

Mitacs International - Research Opportunities

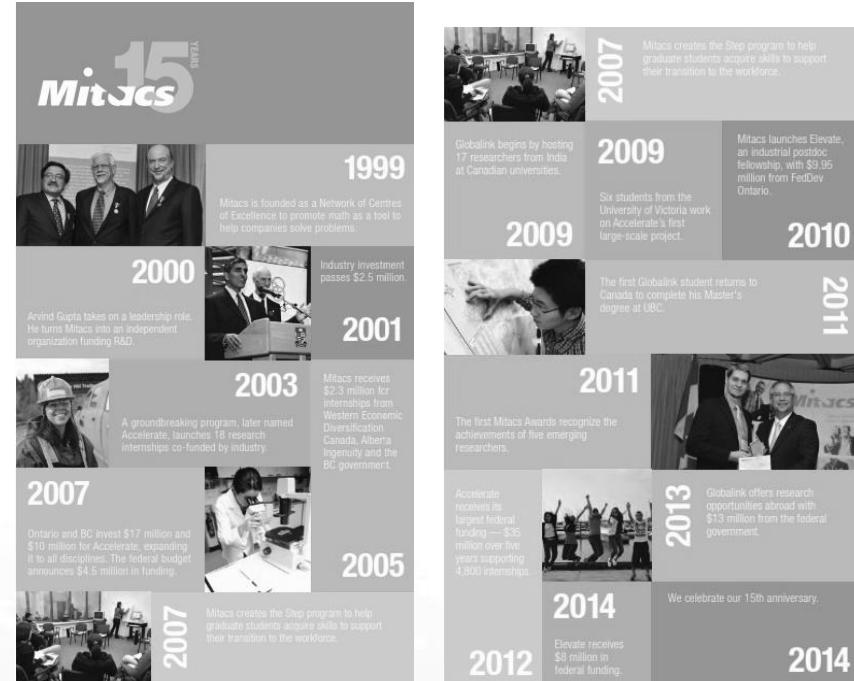
February 2018

Dr. Ridha Ben Mrad
Chief Research Officer
Mitacs, Canada



Mitacs – A Canadian Organization

- National research network
- 18 years in operation
- 65+ university partners
- 6000+ company partners
- 16,000+ research projects to solve business and societal challenges and drive innovation
- 150+ staff, 30+ offices, 3 regional hubs





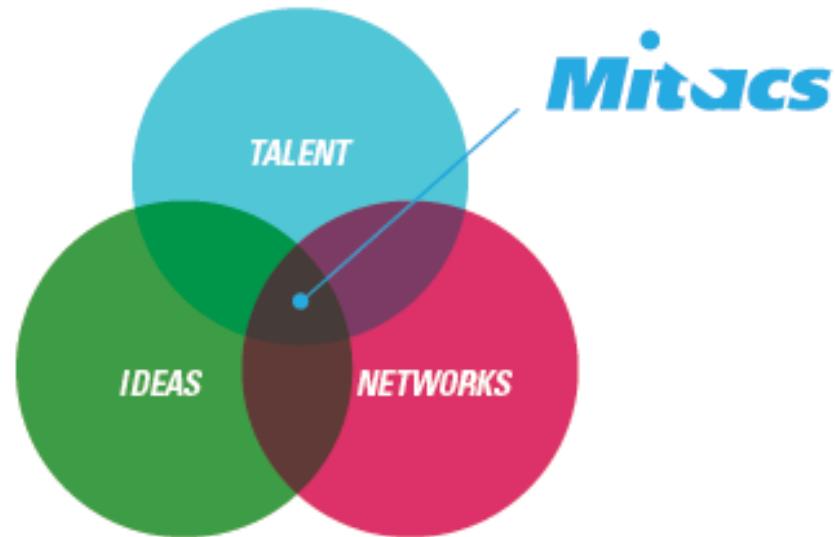
Overview: Strategic Plan

MISSION

Mitacs is Canada's university-based cooperative innovation platform, achieving its goals through research collaboration and training.

