

FOCUSED ON A
**BRIGHTER
WORLD**



Fact Book:
Goals and Priorities
2018 | 2019





McMaster Goals and Priorities

McMaster University was founded in 1887 and is governed by the McMaster University Act, 1976. The University has achieved an international reputation as a centre of excellence for teaching and learning, innovation, and creativity. This year, McMaster was again ranked one of only two universities in Ontario among the world's top 100 universities, and one of only four in Canada. *Research Infosource 2018* ranked McMaster as Canada's most research-intensive university for the second consecutive year, with a total research income of \$380M, averaging \$434,700 per faculty member – more than double the national average.

We serve our community and society by nurturing and supporting the fulfillment of human potential: inspiring creativity and critical thinking, promoting an enduring love of learning and the habit of inquiry, and undertaking innovative research that extends the boundaries and enhances the efficacy of knowledge. We are committed to the advancement of human and societal health and well-being, and ultimately to creating a brighter world for all.

VISION STATEMENT

To achieve international distinction for creativity, innovation, and excellence.

MISSION STATEMENT

At McMaster, our purpose is the discovery, communication, and preservation of knowledge. In our teaching, research, and scholarship, we are committed to creativity, innovation, and excellence. We value integrity, quality, inclusiveness, and teamwork in everything we do. We inspire critical thinking, personal growth, and a passion for lifelong learning. We serve the social, cultural, and economic needs of our community and our society.

STRATEGIC PRIORITIES

McMaster's vision, mission, and mandate statements provide the foundation for our strategic planning and President Patrick Deane's letter, *Forward with Integrity*, outlines our priorities. At McMaster, we foster the creative and intellectual potential of our students, while at the same time preparing our graduates to build successful careers. We develop innovative and entrepreneurial graduates, undertake cutting-edge research, and serve our community by leading and partnering on local and global initiatives. McMaster also has a strong track record of working with industry, successfully outpacing our

peers over the last five years in industry-sponsored research. Such industrial collaborations act as magnets, attracting businesses to our region, allowing for the incubation of new companies and creating jobs for Canada's next generation of leaders – our students.

Strategic Goals

GOAL ONE: DEVELOPING A DISTINCTIVE, PERSONALIZED, ENGAGING, AND SUSTAINABLE STUDENT EXPERIENCE

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McMaster has transformed post-secondary teaching and learning over many decades. Our signature pedagogies, such as inquiry and problem-based learning, have been incorporated into multiple programs at McMaster, and are recognized and adopted worldwide. Our goal is to build on the success of our most creative and innovative programs to provide an enriching and transformative learning experience for all students, which includes opportunities for experiential, work-integrated, and self-directed learning, and allows for the consideration of multidisciplinary perspectives. Alongside this, McMaster integrates our world-class research enterprise into teaching and learning, and connects the learning experience to our local, national, and international communities.

