

Industry Challenge 2020 Program: Healthy Lives, Healthy Economy, Healthy Planet Through Genomics OPEN CALL FOR CHALLENGES

COMPETITION GUIDELINES

PURPOSE:

The [Ontario Genomics \(OG\) Industry Challenge 2020 Program: Healthy Lives, Healthy Economy, Healthy Planet Through Genomics](#) will provide teams with funding for **novel** and **innovative** projects to solve pressing challenges and address industry opportunities through the application of genomics-based solutions across key sectors of the Ontario economy with the intent to drive economic growth, improve quality of life and Ontario's global leadership. OG advances genomics applied research and innovation to drive industry's competitiveness, by providing access to high-risk investment, fostering connections between businesses, funders, investors and others, and advocating for policies that enable commercialization and implementation of genomics-based technologies. This enables a higher return on investments in genomics technology research, development and commercialization, filling a critical gap in Ontario's life sciences ecosystem.

OG is issuing an "**Open Call for Challenges**" for genomics¹ and engineering biology innovators to solve **industry and other end-user² identified challenges** within and across agriculture and agri-food, human health, industrial biotechnology and natural resources and the environment in one or more of the five areas identified below. This program is open to creative partnerships and collaborative teams (e.g. teams comprising industry, industry-academia, industry—industry, industry-other) that are in the position to address the identified challenge or opportunity and implement the results from the project.

The Industry Challenge 2020 Program intends to catalyze and support collaboration in the application of genomics and engineering biology solutions to solve challenges identified by industry. This "**industry-pull**" approach is designed to result in market-appropriate outcomes and maximize the impact from these projects. Project outcomes should enable the applicant to implement the next steps, e.g. follow-on investment, increase technology readiness through next level applied research, validate a new business opportunity, obtain future partners etc. It is expected that the knowledge generated, will have a high potential for future implementation by the industry, could result resulting in a marketable or translatable asset and will ultimately result in create social and/or economic benefit for Ontario, including the creation of jobs.

AREAS OF FOCUS:

Through its "**Open Call for Challenges**" OG is looking for genomics and engineering biology innovators to solve key **industry-identified challenges in one or more of the five areas identified below**. These challenge areas are within and across the agriculture and agri-food, human health, industrial biotechnology and natural resources and the environment sectors and could include, but are not limited to the examples listed below:

- **Sustainable Food and Biomaterials Production:**
 - *Alternative proteins (plant-based, cellular agriculture, others)*
 - *Reducing food waste (along the value chain or post-consumer)*
 - *Reducing fertilizer and pesticide usage, via the introduction of effective bio-controls*
 - *Biodegradable packaging*

- **Rapid Genomic Diagnostics in Healthcare, Food Safety & Agriculture, and the Environment**
 - *Companion diagnostics for precision medicine to improve outcomes & reduce cost*
 - *Hereditary disease diagnosis*
 - *Detection and identification of food-borne pathogens or allergens for food processing*
 - *Rapid disease detection and traceability in crops and livestock*
 - *Detection of environmental contaminants*

- **Biomanufacturing and Scale Up from the Lab to the Factory**

¹ Genomics includes the reading, writing and editing of DNA and related disciplines e.g. epigenomics, metabolomics, metagenomics, nutrigenomics, pharmacogenomics, proteomics, transcriptomics and bioinformatics. For this program, it also includes artificial intelligence and machine learning applied to genomics data.

² Industry and other end-user include for-profit companies, not-for profits, hospitals and other users that can implement results from the projects.

- *Scale up of lab processes for biochemicals or biotherapeutics*
- *Renewable textiles or biochemicals*
- *Novel approaches to biotechnology and biomanufacturing (ex. cell-free production of proteins, novel vectors etc.)*
- **Roadmaps for Reducing Red Tape, Regulatory Burden or other Barriers**
 - *Policy models for improving regulations for genomics testing licensing*
 - *Accelerating approvals of microbes for remediation, fertilizers or pesticides*
 - *Impact study on new trends and food products*
- **New Paradigms for Rare Disease Treatment**
 - *New treatment modalities like allogenic cell therapy, gene therapy including CRISPR-based*
 - *New approaches to therapeutic development for n=1 population.*

AWARDS/PRIZES:

OG will provide up to **twelve (12) individual awards** of **\$25,000 each** for teams to be used for short duration (up to 12 months) research projects. Each project must be **matched with a minimum of \$25,000 contribution from the industry** (cash and in-kind acceptable), to a total project size of \$50,000 or more. Higher funding could be requested in exceptional cases and would have to be matched dollar for dollar by the industry partner. Applicants must ensure that the research funded through the Industry Challenge Program is independent of current funding or is incremental to previously funded projects.

HOW TO APPLY:

The Industry Challenge Competition will consist of a three-stage gated application process:

Stage 1: Intent to Apply

- Potential applicants must **contact Elaine Corbett, Director, Sector Innovations & Programs** at ecorbett@ontariogenomics.ca to discuss their project idea. OG will help determine eligibility, positioning of the project and will provide an invitation to apply for eligible applicants.

