

# Research and Innovation (RiO)

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Associate Dean, Research and External Partnerships

Faculty of Engineering and Architectural Science

# Momentum and Growth

- 2001** - Master's degree programs started in Engineering
- 2003** - Ryerson Institute for Aerospace Design and Innovation (RIADI) launched
- 2004** - PhD programs started in Engineering
- 2005** - George Vari Engineering and Computing Centre opened
- 2007** - Post-doctoral Fellowship programs started
- 2009** - Research and Innovation Office (RiO) created



# Momentum and Growth Continued

**2010** - Opened Centre for Urban Energy (CUE)

**2012** - Changed to Faculty of Engineering and Architectural Science

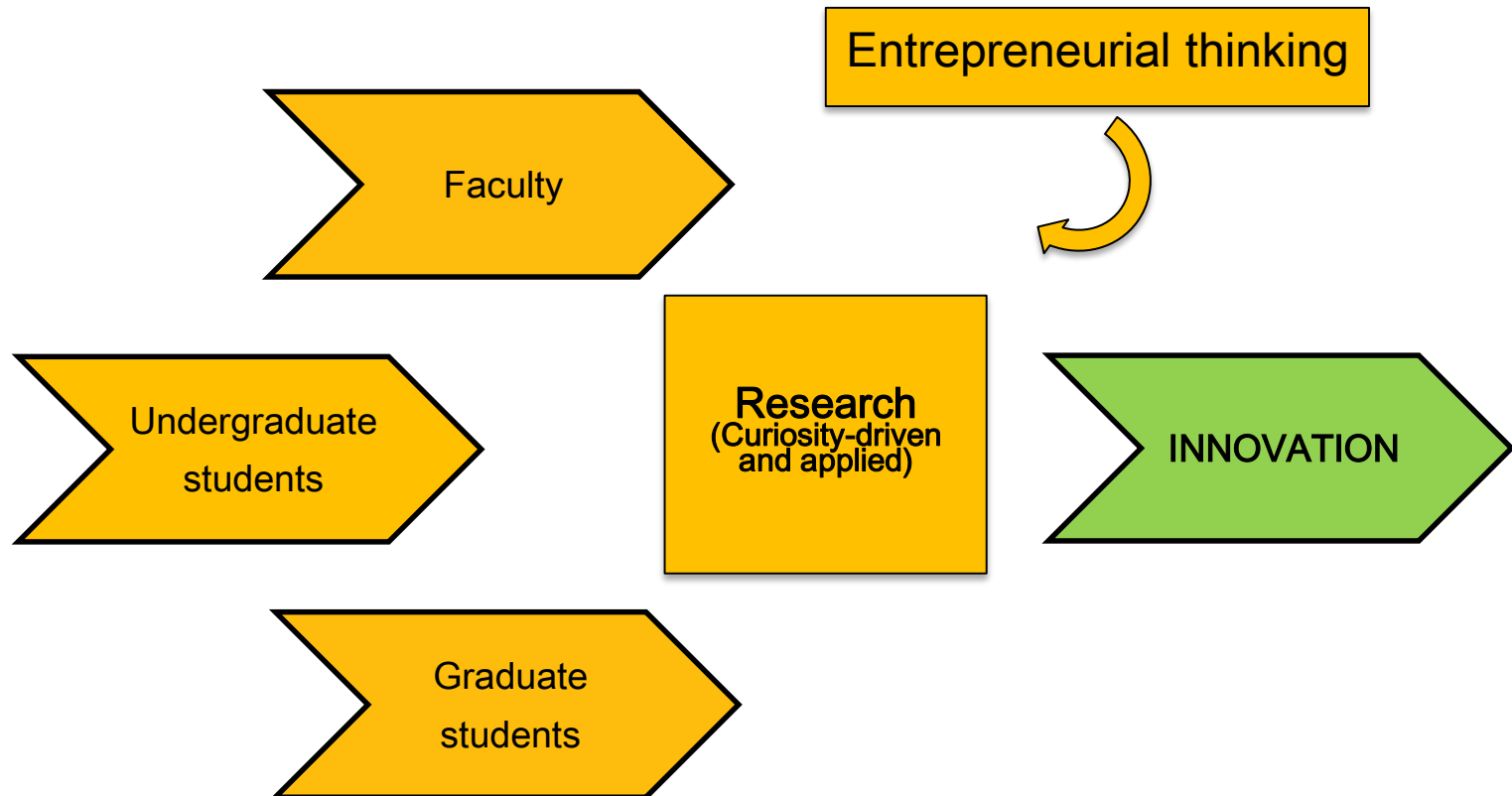
**2013** - Creation of more interdisciplinary research zones/clusters:

- Centre for Engineering Innovation and Entrepreneurship (CEIE)
- Engineering Student Design Zone (ESDZ)
- Institute for Biomedical, Engineering, Science and Technology (iBEST)
- Ryerson Design Fabrication Zone (RDFZ)

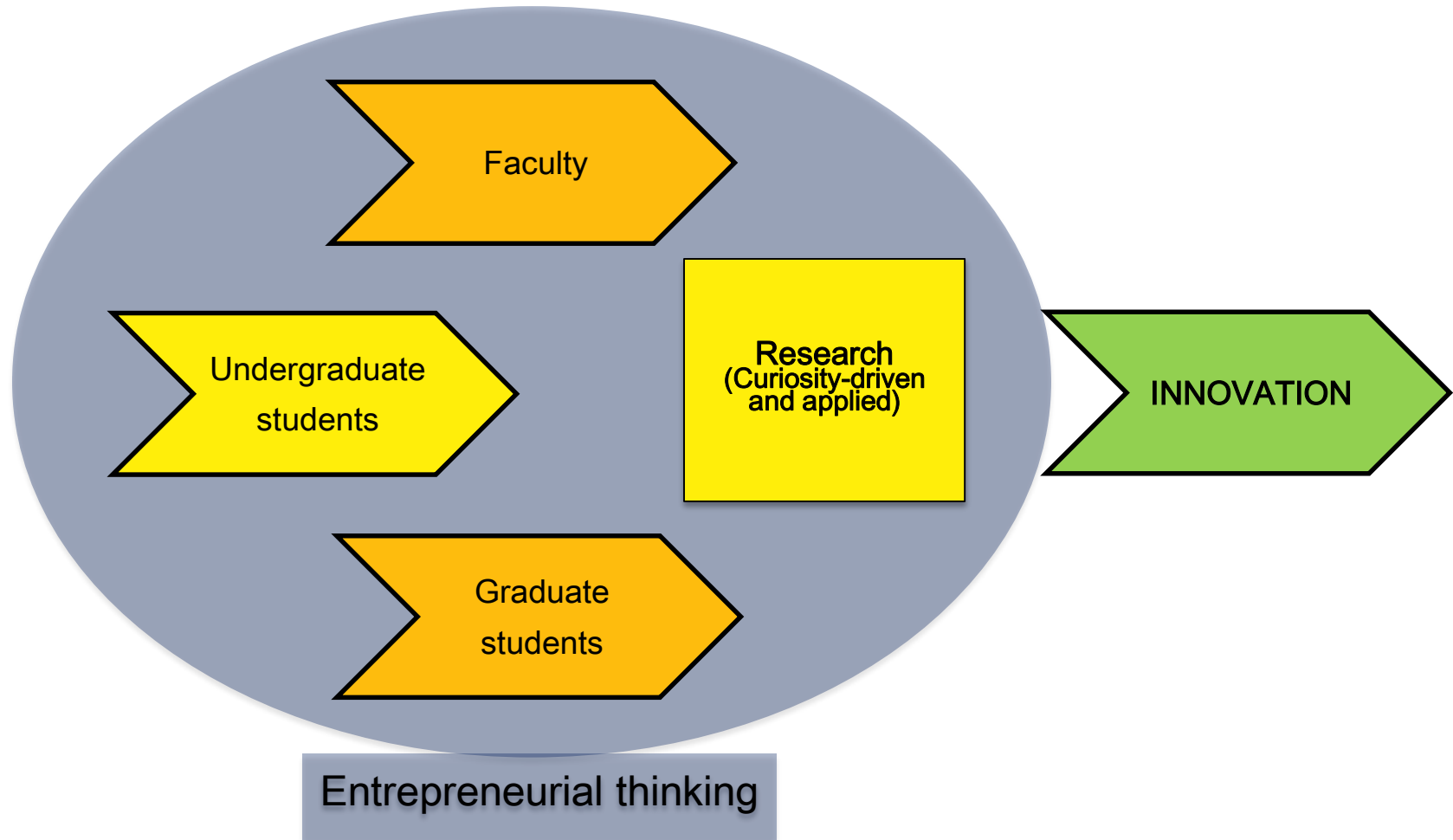
**2014** - Data Science Laboratory (DSL)  
Ryerson Institute for Infrastructure Innovation (RIII)