MANDATE

Develop and deliver programs built on three core elements of innovation



Mitacs

Mitacs Suite of Programs



Accelerate

National, cross-disciplinary grad student and postdoc collaborative research-based internship program

Elevate



Two-year postdoctoral fellowships connecting new PhDs with companies while providing valuable skills training

Globalink



12–24 week international research internships between Canada and select partner countries

Training programs



Professional development training to build key competencies for graduate researchers seeking a competitive advantage for their future careers



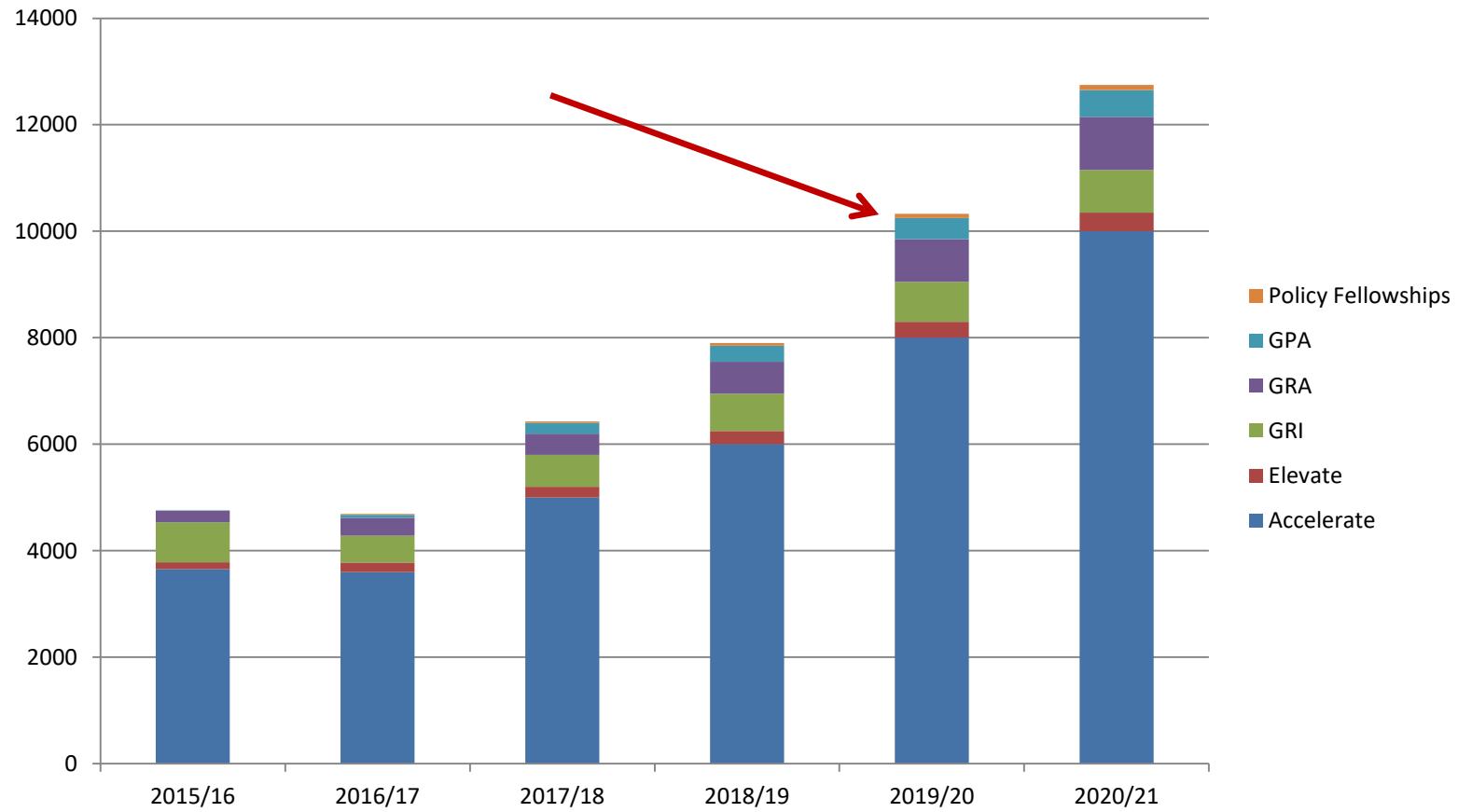
Goal

To develop the next generation of researchers and innovators for Canada's knowledge-based economy



By 2020, we aim to...