Stage 2: Submission of Written Application

- Use the supplied *Industry Challenge 2020 Program Application Form* to describe the project per the following sections: Project Summary, Project Proposal, Industry Summary and Next Steps, Budget and Justification.
- Please **submit electronically as a single PDF file by the application deadline – 9:00am, Monday March 9, 2020** to ecorbett@ontariogenomics.ca referencing **Industry Challenge 2020** in the subject line of the email.

Stage 3: Pitch

- Based on initial reviews, the top-ranked applications will be invited to pitch their proposal for funding.
- Applicants selected to advance to the pitch phase will be notified by **March 13, 2020**.
- Invited applicants will pitch over video conferencing on **March 20, 2020**.
- **Applicants will deliver a 15-minute slide presentation** followed by a Q&A session with an expert panel.
- Further details on the pitch will be provided to invited applicants.

ELIGIBILITY CRITERIA:

To be eligible for Industry Challenge 2020, a proposal must conform to the following criteria:

- The proposal must respond to the objectives and intent of the Industry Challenge 2020 program (as described above)
- The project must address an industry-identified challenge within one or more of the five areas identified above that can be solved with a genomics or engineering biology solution
- The team must comprise of an Ontario-based industry or other industry partnerships ([as described above](#))
- If the industry is a company, the company must be incorporated prior to the application date
- Funded research must be performed in Ontario and awarded funds will not flow outside of Ontario
- OG funds must flow to the industry team member. In exceptional cases it may go to another team member and only if agreed upon by all parties
- Co-funding is required from the industry, at a minimum of \$25,000 (cash and in-kind acceptable)
- Project duration should not exceed one year in duration, unless agreed upon by all parties
- Applicants are expected to follow the application process outlined above.

EVALUATION CRITERIA:

The proposals demonstrating the highest degree of overall fit with the Evaluation Criteria will be the most competitive and the top-ranked applicants will be invited to the Pitch phase of the program. Those invited to the pitch phase will be critiqued based on the additional details provided via the pitch, strength of the project overall and fit within the evaluation criteria.

If considered eligible, project proposals will be evaluated based on the following criteria:

- Genomics or engineering biology solutions that addresses an industry-identified challenge
- Fit of the proposed solutions in the challenge areas
- Pathway towards implementation is clear and feasible e.g. research progression, mechanism for funding, partner engagement and collaboration, uptake of technology (new products, scale-up, improved process) etc.
- Team has the expertise and resources necessary for the proposed project and the overall likelihood of success of the proposed research
- Reasonableness of the project plan and budget
- The potential to drive investment, create jobs and improve lives throughout Ontario in the near to long-term

POST-AWARD DETAILS:

Notifications

- Funding decisions will be communicated to applicants by **March 24, 2020**
- Successful applicants will receive a Notice of Award (NOA), Term Sheet and Research Agreement which will include final conditions for disbursement of funding as required by OG - including provision of lay summary for distribution through social media; acknowledgement of OG in any publications, presentations, or outreach activities stemming from this project etc.
- OG will include industry, host institutions on initial press releases for approved projects.

Project Implementation

- Once all NOA conditions have been met to the satisfaction of OG, applicants and OG will sign a research agreement for the project to define roles and responsibilities. **A term sheet must be signed by March 31, 2020, otherwise OG may withdraw its funding offer.**
- The anticipated project **start date will be no later than May 1, 2020, unless otherwise agreed upon** and will be specified in the signed agreement. Incurred project expenses may start from date of NOA. A full agreement based on the term sheet must be fully executed by this date otherwise OG may withdraw its funding offer.
- Awarded funds will be disbursed once the agreement has been signed.

Project Completion

- Within one (1) month of the end of the project, applicants will provide OG with a brief final report (template will be provided)
- Ontario Genomics shall contact the members of the Project to complete short follow-up reports and provide additional data related to the Project from time to time and at minimum, one (1), three (3) and five (5) years following the completion of the Project.
- Additionally, applicants shall provide OG with information about any significant grant awards, successful collaborations/partnerships, product development or commercialization that originated from the project.

PROCESS DEADLINE/TIMELINE

February 13 2020	Industry Challenge Launch
Feb 13 –March 9, 2020	Intent to Apply (screening calls with OG)
Mon, March 9, 2020 by 9:00am	Applications due to OG
By March 13, 2020	Invitations to Pitch (gated process)
March 20, 2020*	Pitch to Panel (video conference for invited applicants only)
March 24, 2020	Funding decision notification (NOA**)
by March 31, 2020	Term Sheet Signed
by May 1, 2020	Agreement signed/Anticipated Project Start Date
One month after project ends	Final Report
Post Project Completion	Follow-up reports

Note -

* Please ensure that you have availability to present via video conference that day. Successful applicants will be notified of dates and times for the pitch.

**incurred project expenses may start from date of NOA