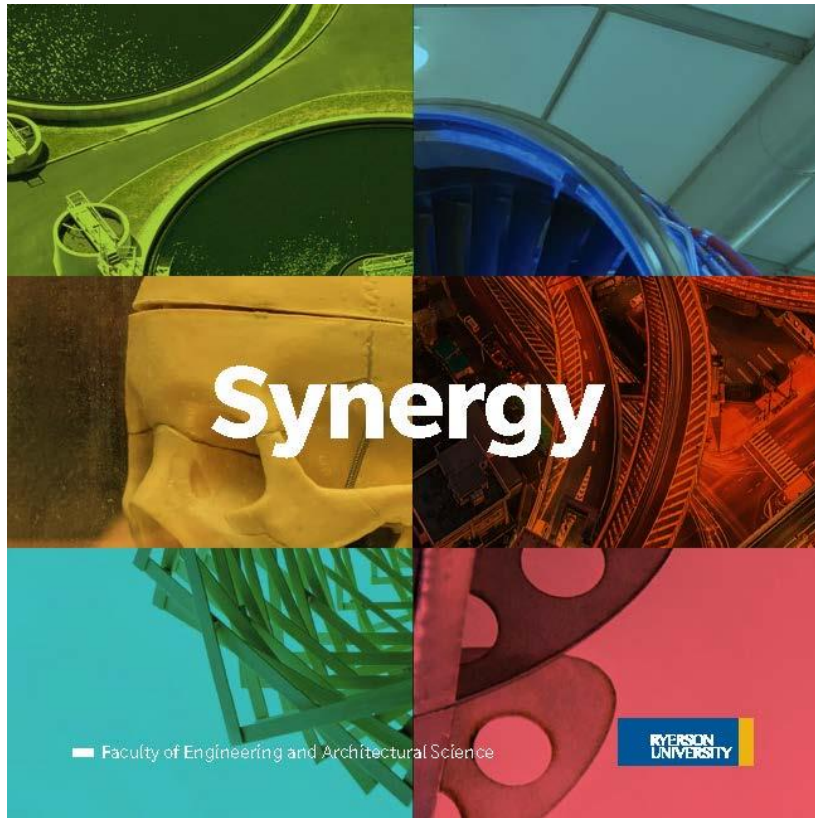
**2017** – Smart Cities Research Cluster

# Ryerson Fosters Entrepreneurial Thinking



# The Ryerson Response (Zone Learning)





**When knowledge and  
action come together  
through collaboration the  
result is SYNERGY**

**Whole is greater than the  
sum of parts**

# RESEARCH CLUSTERS & ZONES

# Cluster: Aerospace

## Ryerson Institute for Aerospace Design and Innovation (RIADI)

- Undertakes aerospace-related research

Industry partners (Bombardier, Messier-Dowty, Magellan, Pratt & Whitney Canada, Hispano-Suiza)