KEY INITIATIVES

- The University continues to enhance the physical infrastructure of the campus to support a transformative student experience:
 - The multipurpose Peter George Centre for Living and Learning will open in Fall 2019 and will include a Student Wellness Centre, Student Residence and the McMaster Childcare Centre, as well as classrooms and study spaces.
 - The Student Activity and Fitness Expansion, approved through a referendum held by the McMaster Students Union, and expected to open in 2021, will double the size of McMaster's fitness centre, and include a new gym, as well as more studio, study, activity, event, lounge, and prayer spaces. This much needed expansion will enable us to better support existing and future students.
- Across the University, students continue to be offered experiential learning experiences and career readiness opportunities. Recent initiatives include:
 - The University Library's MakerSpace enables students from across campus to create, invent and learn about physical and digital fabrication. The interdisciplinary experiential learning facility is equipped with 3D printers, laser cutters, and other state-of-the-art technologies and machinery.
 - Through the McMaster Institute for Research on Aging, the University will offer a certificate of completion that promotes experiential learning in aging and work with older adults. The certificate is based on the McMaster Passport for Geriatric Education (MacPAGE) and will be expanded across all disciplines beginning in Fall 2019.
 - McMaster's Student Career Access Program has created new opportunities for students with disabilities to learn from and network with employers. In addition to a variety of targeted events intended to help them achieve their career goals, the Program also provides students with the opportunity to work with a Career Advisor to develop an individualized employment plan.
- To provide a transformative learning experience, and enable all members of McMaster's diverse student body to succeed, the University supports the following initiatives and projects:
 - The Campus Accessible Tech Space, recently opened within the University Library, supports students with disabilities in the use of technology. The new space includes a variety of cutting edge technologies, and is also outfitted with height adjustable tables, sound dampening couches, and designated areas for both collaborative and independent work.
 - McMaster students are participating in the Student Navigator Project, a collaborative 3-year project involving the Bachelor of Health Sciences Program, the Arts and Science Program, the School of Interdisciplinary Science, and the Faculty of Social Sciences. Recent alumni assist students in navigating the challenges of the undergraduate experience, and assist in developing wellness and resilience programming, with the goal of reducing barriers for students seeking support or guidance.
 - McMaster is one of only two Canadian universities to pilot the McCall MacBain Foundation International Fellowships. This generous award program enables students to experience a year of cultural immersion, including language study, volunteering, academic study, and paid employment.
 - The Student Open Circles (SOC) program has grown by 20 per cent and has now trained 300 student volunteers. This year, SOC student volunteers have contributed over 10,000 hours to supporting child and youth afterschool and nutritional programs, shelters, and services for adults with disabilities.



McMaster Global Health provides higher education with cross-cultural learning opportunities... lectures are delivered to students in the classroom at McMaster while broadcasting to students in the Netherlands, Norway, India, Thailand, Colombia, and Sudan.

- To meet societal and labour market needs and student demand, McMaster continues to develop innovative inter-disciplinary and multi-disciplinary programs. Recent initiatives include:
 - Based on a unique partnership model between the DeGroot School of Business and the School of Rehabilitation Science, the Master of Health Management Program is a primarily online graduate degree that advances the knowledge and skills needed to be a leader within the healthcare environment. Already attracting a diverse range of health professionals for part-time study, a new accelerated full-time option has been added.
 - Offered jointly by the Faculty of Engineering and the DeGroot School of Business, the Minor in Innovation is designed to give students the tools they need to succeed in the fast-paced, innovation-driven marketplace. Launched in Fall 2018, the Minor is open to all McMaster students.
 - The School of Rehabilitation Science (SRS) at McMaster, the Northern Ontario School of Medicine, and Anishnawbe Mushkiki (an Aboriginal Health Access Centre in Thunder Bay, Ontario), have forged a partnership in which students from the Occupational Therapy, Speech Language Pathology, and Physiotherapy Programs in SRS explore and develop rehabilitation service opportunities for Indigenous residents in Northern Ontario. The goal is to promote the development of innovative and culturally-sensitive approaches to service delivery.
- McMaster supports a variety of initiatives intended to equip our students with the leadership skills needed to be engaged and successful global citizens, and to transition successfully from the academy to the workplace. Recent initiatives include:
 - The Digital Leadership Summit held by McMaster's DeGroot School of Business considered the impact of digital innovation on business, with a focus on healthcare, finance and entertainment. The Summit featured discussions with some of the School's top experts, along with thought leaders from industry and academia.
 - McMaster Global Health provides a model of transdisciplinary higher education with cross-cultural learning opportunities. The program combines face-to-face classroom experiences with online collaboration in virtual teams; lectures are delivered to students in the classroom at McMaster while broadcasting to students in the Netherlands, Norway, India, Thailand, Colombia, and Sudan.
 - Opened in January 2019, a new course called the Clinic connects MBA students from the DeGroot School of Business with McMaster inventors. The Clinic helps inventors mobilize resources and determine the appropriate direction for their commercial venture. Clinic locations are also being established at the McMaster University Medical Centre and St. Joseph's Healthcare Hamilton.
 - The Wilson Leadership Scholar Award, hosted by McMaster University, supports the development of students who demonstrate exceptional leadership potential. This high-value award program is expanding to include graduate students: the first graduate Wilson Leaders will join their undergraduate peers in September 2019 for a year of mentorship, professional development, and community engagement opportunities.

