



# GLOBAL **IMPACT**

**CONCORDIA 2009-2019**  
**PhD Career Outcomes**

**CONCORDIA**

**SCHOOL OF GRADUATE STUDIES**

NOVEMBER 2020

Global Impact is a 2020 initiative led by the School of Graduate Studies at Concordia University. It focuses on the career outcomes of the PhDs who earned their degree at Concordia between 2009 and 2019. The study successfully identified the career development and current employment of 92% of PhD graduates. The results tell a compelling story of individuals pursuing successful careers in all sectors of society. Contributing to universities, hospitals, governments, small businesses, multinational corporations and the arts scenes in Canada and around the world, they are using their knowledge and skills in diverse and innovative ways.

## HOW IT WAS DONE

The study was developed by a team of five graduate researchers and staff who consulted publicly available information such as university and workplace websites, LinkedIn profiles and academic publication portals to identify the employment history of PhD graduates. They researched and documented the primary and secondary employment of PhD graduates one, two and five years after graduation as well as their current situation. Researchers cross-referenced at least two reliable sources to ensure accuracy.

To see our complete results, please visit our [interactive dashboard](#)

## CONTRIBUTING TO A NATIONAL CONVERSATION

For the past decades, PhD graduates across Canada and the world have pursued diverse career paths beyond academia. Research has demonstrated that several factors contribute to this trend: growing numbers of PhD graduates, a decline in tenure-track positions and an increase in job qualifications.<sup>1</sup> More recently, attention has been paid to graduates' changing interests and expectations not necessarily aligned with academic employment.<sup>2</sup> Today, the unknown consequences of the global Covid-19 pandemic may further transform the labour market as well as the career prospects and expectations of current

and future PhD students. Universities must be prepared to face this growing challenge and ensure that its graduates receive the necessary training and support to transition into a variety of careers. The first step is to understand how things are changing, a second one will be to consider this information in light of curriculum renewal, recruitment, professional development and career counseling.

Concordia's Global Impact is an effort to map the employment landscape of its PhD graduates in order to better understand their career outcomes. It joins a national conversation where university-led and cross-university studies have examined the extent to which PhD alumni have pursued careers inside and outside academia. These studies concur that almost half of the individuals graduating across a range of disciplines secure positions outside of post-secondary education. Similarly our study shows that at Concordia 49% of the located PhD alumni currently work in the post-secondary education sector. This is in line with findings in studies conducted by the University of British Columbia (51%), the University of Toronto (59%), the University of Alberta (56%) and McGill University (54%).

With significant numbers of PhD graduates entering the workforce, there is no doubt that PhDs have the knowledge and skills to succeed and contribute to all sectors of society. This is one of the significant findings of our study. From executive directors of international consulting firms to AI researchers and engineers to co-founders of experimental arts colleges, Concordia PhDs are actively working to broaden the relevance and reach of graduate education in Canada and around the globe.

The challenge ahead is to design and implement structural changes that will improve the professional readiness of all PhD alumni while continuing to ensure they receive excellent training as researchers across and between the disciplines. The slight drop in the number of Concordia PhDs who work in the post-secondary sector as years after graduation progress indicates how a small proportion of graduates temporarily remain affiliated with universities before moving into a different sector. In combination with the relatively low number of tenure and tenure-track positions in most disciplines, our research suggests a challenging transition for some graduates and room for improvement for PhD programs all across Canada to better support current and future PhD students in their transition from graduate studies to employment and well into diverse and enriching careers.

<sup>1</sup> OECD. (2012). [Key findings of the OECD-Know/INNO Project on the Careers of Doctorate Holders](#); The Conference Board of Canada. (2015). [Inside and Outside the Academy: Valuing and Preparing PhDs for Careers](#); Higher Education Quality Council of Ontario. (2016). [Ontario's PhD Graduates from 2009: Where are they now?](#)

<sup>2</sup> Bouw, Brenda. "More PhDs are leaving academia to launch their own businesses." *The Globe and Mail* April 19, 2016. ; Roach, Michael & Sauermann, Henry "The declining interest in an academic career." *Plos One*, Sept. 2017.