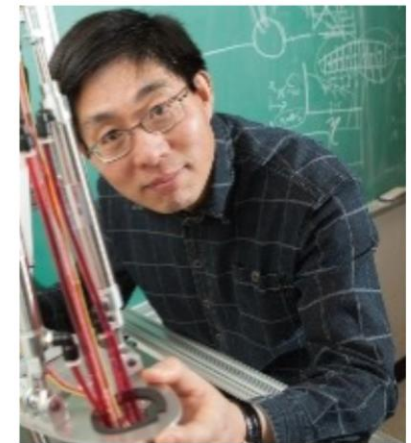


- Facilitates training of undergraduate students by engineers in industry and Ryerson aerospace faculty

Project Based Learning (PBL) environment

- 500-600 hours over a summer or 1,000 hours, part-time, over academic year
- 454 participants since 2003

- Offers a Professional Masters Diploma in Aerospace Design and Management (2014)





# Ryerson Institute for Aerospace Design and Innovation (RIADI) Partnerships



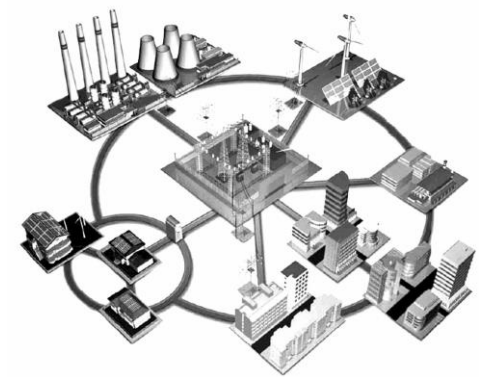
**BOMBARDIER**  
*AEROSPACE*



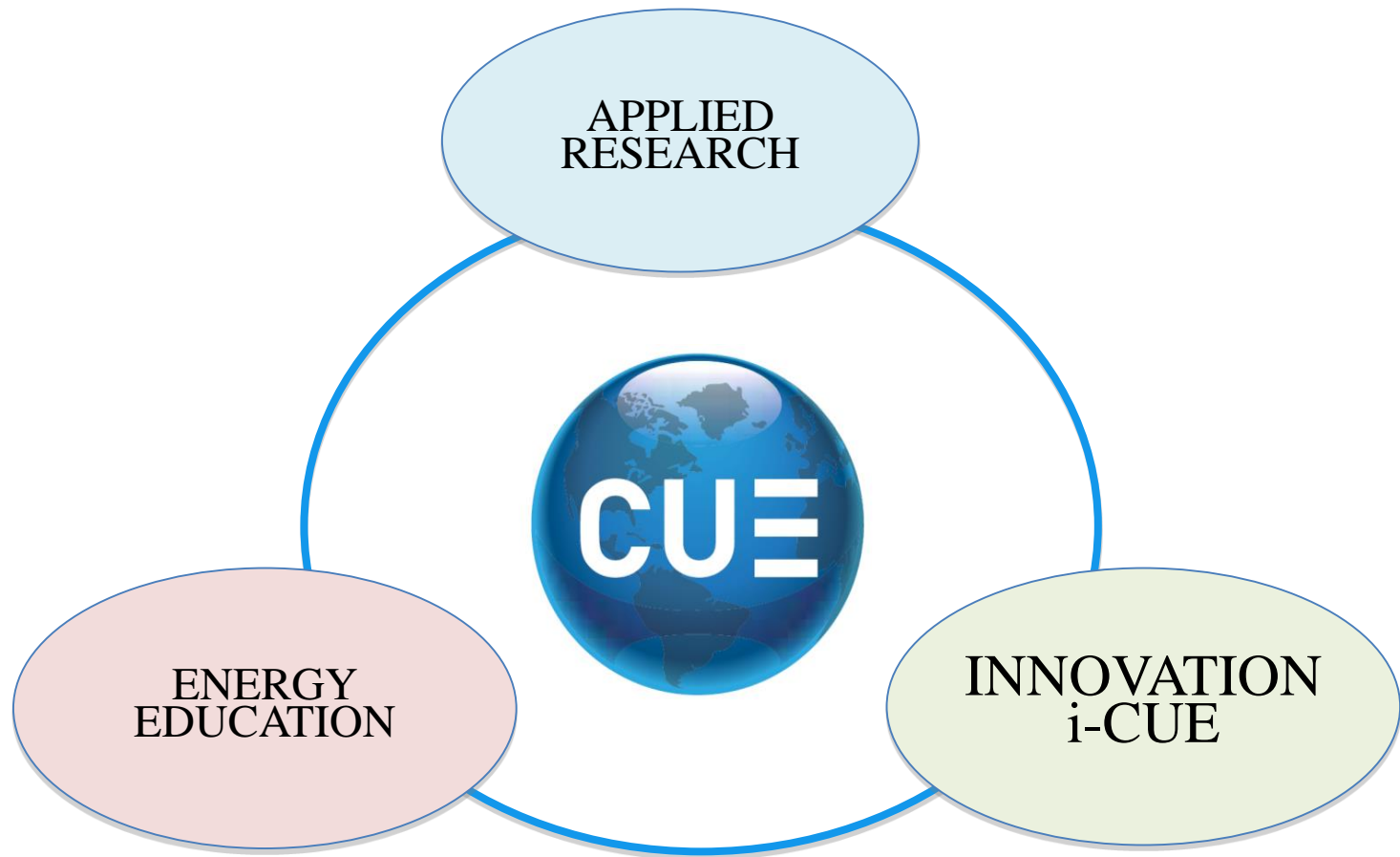
# Cluster: Energy

## Centre for Urban Energy (CUE)

- CUE develops urban energy solutions e.g. smart grid technologies, energy policy and regulatory issues, storage, electric vehicles, net-zero homes and renewables
- Offers two programs:
  - Certificate in Energy Management and Innovation
  - PMDip in Energy and Innovation
- Innovation Centre for Urban Energy (iCUE) is Canada's first business incubator and accelerator



# Cluster: Energy Centre for Urban Energy (CUE)



hydro   
one



 **TORONTO  
HYDRO**

**ONTARIO**  
POWER AUTHORITY 

RYERSON  
UNIVERSITY

RYERSON  
UNIVERSITY



GRID RESOURCES







**St. Michael's**  
Inspired Care. Inspiring Science.

# Cluster: Biomedicine

## Institute for Biomedical Engineering, Science and Technology (iBEST)



Photo Credit: SMH

- 32 Clinical Researchers
- 20 Ryerson Researchers (12 iBEST residents in Keenan Research Centre)
- 7 Annual Research Symposia
- > 100 Ryerson trainees trained (60 in Research Faculty Core Clinics and 49 in tissue culture)

# Academic Collaborations - Professors



# Research Symposium and Conferences

- Biosignal and Image Analysis Symposium (May 2017).
- Presentations by faculty members and graduate students
- Topics included biomedical engineering, machine learning, sensors