KEY OUTCOMES

- Several recent initiatives in health and wellbeing highlight McMaster's leadership in developing a distinctive, personalized and sustainable student experience, including:
 - McMaster is globally recognized for its commitment to innovation and advancing societal health and well-being. As part of the University's work to integrate the commitments of the Okanagan Charter, which McMaster adopted in 2017, and create an environment that promotes

health and wellness for students, faculty, staff, and visitors, the McMaster Okanagan Committee is creating a searchable inventory of all health and wellness activities available on campus. This will be translated into an interactive website to be launched later in 2019.

- McMaster joined the international Age-Friendly University Global Network in 2017 and has been engaged in activities intended to support a physical and social space where people of all ages and abilities feel welcomed and empowered.
- In 2017, as a result of generous donations to the University, Student Mental Health Services were able to offer several new mental health resources including a safeTALK program trainer, 187 trained student suicide-alert helpers, and a specialized caregiver for suicide intervention.
- The McMaster Wellness Centre offers initiatives and programs throughout the year as well as regular training from their Mental Health, Nutrition and Fitness, Healthy Campus, and Sexual Health teams. Over 450 students received training during 2017-18.
- In recognition of McMaster’s institution-wide commitment to promoting and supporting teaching excellence and pedagogical innovation, the University was awarded the 2018 Global Teaching Excellence Award by the Higher Education Academy in partnership with Times Higher Education. McMaster was selected for the award from an international short-list of finalists based on the range of experiential learning opportunities available, our commitment to global engagement, and the work of the MacPherson Institute.
- McMaster has continued to make innovations in online and blended learning:
 - The Bachelor of Software Engineering Technology program offered through the W. Booth School of Engineering Practice and Technology is the first unique online diploma-to-degree program tailor-made for college graduates wishing to continue their education and further their careers.
 - The Blended Learning Part-Time MBA welcomed an inaugural cohort of 50 students in September 2018. The program

is taught online and in person during weekend residencies at McMaster’s Ron Joyce Centre in Burlington.

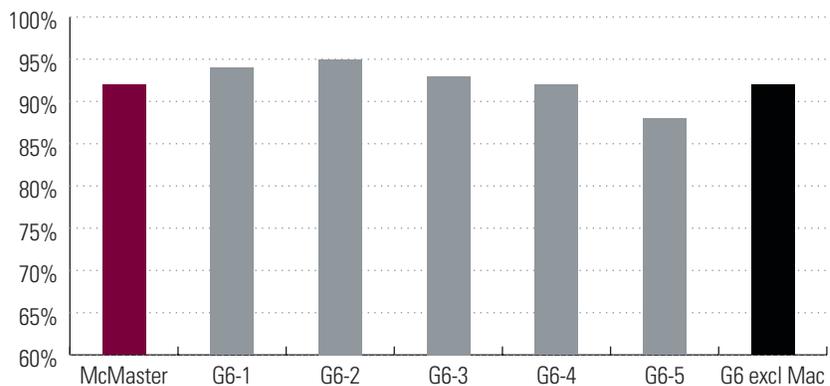
- McMaster’s Faculty of Social Sciences collaborated with the Centre for Continuing Education to design a joint

on-line degree program in Sociology. The program, which launched in Fall 2018, enables students who initially took courses through CCE to enrol and complete an online Bachelor of Arts in Sociology.

STRATEGIC MANDATE AGREEMENT METRICS

Under the 2017-18 to 2019-20 Strategic Mandate Agreement (SMA2) with the Ministry, Ontario Universities agreed to report on a common set of system-wide metrics and targets in five priority areas. The SMA2 system level metrics shown below are those related to Goal 1.