## KEY FINDINGS

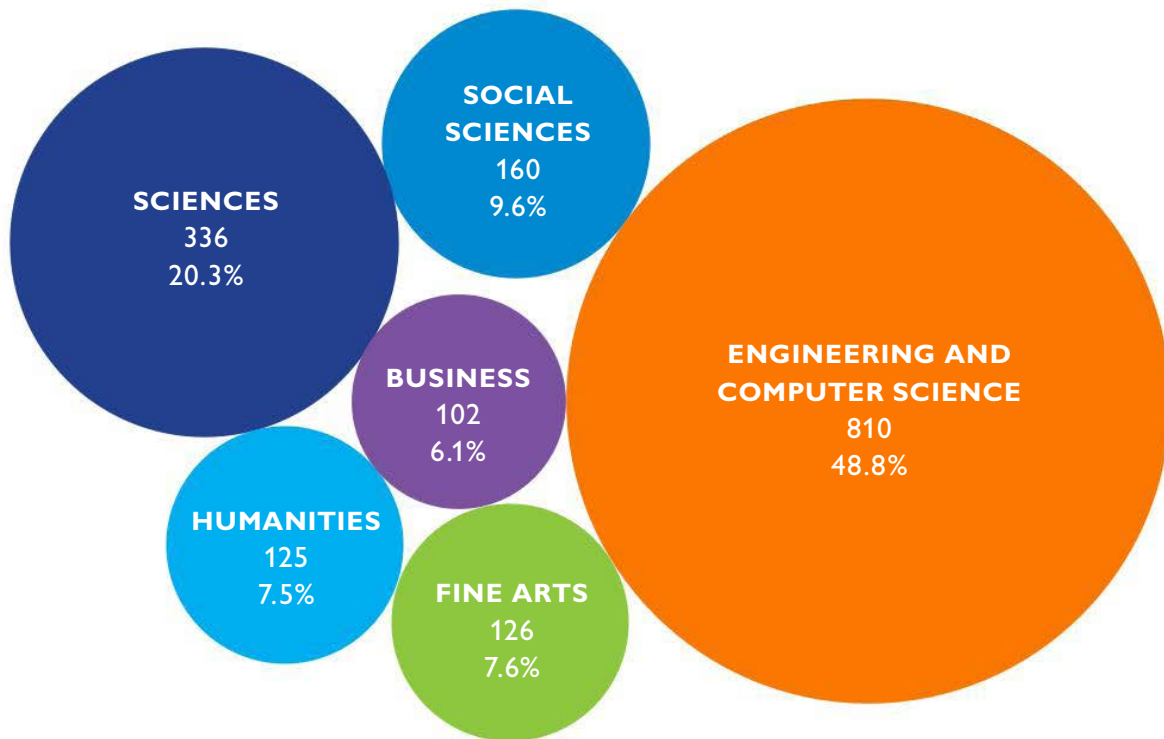
- In the past decade, Concordia graduated 1659 PhDs from 29 different programs
- The study was able to reliably locate and track the employment of 1526 PhDs
- Currently, 49% of PhDs work in post-secondary education, 23% in the private sector, 6% work independently, 5% in the public sector and 3% in the not-for-profit sector
- Out of all PhDs, 22% have a tenure-track or tenured position in Canada or abroad
- The discipline with the highest percentage of tenure-track and tenured professors is business (69%) followed by social sciences (27%), humanities (22%), engineering (21%), fine arts (14%) and sciences (11%)
- The number of alumni in the post-secondary sector decreases from one year to five years after graduation as PhDs migrate to other employment sectors
- There is a higher representation of women in the public, independent and not-for-profit sectors, and a higher representation of men in the private sector
- Concordia PhDs are currently employed in 55 different countries with most of them living and working in Canada, the United States, Saudi Arabia, the United Arab Emirates and China
- PhDs work in all Canadian provinces and one territory (Nunavut), and out of those currently in Canada, 57% continue to live in Montreal

## CONCORDIA'S PROFILE

The above findings should be considered in the context of Concordia's PhD student population. Close to 49% of the individuals who graduated between 2009 and 2019 completed an engineering or computer science PhD. The low representation of women in the discipline as well as the high number of engineering and computer science graduates employed in the private sector shapes the overall findings of this study and may eclipse trends in other disciplines. The interactive dashboard provides an opportunity to examine trends in all sectors accounting for discipline specificity.

## WHO ARE CONCORDIA PhDs?

Concordia graduated 1659 PhDs between 2009 and 2019.<sup>3</sup> They completed one of the 29 PhD programs offered by the university's four different faculties.