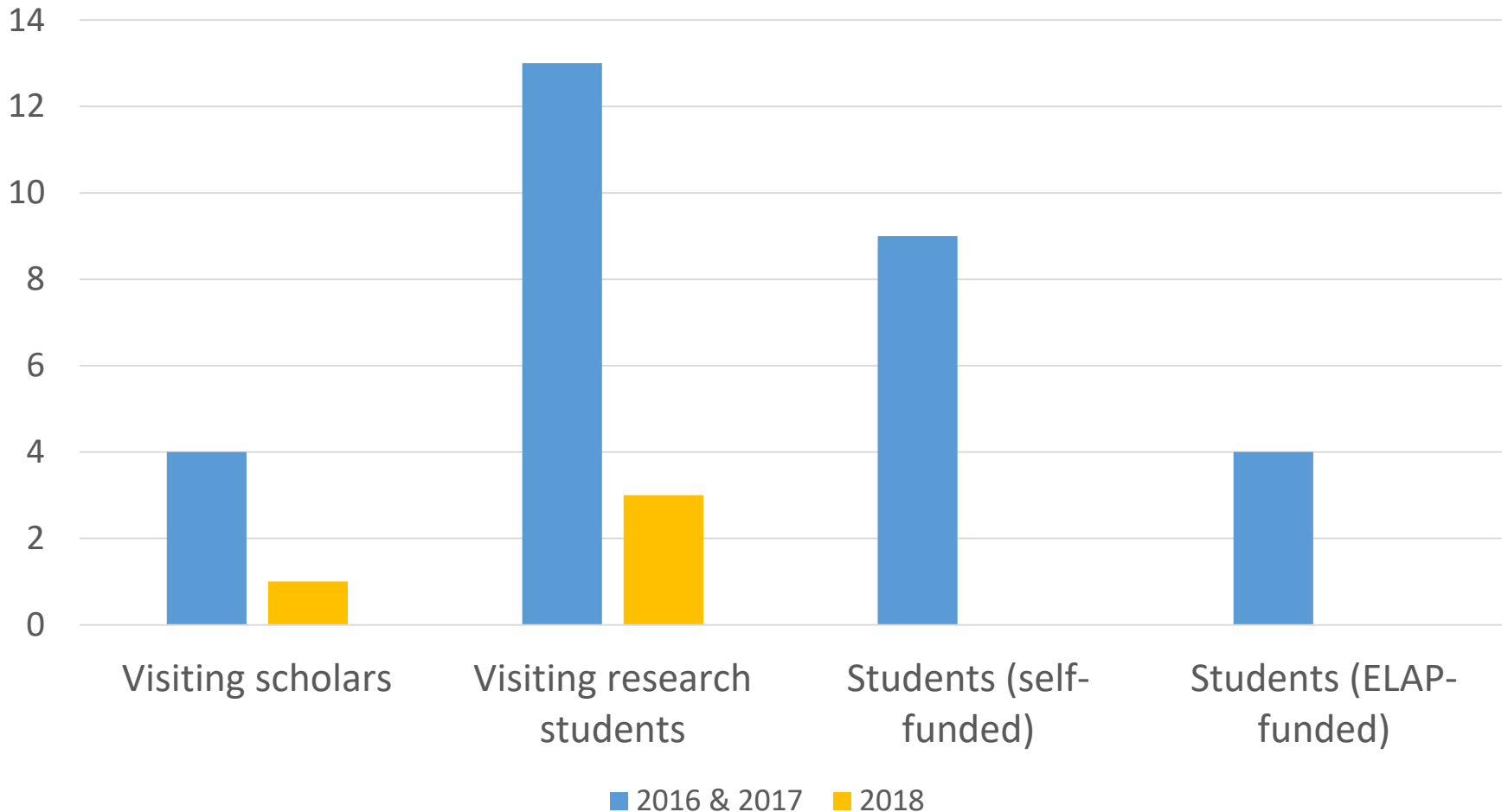
# Academic Collaborations- Students

# Programs

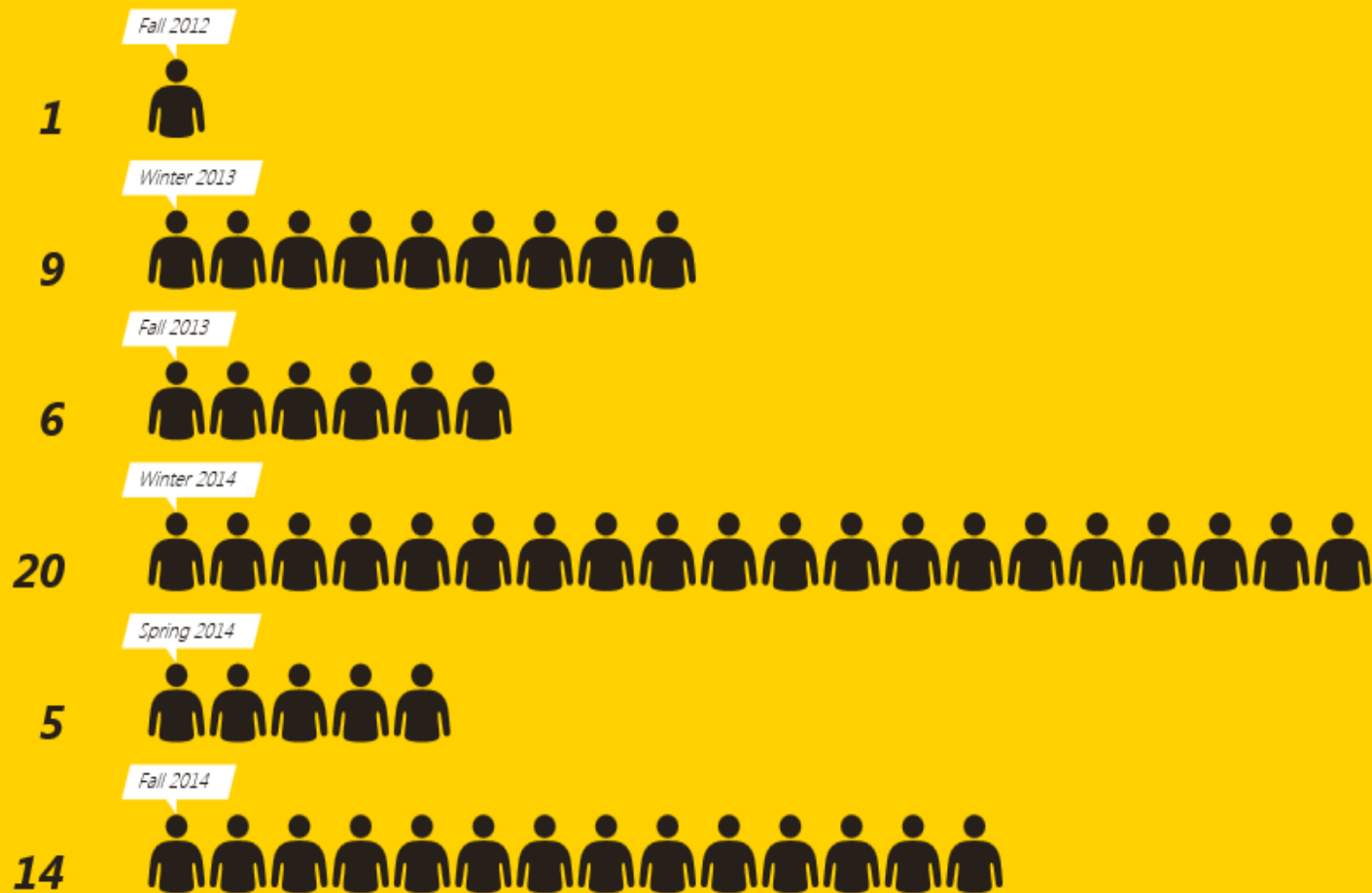
Brazilian students studied at FEAS under the programs:

- Science Without Borders program
- International Visiting Researcher Program (includes Emerging Leaders in the Americas Program (ELAP))
- CAPES and FAPES
- MITACS Global-link (Ryerson)

# Number of Brazilian Students/Scholars



## NO. OF ENROLLMENTS (BRAZIL UNDERGRADUATE STUDENTS)





# Thank you...