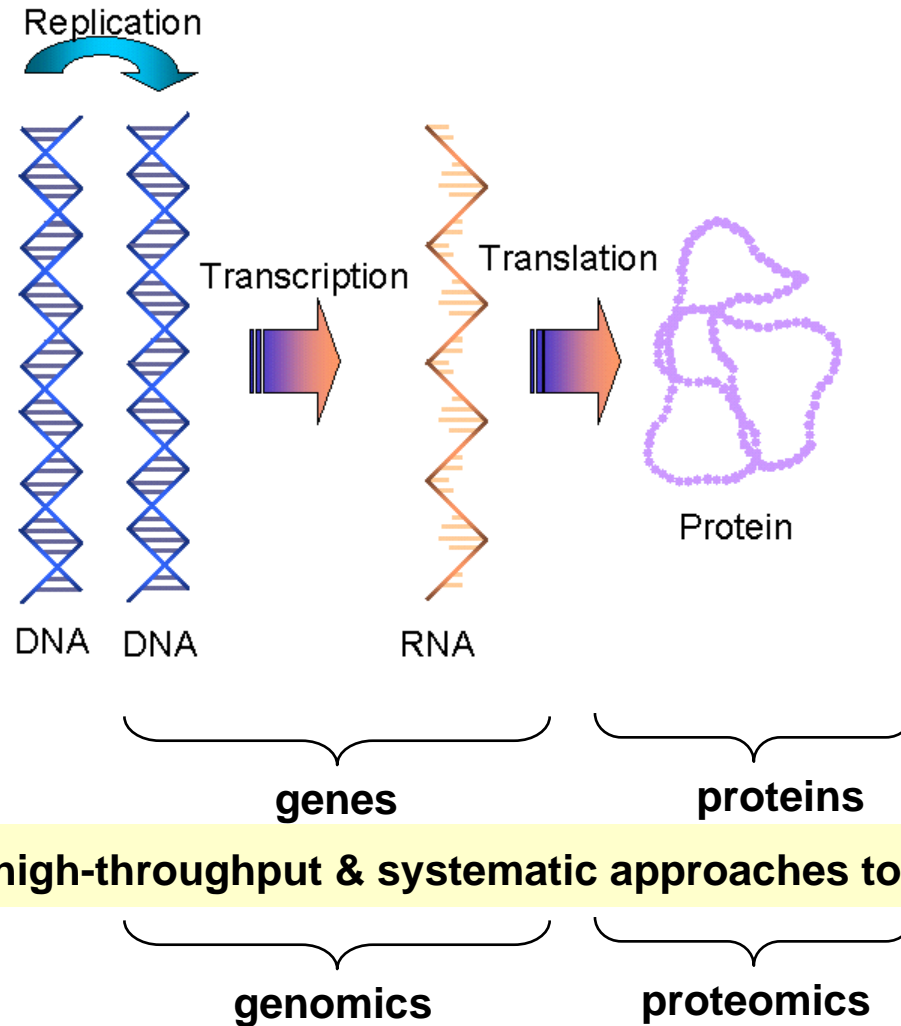
Ontario**Genomics**Institute

OGI Overview



- **What are genomics & proteomics?**
- **Ontario Genomics Institute**
- **Research programs**
- **Educational Outreach**
- **Commercialization**

From Central Dogma to Discovery Platforms



holistic, high-throughput & systematic approaches to building resources

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Genome Canada



Ontario Genomics Institute



Ontario Genomics Institute (OGI)



Building a globally-competitive life sciences industry in Ontario

- **Fund top tier science & technology**
- **Fund best organized projects**
- **Facilitate & precipitate commercialization**
- **Focus on societal outcomes**
- **50% co-funding requirement (international collaborations count)**

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OGI R&D Project Portfolio

- **\$320M portfolio of 24 projects to date led by Ontario scientists**
- **\$3M - \$30M per program (\$10M average)**
- **human health, tech development, agriculture, forestry & environment**
- **examine associated impact: ethics, environment, economic, legal & social**
- **2 “platform” projects: proteomics (PTCF) and genomics (GRC)**

International Programs

Structural Genomics Consortium

- Led by Aled Edwards @ University of Toronto
- Detailed three-dimensional structure of 350 proteins (starting point for drug discovery)
- \$115M
- ICI: work being done in and funded by Canada, United Kingdom & Sweden

Segmented DNA Duplications

- Ontario work led by Steve Scherer @ Hospital for Sick Children
- Duplicated DNA in neurodevelopmental-diseases and evolution
- \$6M
- work being done in and funded by Canada & Spain (Genoma España)

International Regulome Consortium (in planning & development)

- Led by Michael Rudnicki @ Ottawa Health Research Institute
- map the mechanisms and networks that control the genes that comprise the genome
- \$\$\$ to be determined ultimately, \$50M - \$100M; program development funds from MEDT
- potential ICI: Canada, Australia, France, Germany, Italy, Netherlands, Singapore, UK & USA