**Figure 1.** PhD graduates by disciplinary sector<sup>4</sup>

Enrolment trends vary between disciplines with an overall increase of 43% in the number of students Concordia graduated in 2019 in comparison to 2009. This increase surpasses provincial and national figures, the number of individuals earning their PhDs went up by 21% (Quebec) and 24% (Canada) between 2006 and 2016.<sup>5</sup>

<sup>3</sup> Data was obtained from the University's Student Information System (SIS) by Concordia's Institutional Planning and Analysis Office.

<sup>4</sup> Disciplinary sectors are determined and used institutionally to categorize programs.

<sup>5</sup> Statistics Canada. (2016). [Education highlight tables, 2016 census.](#)

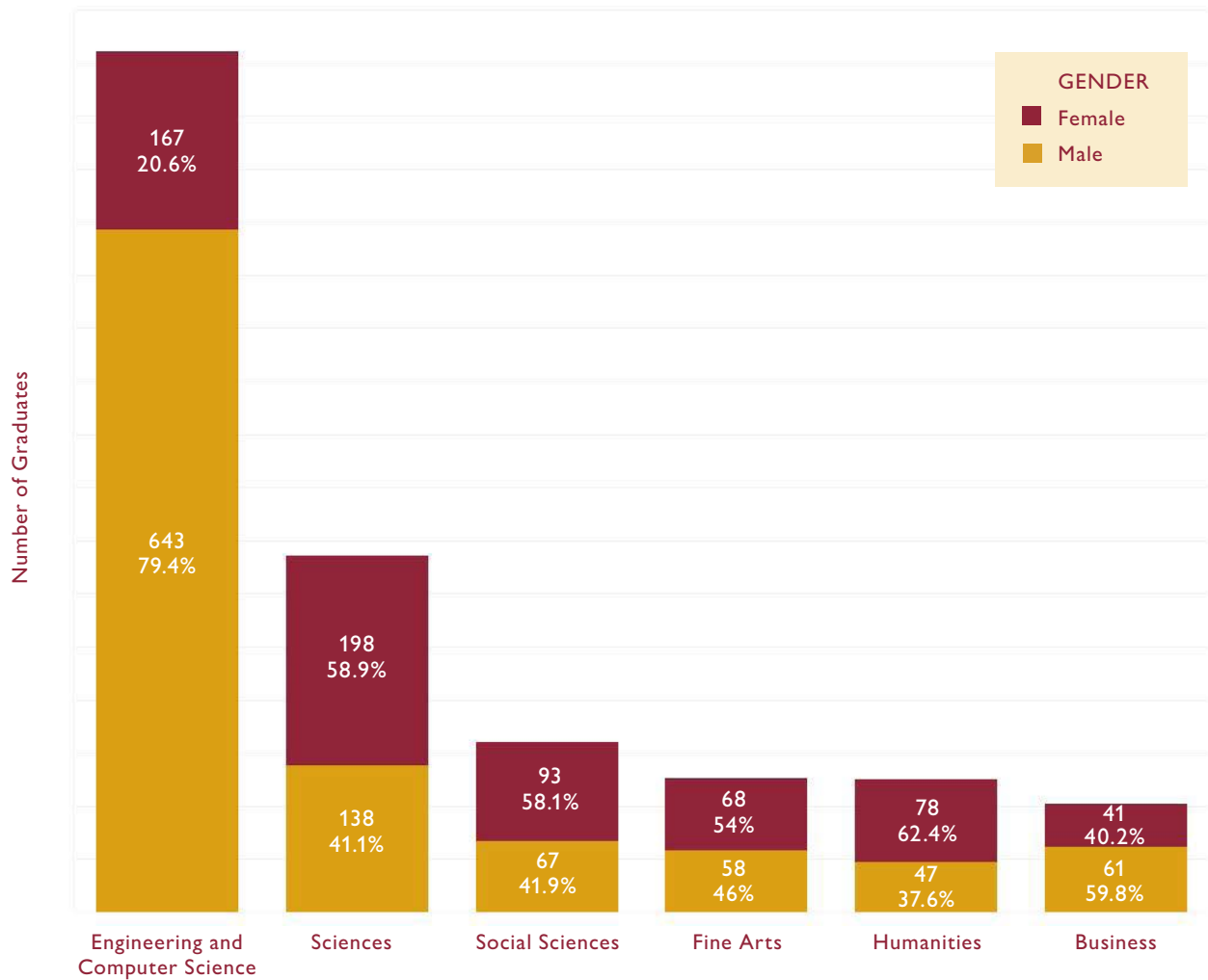


Figure 2. Gender distribution by disciplinary sector

Out of the entire graduate population that earned their PhD at Concordia in the past decade, 39% are women and 61% men. These overall figures vary considerably between disciplinary sectors.