- ▶ Deliver 10,000 internships per year, making experiential education a cornerstone of Canada's innovation training system



Characteristics of our programs

- ➡ In partnership with universities
- ➡ Proactive business development team works with applicants
- ➡ Maintain high research standards through peer-review
- ➡ Work on business timelines
- ➡ Active involvement of partner organizations
 - Students must spend significant time with partner
 - Cash contributions
- ➡ Measure impact and outcomes



Globalink Research Interns from the University of Calgary

Example Projects

The team

- McMaster University
- Actavis Specialty Pharmaceuticals Co.

The challenge

- To develop a cost-benefit analysis of introducing a new drug to market

The outcome

- The research resulted in a publication in a journal and an award from presenting at medical conferences.
- Actavis set up a second internship for the Ph.D intern.



"This was a challenge because I had to build new formulas from scratch, but in the end, the calculations showed the new drug was cheaper and more clinically effective than existing treatments."

Impact of Multi-stakeholder Accelerate model

Next Generation UV Disinfection for Wastewater Treatment



UNIVERSITY OF
TORONTO



University of
Waterloo



Western

TROJAN UV™
WATER CONFIDENCE™

International Research Mobility

International Research Mobility

Mitacs has the mandate from the Canadian Federal Government to build research linkages between Canada and strategically chosen international partners using youth researchers as the conduit.

Goal: Develop global innovation networks and human capital via academic and industrial research partnerships.



- ➡ Brazil
- ➡ Mexico
- ➡ China
- ➡ Saudi Arabia
- ➡ France
- ➡ Tunisia
- ➡ Germany
- ➡ Ukraine
- ➡ India
- ➡ EU
- ➡ Israel
- ➡ UK
- ➡ Japan
- ➡ USA
- ➡ Korea

GLOBALINK International Programs

1. Globalink Research Internship (**GRI**: inbound, mainly undergrad.)

- Foreign undergraduate and early graduate students work with top Canadian researchers on custom-matched research projects
- Mentor, professional development training, industry visits, etc.
- 2,500+ research projects, 16,000+ applications for 700+ places

2. Globalink Research Awards (**GRA**: inbound/outbound, graduate)

- Graduate level research (12-24 wks) jointly supervised by a Canadian and international professor from a Mitacs partner country

3. Globalink Partnership Awards (**International Accelerate**: industry research, graduate)

- Industry based research (16-24 wks) in Canada/partner country

The team

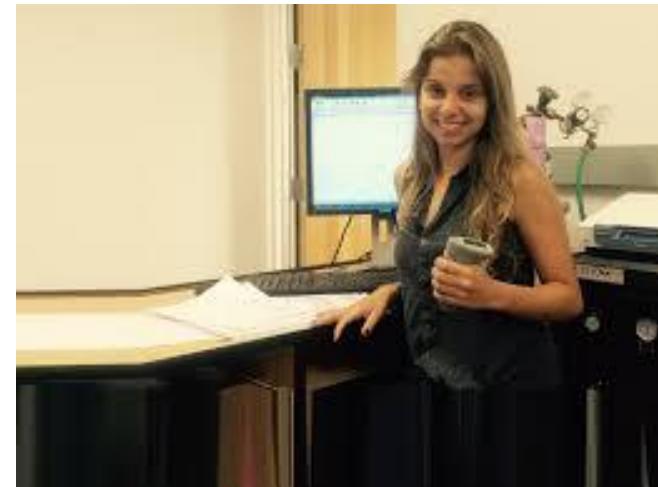
- University of Toronto
- Faculdade de Ciências Médicas
de Minas Gerais, Brazil

The program

- Globalink Research Internship (GRI)
- Inbound undergrad student

The challenge

To conduct research on how hand grip exercises are effective in reducing blood pressure immediately after exercise.



"Mitacs Globalink allowed me to grow and gain experience that will help me later in my life, both professionally and individually."

The Impact

"The biggest impact for me, as a medical student, is that I can use the hand grip exercise with my patients in Brazil who have hypertension."