Undergraduate First Year to Second Year Retention Rates – Fall 2018

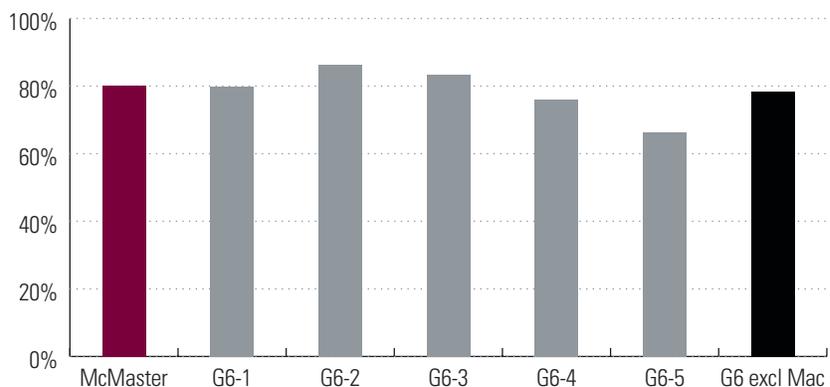


Note 1: Retention rates are based on first-time, full-time undergraduate students who commenced their studies in the previous year and have continued to study at the same institution in the reporting year.

Note 2: G6-1 to G6-5 represent McMaster’s Ontario peers who are members of the U15 (Canada’s 15 research-intensive universities).

Source: CSRDE (Consortium for Student Retention Data Exchange) 2018.

Undergraduate Six Year Graduation Rate – 2018



Note 1: The university graduation rate is calculated through the selection of all first year, new to the institution, undergraduate students from the Fall enrolment file 6 years prior, who received a bachelor or first professional degree.

Note 2: G6-1 to G6-5 represent McMaster’s Ontario peers who are members of the U15 (Canada’s 15 research-intensive universities).

Source: CSRDE (Consortium for Student Retention Data Exchange) 2018.

- The Office of Community Engagement and the MacPherson Institute collaborated on a grant program to increase the experiential learning opportunities in pre-existing courses. A total of 35 faculty received grants for 55 different courses and created new experiential learning opportunities for 1,903 undergraduate and 142 graduate students.
- The MacChangers program, led by the Faculty of Engineering and the MacPherson Institute, requires interdisciplinary teams of McMaster students to commit eight months to developing innovative solutions to local and global societal issues. Enrolment in the

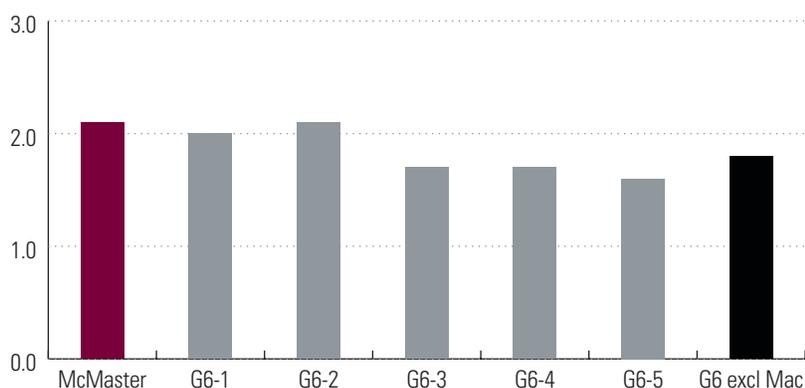
program has grown by more than 50 per cent in the past year.

- In 2018-19, McMaster enrolled 2,140 credit transfer students (an increase of nine per cent compared to 2017-18) from Ontario universities and colleges.
- McMaster continues to support and encourage entrepreneurship by providing seed funding and actively promoting student entrepreneurship on campus and in Hamilton through several initiatives:
 - Since it opened its doors in 2015, The Forge has incubated more than

110 companies that have gone on to raise more than \$21M in funding, created more than 300 jobs, and reached 30 countries. The Forge currently works with 35 start-up clients including McMaster students, alumni, and community members, and engages more than 3,200 students each year in its programming.