Concordia's diverse graduate student population is well represented in the number of international PhDs.<sup>6</sup> The discipline with the highest percentage of international students is engineering (41%) followed the sciences (23%), business (22%), fine arts (21%), social sciences (18%) and humanities (11%).

<sup>6</sup> Status in Canada was determined at the time of starting their doctoral program.

## EMPLOYMENT SECTORS OVER TIME

The study tracked the different positions held by Concordia PhDs one, two and five years after graduation as well as their current employment.

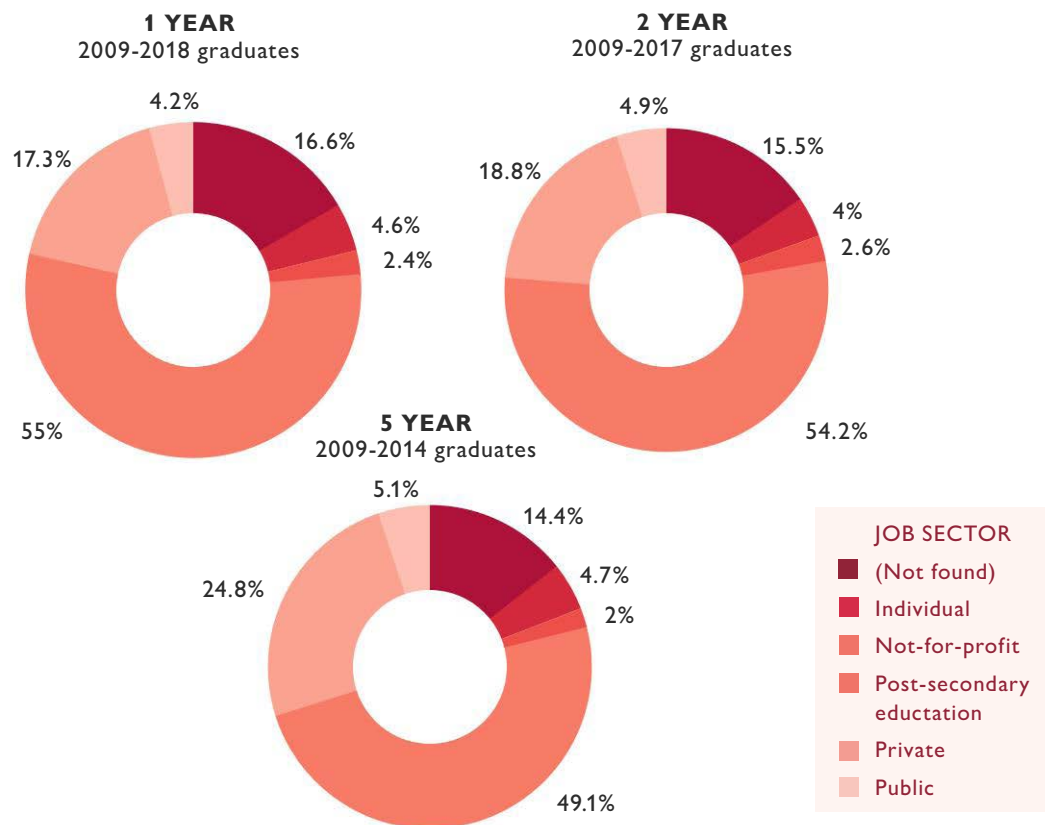


Figure 3. Changes in employment sectors over time

The different data sets taken into account for the different number of years after graduation lead to uneven points of comparison that do not draw a full picture of Concordia PhDs' career paths. However, they point to a general trend that shows that as years after graduation go by, individuals move away from the post-secondary sector into different sectors. This trend aligns with the findings published by Stanford University and the University of British Columbia, and is consistent in all Concordia cohorts from 2009 to 2014.