OGI Science & Technology Platforms



Genomics Resource Core (S. Scherer et al.):

- DNA sequencing, genotyping, and expression arrays
- >450 users over past year, including Ontario (78%), other Canadian (10%) and other international (12%) users

Proteomics Technology Core Facility (G. LaJoie et al.):

- mass spectrometry
- >300 users over past year, including private sector (9%) and international (2%) other international users

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Education & Outreach

- scientists
- media

ReGenesis: “The Facts Behind the Fiction”



- students and teachers
- public

Engage Modules For High Schools



Courtesy of Kevin Stiers, The Charlotte Observer © 2001

Benchside Consultation Service for Scientists







GEEE! In Genome Suitcase



Fellowship/Internship Programs

OGI Summer Fellowship 2005 Awardees:

Ram Ananth		Dr. Ken Dimock University of Ottawa	The role of sialic acid configuration and sialyltransferases in enterovirus tropism
Meghan Andrews		Dr. Martin Holcik Apoptosis Research Institute University of Ottawa	Genome-wide identification of novel IRES elements utilized during endoplasmic reticulum stress
Andre Bourgeois		Dr. Daniel Figeys University of Ottawa	Targeting downstream effectors of amyloid-b protein induced synaptotoxicity and neuronal loss
Wing Chun (Andy) Pang		Dr. Zhaolei Zhang University of Toronto	Characterizing the transcriptionally active regions (TARS) in the human genome
Sandy Shamon		Dr. Marie Elliot McMaster University	Putative small RNA control of antibiotic production in Streptomyces

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OGI Commercialization

Strategic Focus

- **genomics & proteomics, and associated technologies**
- **advice & information in early stages**
- **opportunistically bridging the R&D to commercialization gap**
- **direct investment**

OGI Pre-commercialization Services

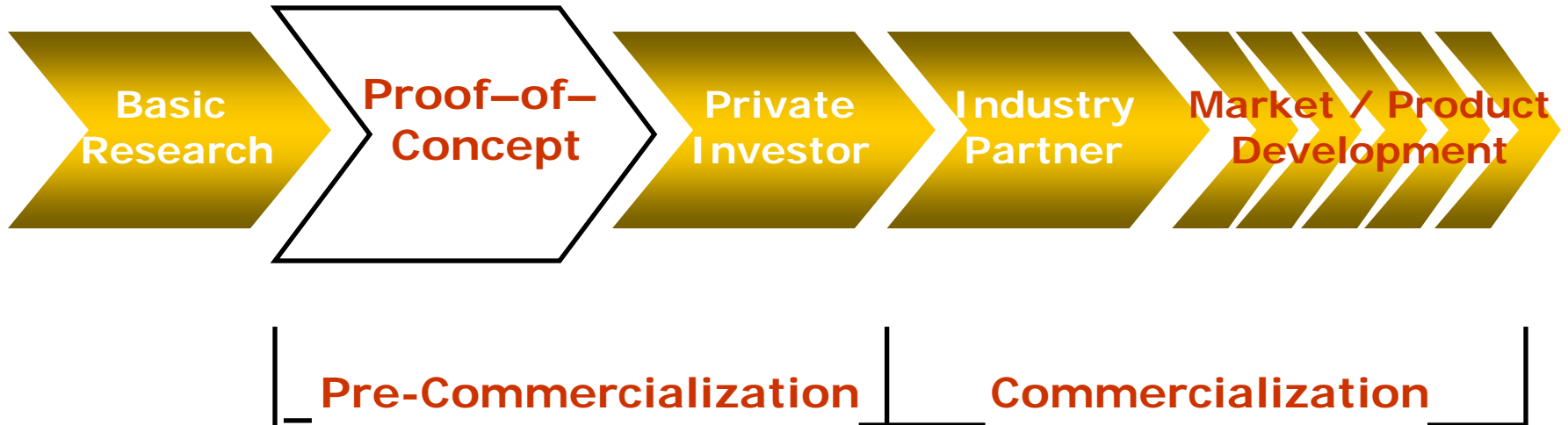
Identification of commercial opportunities

Commercialization Committee meetings for research projects

Development of business plan / commercialization strategy

Facilitating partnerships with Industry

What is Proof of Concept?