- The Michael G. DeGroot Initiative for Innovation in Healthcare aims to stimulate entrepreneurship and develop opportunities to advance education, research and commercialization through novel programming, and create capacity for the development of socially and economically impactful health innovations.

NSSE - Average Number of High Impact Practices (HIPs) Per Fourth-Year Student – 2017

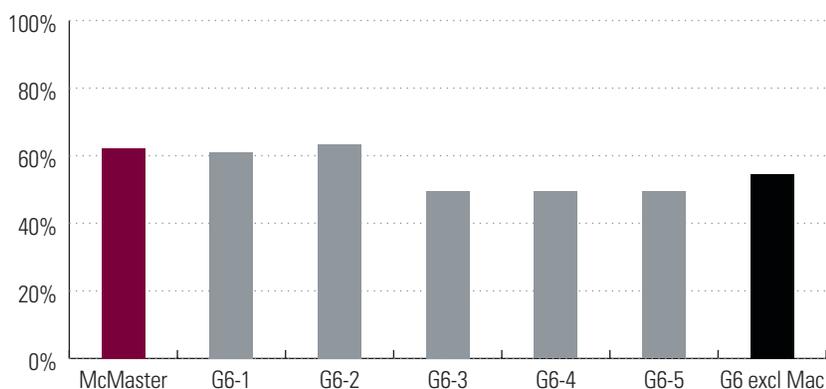


Note 1: Ontario universities administer the NSSE survey every 3 years and 2017 is the last available data.
 Note 2: G6-1 to G6-5 represent McMaster's Ontario peers who are members of the U15 (Canada's 15 research-intensive universities).
 Source: National Survey of Student Engagement (NSSE) 2017.

- McMaster programs provide high-quality preparation for future careers. In the 2017 Ontario University Graduate Survey of McMaster's 2015 graduates, 91.3 per cent of those in full-time employment indicated that they were in employment that was closely related or somewhat related to the skills they studied at university. The Ontario average is 89 per cent.

- To support students in finding jobs and connecting them with local employers, the University also presents Connect to Careers, Hamilton's largest job fair, in partnership with Mohawk College, Redeemer University College, and the City of Hamilton. In total, over 1,200 job seekers attended the 2018 event.

NSSE - Proportion of Fourth-Year Students with Two or More High Impact Practices (HIPs) – 2017



Note 1: Ontario universities administer the NSSE survey every 3 years and 2017 is the last available data.
 Note 2: G6-1 to G6-5 represent McMaster's Ontario peers who are members of the U15 (Canada's 15 research-intensive universities).
 Source: National Survey of Student Engagement (NSSE) 2017.

- McMaster produces some of Canada's most employable graduates, according to Times Higher Education. The University ranked fifth in Canada and 78th worldwide, in the Global University Employability Ranking 2018.

- In the 2017 National Survey of Student Engagement (NSSE) 83 per cent of respondents rated their entire McMaster educational experience as good, or excellent, compared with Ontario's average of 77 per cent.

Strategic Goals

GOAL TWO: ENHANCING THE CONNECTIONS BETWEEN MCMASTER AND THE COMMUNITIES WE SERVE, LOCALLY, PROVINCIALLY, NATIONALLY AND AROUND THE GLOBE.

2

McMaster remains committed to public service, with a focus on fostering collaboration between the University and community partners. This work enables us to better understand and consider the issues identified as priorities by local and global communities, and to integrate them fully and meaningfully into the work of the academy. McMaster also supports the broader community through our work to foster a diverse campus community and create enhanced pathways and improved supports for underrepresented groups.