At Concordia, 55% of PhDs who graduated between 2009 and 2018 held a teaching, research or administrative position in a higher education institution one year after graduation, whereas 49% of PhDs who graduated between 2009 and 2014 held similar positions five years after graduation. Graduates in business, sciences and engineering tend to migrate to the private sector while graduates in fine arts tend to join the not-for-profit sector or work independently.

There is also a gender correlation attached to this trend with women moving towards independent work and men joining the private sector in considerable numbers. Similarly, international students tend to move to the private sector over time.

Main factors that contribute to this general trend include: the number of graduates pursuing postdoctoral fellowships; working as research associates; and those who become sessional lecturers immediately after graduation. 20% of the 2018 and 2019 PhD cohorts are currently completing a postdoctoral program. This transition period may constitute an opportunity to build further skills before moving beyond academia and it points to the need to further support PhD students in their awareness and readiness for diverse careers. Some of this important work is currently being carried out by the expert panel on the Labour Market Transition of PhD Graduates appointed by the Council of Canadian Academies in May 2019.

<sup>7</sup> [The Stanford PhD Alumni Employment Project](#), Stanford University (2013); [UBC PhD Career Outcomes: Graduates from 2005-2013 UBC Vancouver Campus](#), UBC (2017).

## THE CURRENT LANDSCAPE

Concordia PhDs are building intellectual and professional communities in all sectors of society. As interdisciplinary artists, software developers, climate scientists and senior executives, Concordia PhDs are using their creative and critical capabilities to address some of today's toughest global challenges.

Almost half of PhDs are employed in the post-secondary sector and close to a quarter in the private sector, whereas PhDs choose the public (5%) and individual sectors (6%) in almost equal measure. The least pursued sector is the not-for-profit with less than 47 students currently employed in it.

Out of all 2009-2019 PhDs, 22% have a tenure-track or tenured position with a slightly lower representation of women (21%) compared to men (23%). The discipline with the highest percentage of tenure-track and tenured professors is business (69%) followed by the social sciences (27%), humanities (22%), engineering (21%), fine arts (14%) and sciences (11%).

When it comes to gender representation, are more than three times as many women as men working in higher education as opposed to the private sector; while for men, the ratio is less than two men in higher education for every one in the private sector. Importantly, women constitute 78% of PhDs who have established their own independent business.