Pre Commercialization Business Development Fund (PBDF) - General Criteria

Genomics, proteomics or associated technologies

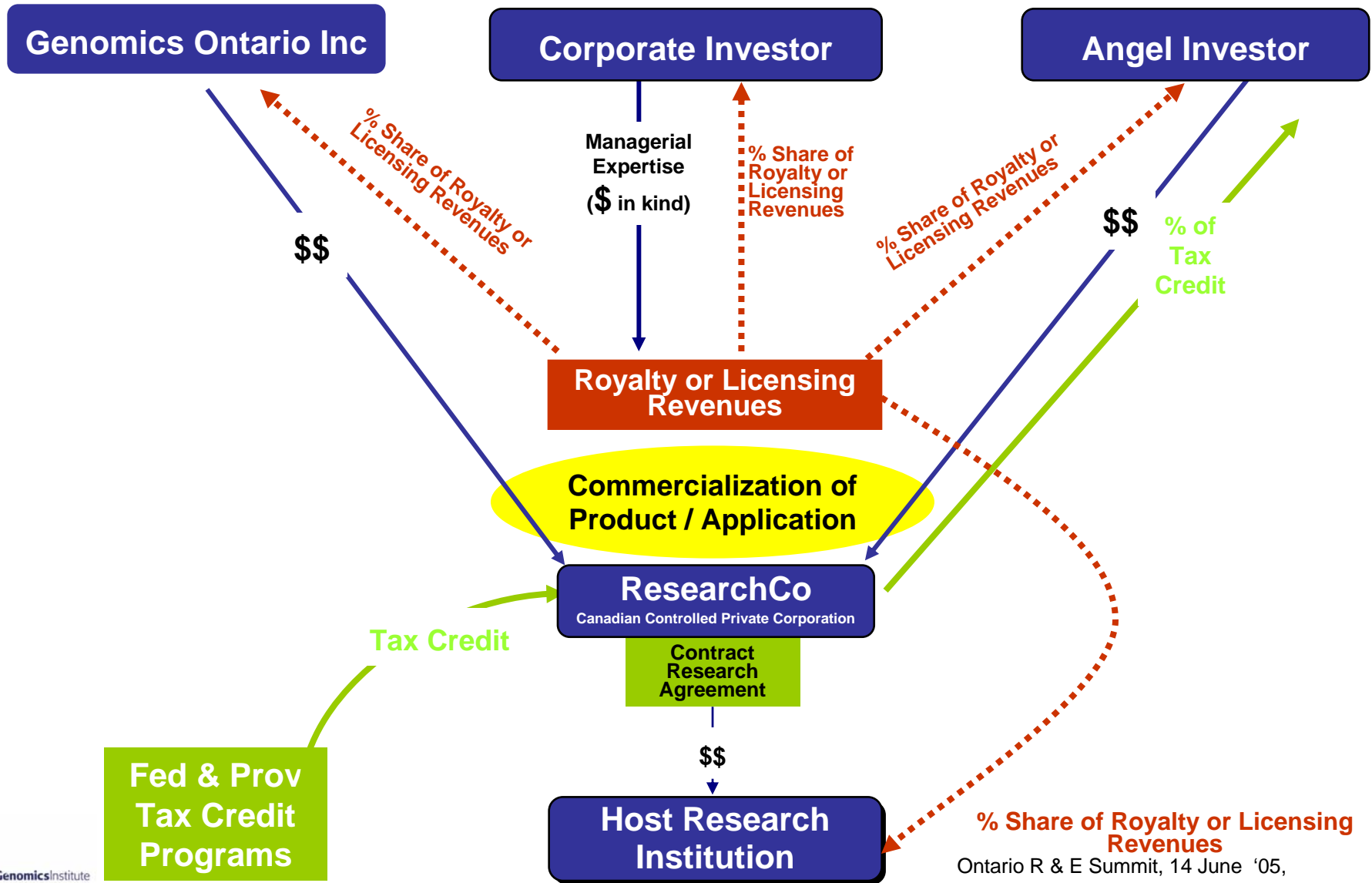
Novel / innovative

Milestone-based deliverables

Prospect to advance in pre-commercial conversion

Unique opportunity for OGI

Genomics Ontario Inc (GO Inc)



Impacts

IP generation

- 10 Invention Disclosures
- 19 patents
- 4 licenses
- 3 spin-off companies

PBDF investments

- 3 Investments to date
- leveraged and follow-on investments

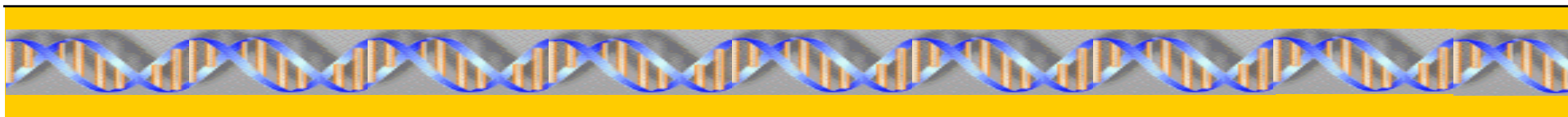
Partnering Event Example

Symposium: “*Stem Cells: Unlocking the Potential*”

- 1-day event, Oct 2005, MaRS Centre (Toronto)
- Co-hosted by the Stem Cell Network and MaRS
- National and international speakers
- Commercialization and scientific presentations



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