KEY INITIATIVES

- McMaster continues to build on its connections to the Indigenous community and to develop responses to the Truth and Reconciliation Commission's report:
 - An Indigenous Health Initiative is being developed by the Faculty of Health Sciences in collaboration with Indigenous partners. A steering committee has identified six key priority areas including addressing systemic barriers for Indigenous learners, enhancing the learning environment, educating non-Indigenous faculty, identifying collaborative research opportunities and integrating Indigenous knowledge into Faculty programming. The implementation phase is expected to begin in the Fall of 2019.
 - The Faculty of Social Sciences is collaborating with Mohawk College, Lambton College of Applied Arts and Technology, and Wilfrid Laurier University to launch a 2+2 Indigenous Pathways Transfer Program that enables students who complete Indigenous-focused courses as part of their College diploma to enter McMaster's Indigenous Studies Program as level-3 students. This ONCAT-funded program is designed to reduce barriers, facilitate the transition from college to university, and enhance access to university for Indigenous students.
 - The Faculty of Health Sciences has launched a Graduate Scholarship for Indigenous Scholars. This award, valued at \$5,000 per year for two years, is intended to provide additional financial support for Indigenous learners. The goal is to award ten scholarships each year, with the majority being new to McMaster.
- McMaster has been focused for some time on the development of initiatives intended to advance equity, diversity and inclusion on our campus. This year saw the launch of the University's first EDI Strategy and Action Plan, as well as a range of initiatives intended to support and promote Employment Equity, and better welcome and support all members of the McMaster community.
- McMaster engages in a range of initiatives to build connections with the local community and provide pathways and support to students who may not otherwise have the opportunity to attend university:
 - Launched in 2018, the Socrates Project is an initiative intended to stimulate and foster critical discussion across all disciplines, promote dialogue, and deepen the connection between the University and the broader community. The Project encompasses a broad range of events and activities – from performances to lectures, international conferences, art installations and community town halls – which are open to the public and enable artists, scholars, and community members to engage in crucial conversations around the most pressing issues of our time.
 - The MAC H²OPE Clinic is a joint community engagement initiative between the School of Rehabilitation Sciences, the YMCA of Hamilton/ Burlington/ Brantford, and Hamilton Health Sciences through the LiveWell initiative. The clinic provides free occupational therapy and physiotherapy services to eligible adults in downtown Hamilton and merges student learning, rehabilitation service delivery and research to improve the health of Hamiltonians.
 - The McMaster Discovery Program (MDP), a free, university-level, non-credit course offered to adults living in Hamilton who experience barriers to accessing higher learning opportunities, welcomed its eighth cohort in Fall 2018. The Program has now graduated approximately 180 students.
 - In April 2019, McMaster hosted the FIRST Robotics District Competition for the second consecutive year, which attracted hundreds of high school students from across Ontario. The three-day annual event is an intensive technological challenge that promotes STEM education and the value of teamwork.



In recognition of McMaster's work and focus on employment equity, the University was named one of Canada's Best Diversity Employers in 2018.