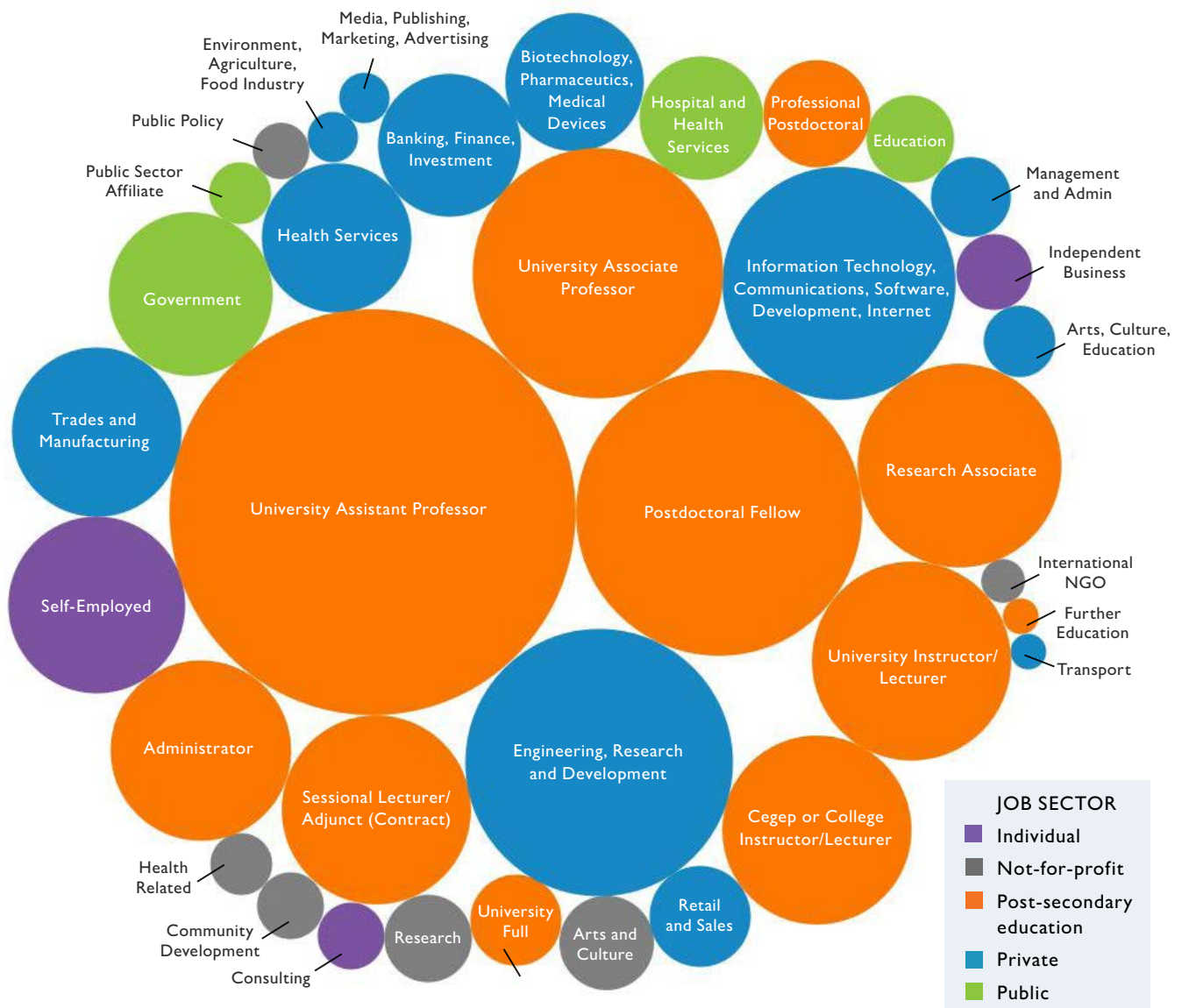


Figure 4. Current employment sector for all PhDs

## DISCIPLINES ACROSS EMPLOYMENT SECTORS

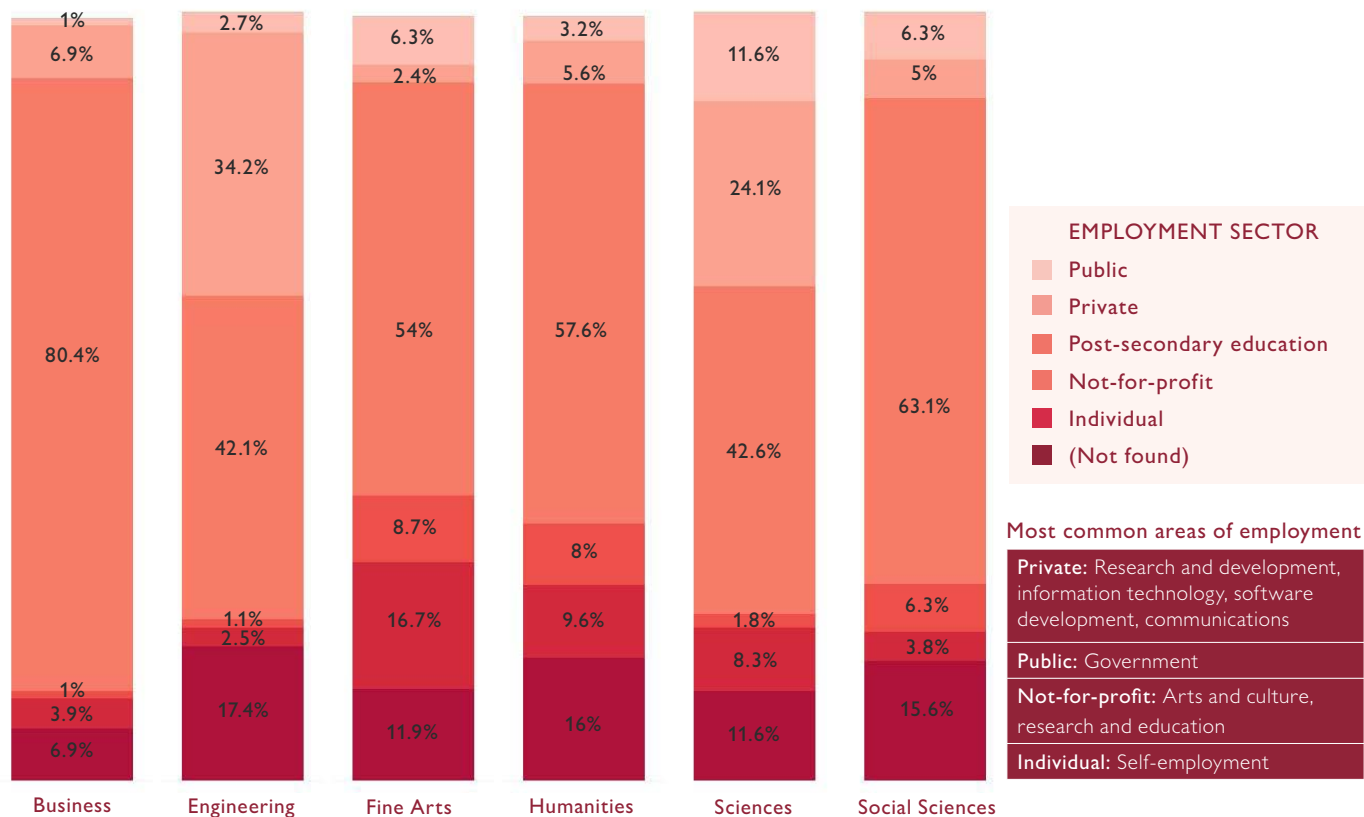


Figure 5. Current employment sector for all PhDs by disciplinary sector

Most PhDs who currently pursue careers in higher education have a background in business and social sciences. In the case of business, an astounding 80% remain in academia, with most of them following the professorial path. The least represented groups in post-secondary institutions are students coming from engineering and the sciences, which coincides with these two disciplines having the highest representation of PhD graduates employed in the private sector.

A moderate number of PhDs (18%) embark on postdoctoral fellowships in a higher education institution, research centres, hospitals or companies. In all cases they are advancing research, and those in a professional setting are potentially bridging the gap between theory and practice.

A low number of PhDs (6%) remain in higher education working in administration with most of these graduates coming from the social sciences.

### Top 10 employers

- Concordia University
- Self-employed
- McGill University
- Carleton University
- University of Ottawa
- Dawson College
- Université de Montréal
- Ericsson
- UQAM
- John Abbott College

### Top 10 job titles

- Assistant Professor
- Postdoctoral Fellow
- Associate Professor
- Research Associate
- University Instructor/Lecturer
- Cegep or College Instructor/Lecturer
- Sessional Lecturer (contract)
- Post-secondary Education Administrator
- Psychologist
- Clinical Psychologist

The fact that the majority of top employers are post-secondary institutions sheds light on the high number of graduates working in and contributing to the post-secondary sector in positions other than tenure and tenure-track appointments. PhD graduates work in research as research associates and postdoctoral fellows, in administration and teaching in permanent and contingent positions.