The team

- University of British Columbia
- Universidade Federal de Mato Grosso,
Cuiabá

The program

- Globalink Research Awards (GRA)
- Outbound graduate student

The challenge

Quantification of the water needed for soybean production in the region

The outcome

Contribution to the Amazonia Water Governance project supported by the Belmont Forum and the G8 Research Councils Freshwater Security Grant, which will clarify crop water use in the Amazon River headwaters.



“I am grateful to get a perspective that is simply not attainable through mathematical formulae and spreadsheets.”

Mitacs-Brazil partnership

- ➡ 250+ students from Brazil for undergraduate research internships (2011-16)
- ➡ 65 students from Canada for graduate research internship since 2014
- ➡ 10 Post Doctoral Fellows from Brazil in Canada between January 2017 and August 2018
- ➡ Partnered with CAPES Scientists without Borders program for the 2014-15 period to co-fund Brazilian students research internship in Canada.
- ➡ Currently working with Government/university stakeholders to increase the reciprocal research mobility between Canada and Brazil.
 - Agreement with U Sao Paulo, 25 GRI and 10 GRA (Summer 2017)
 - Others in development

Our Funding Partners



Western Economic
Diversification Canada

Diversification de l'économie
de l'Ouest Canada





From 2016 to 2020, we aim to...

- Deliver 10,000 internships per year, making experiential education a cornerstone of Canada's innovation training system

	2015/16 <i>Actuals</i>	2016/17	2017/18	2018/19	2019/20	2020/21
Accelerate	3,657	3,600	5,000	6,000	8,000	10,000
Elevate	126	180	200	250	300	350
GRI	749	500	600	700	750	800
GRA	218	336	400	600	800	1,000
GPA	2	60	200	300	400	500
Policy Fellowships	-	15	30	50	75	100

All targets are funding-dependent.

Mitacs Suite of Programs



Accelerate

National, cross-disciplinary grad student and postdoc collaborative research-based internship program



Converge

Collaborative projects to connect small- to medium-sized Canadian enterprises to multinational firms through R&D supply chains



Elevate

Two-year postdoctoral fellowships connecting new PhDs with companies while providing valuable skills training



Globalink

12–24 week international research internships between Canada and select partner countries



Step

Professional development training to build key competencies for graduate researchers seeking a competitive advantage for their future careers



Goal

To develop the next generation of researchers and innovators for Canada's knowledge-based economy

Over 15 years track record of new product development and nurturing talent and skills

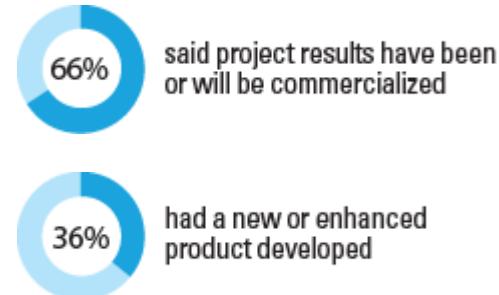
Over 90% satisfaction from the industry partners

- 66% of companies said project results have been or will be commercialized*
- 82% of companies continued collaboration with the academic supervisor of the intern.*

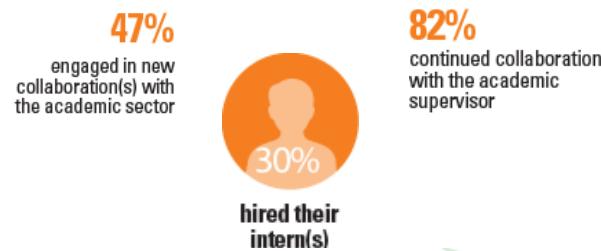
Creation of new job positions as direct result of the projects

- 30% of companies hired at least one of their interns*

New Product Development



Skills & Talent



Did you know?

Results suggest that Mitacs Accelerate is responsible for the creation of 200 new R&D jobs annually.



Quantum Computing Algorithms Research

Mitacs



UNIVERSITY OF
TORONTO



UNIVERSITY OF
CALGARY



SIMON FRASER UNIVERSITY
ENGAGING THE WORLD



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