- Two teams of campus and community partners were the inaugural recipients of the President's Award for Community Engaged Scholarship. The teams were honoured for their community-based research initiatives: the Grand River Mohawk at McMaster project, aimed at preserving a unique dialect of the Mohawk language; and We are Not the Others, focused on giving voice to the challenges faced by immigrant women in Hamilton.
- McMaster seeks to build a strong network of international partnerships, including research collaborations, internships, and exchanges with institutions around the globe, and to support our students and faculty in developing such connections:
 - In May 2018, McMaster University was inducted as a member of Universitas 21 (U21), a prestigious global network of 26 research-intensive universities from 17 countries focused on collaboration and global knowledge exchange. McMaster has also strengthened its role and participation in the International Association of Universities (IAU), the Association of Commonwealth Universities (ACU), and the Asia Pacific Association for International Education (APAIE).
 - McMaster has a strong record of partnerships in the developing world, including the ongoing engagement of its faculty and staff in Academics without Borders (AWB), a virtual, volunteer-driven NGO that connects academics in the developed world with colleagues and universities in developing countries. This year McMaster became the host institution for AWB and, working closely with AWB, seeks to support capacity-building in higher education as a means to foster greater prosperity, equity and well-being for all.
 - In 2018, McMaster participated in the World's Challenge Challenge, a global competition bringing together teams of students to present innovative solutions that address global issues identified in the United Nations' Sustainable Development Goals.
 - McMaster is in phase two of developing a formal partnership with the Centre National de la Recherche Scientifique (CNRS). The first phase funded micro-projects in the fields of materials science, chemistry and applied mathematics. The second phase will involve a workshop highlighting existing and emerging research collaborations between CNRS and McMaster, with the goal being the development of a CNRS collaborative centre at McMaster.
- McMaster continues to lead and actively engage in a range of initiatives within the City of Hamilton, including:
 - The Department of Psychiatry and Behavioural Neurosciences is partnering with the City of Hamilton on an Early Years Strategy, which draws on the Department's research findings regarding the factors that can affect the well-being of children in the first six years of life. The goal is to ensure that no child in Hamilton gets left behind.
 - In July 2018 McMaster was one of several community partners supporting the launch of the City of Hamilton's 'Newcomer Day' during which current and prospective students and Hamilton community members came together to develop connections and celebrate the diversity of Hamilton.
 - In collaboration with local Chartered Professional Accountants, McMaster students led 33 free tax return clinics in priority neighbourhoods, with an emphasis on identifying frequently unclaimed benefits. Volunteers spent more than 500 clinic hours helping Greater Hamilton Area residents file for relevant benefits.
 - The Office of Community Engagement Research Shop contributed nearly 5,000 student volunteer hours to address community partners' questions on 18 projects. These ranged from identifying best practices for a wildlife corridor across Highway 6, to surveying food bank users to assess the viability of offering low-cost fresh food items.

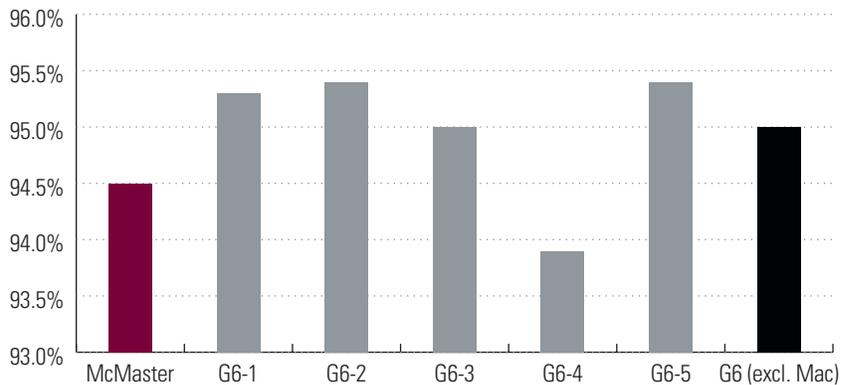
KEY OUTCOMES

- McMaster placed second in the world in the new Times Higher Education (THE) Impact Ranking for 2019. This new international ranking recognizes the impact universities are making in their own countries and on a global scale. The ranking is based on the Sustainable Development Goals (SDGs) adopted by the United Nations, which are designed to address the most serious challenges facing our world. While ranking second overall, McMaster received individual rankings in several of the development goals:
 - McMaster placed 1st overall in the Decent Work and Economic Growth SDG. This development goal focuses on employment practices.
 - McMaster placed 2nd overall in the Good Health and Wellbeing SDG. This goal assesses health impacts of services, research, projects and collaborations undertaken by the university locally and globally.
 - McMaster placed 14th overall in the Sustainable Cities and Communities SDG. This goal measures the university's role as a custodian of art and heritage, and its internal approaches to sustainability.
- In recognition of McMaster's work and focus on employment equity, the University was named one of Canada's Best Diversity Employers in 2018. For the fourth year in a row, McMaster was also named one of Hamilton-Niagara's Top Employers. With approximately 12,000 faculty and staff, McMaster is one of the largest employers in the Greater Hamilton Area.
- In 2018-19, McMaster welcomed 6,812 full-time first-generation students (representing about 21.2 per cent of McMaster's Fall full-time student enrolment), 528 (1.6 per cent) Indigenous learners (First Nations, Métis, and Inuit), and 2,409 (7.5 per cent) students with disabilities. McMaster continually strives to improve access to underrepresented groups through pathway programs and initiatives.