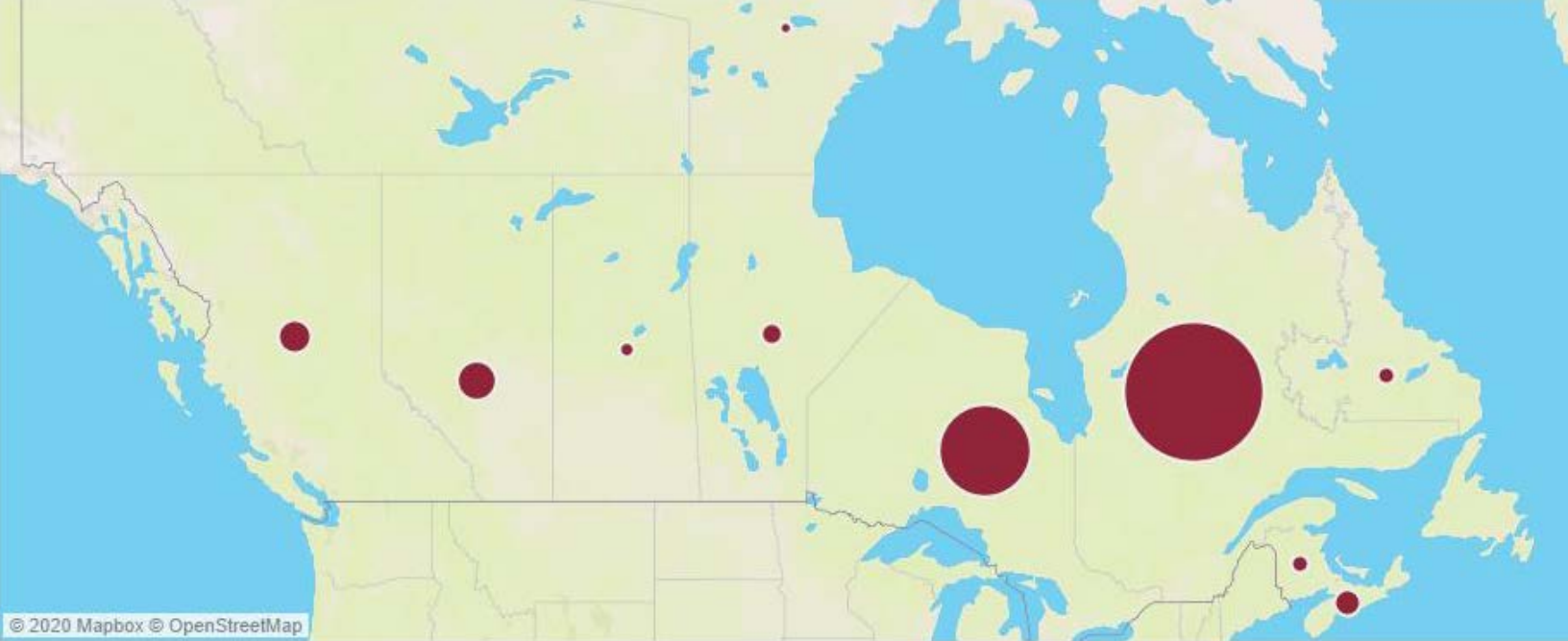


Figure 7. Current distribution of graduates across Canada

## WHERE ARE THEY LOCATED NOW?

Concordia PhD graduates are currently located in 55 different countries with most of them living and working in Canada, the United States, Saudi Arabia, the United Arab Emirates and China.

Currently, 57% of PhDs who earned their degrees at Concordia between 2009 and 2019 continue to live and work in Canada.

Concordia PhD alumni are part of the workforce in all Canadian provinces and one territory (Nunavut). Out of the alumni population still living in Canada, the majority (57%) continue to live in Montreal.

## OTHER KEY STUDIES AND RESOURCES ON PHD CAREER OUTCOMES

[TRaCE: Track, Report, Connect, Exchange. Institute for Public Life of Arts and Ideas \(IPLAI\)](#), McGill University (ongoing)

[Understanding PhD Career Pathways for Program Improvement](#). US Council of Graduate Studies (ongoing)

[The University of Alberta's PhD Alumni: Researchers, Innovators and Leaders](#). University of Alberta (2019)

[PhDetectives: Revealing PhD Trends and Competencies in Canada](#). Adoc Talent Management (2019)

[UBC PhD Career Outcomes: Graduates from 2005-2013 UBC Vancouver Campus](#). UBC (2017)

[Education highlight tables, 2016 census](#). Highest level of educational attainment (detailed) by selected age groups 25 to 64, both sexes, % distribution 2016, Canada, provinces and territories. Statistics Canada (2016)

[10K PhDs Project: Employed and Engaged](#). University of Toronto (2016)

[Ontario's PhD Graduates from 2009: Where are they now?](#) Higher Education Quality Council of Ontario (2016)

[Inside and Outside the Academy: Valuing and Preparing PhDs for Careers](#). The Conference Board of Canada (2015)

[The Stanford PhD Alumni Employment Project](#). Stanford University (2013)

[Key findings of the OECD-KnowINNO Project on the Careers of Doctorate Holders](#). OECD (2012)

## ACKNOWLEDGEMENTS

Global Impact was conducted under the leadership of Dr. Brad Nelson, associate dean of academic programs and development, School of Graduate Studies, Concordia University.

The study was completed thanks to:

**Kristy Clarke, advisor**

**Dr. Gina Beltrán, project lead**

**Jenny Bacon, data analyst**

**Nasim Adabi, research assistant**

**Nima Bonyadi, research assistant**

**Cameron Dohmen-Clermont, research assistant**

**Jennifer Sachs, research assistant**

**Altynai Pankratov, research assistant**

**Rachel Andren, design and communications**

*To share your feedback and for further information, please contact [Gina Beltrán](#)*



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