STRATEGIC MANDATE AGREEMENT METRICS

Under the 2017-18 to 2019-20 Strategic Mandate Agreement (SMA2) with the Ministry, Ontario Universities agreed to report on a common set of system-wide metrics and targets in five priority areas. The SMA2 system level metrics shown below are those related to Goal 2.

Graduate Employment Rate, 2 years post-graduation, 2017



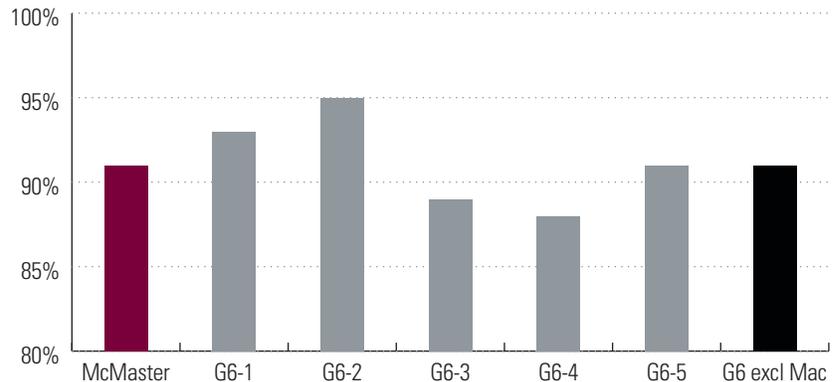
Note 1: Graduate Employment Rate is the number of graduates of bachelors or first professional degree programs expressed as a percentage of the labour force after graduation.

Note 2: The table above displays the results of the Ministry of Training, Colleges and Universities' Ontario University Graduate Survey on the employment outcomes of undergraduate students who graduated 2 years before the year displayed. It displays the last available data.

Note 3: G6-1 to G6-5 represent McMaster's Ontario peers who are members of the U15 (Canada's 15 research-intensive universities).

Source: Ontario University Graduate Survey (OUGS) 2017.

Proportion of Graduates Employed Full-Time in a Related Job (2 Yrs post-graduation) 2017



Note 1: Graduate Employment Rate is the number of graduates of bachelors or first professional degree programs expressed as a percentage of the labour force after graduation.

Note 2: The table above displays the results of the Ministry of Training, Colleges and Universities' Ontario University Graduate Survey on the employment outcomes of undergraduate students who graduated 2 years before the year displayed. It displays the last available data.

Note 3: G6-1 to G6-5 represent McMaster's Ontario peers who are members of the U15 (Canada's 15 research-intensive universities).

Source: Ontario University Graduate Survey (OUGS) 2017.

- The Division of eLearning and the Department of Psychiatry and Behavioural Neurosciences has developed iGerCare, as part of a national dementia strategy. The iGerCare.ca website provides dementia education for caregivers including free access to high quality multimedia lessons and expert-curated resources. Featured on CBC's The National and in other media, more than 50,000 caregivers accessed the website in its first few months and it has already received two Gold Omni Awards.
- The McMaster Children and Youth University (MCYU) now engages well over 100 students per year in its experiential program, and offers 200 community events in collaboration with 25 community partners.
- Throughout the 2018-19 year, the Socrates Project held a series of capacity events, including discussions on climate change, democracy and free speech, musical and artistic performances, and film screenings, and is meeting its goal of engaging the local and campus communities in thoughtful and informed discussion and debate of critically important issues.

- In addition to the University's contributions to the physical and social well-being of our community, McMaster also has a positive economic impact on our City. A recent KPMG report demonstrated an annual local impact of \$3.87B on Hamilton's GDP.
- The McMaster World Congress celebrated its 40th anniversary in 2019. Students from the DeGroote School of Business co-ordinate this annual conference, which brings together students and industry professionals from around the world to explore pressing issues and trends.
- McMaster's Faculty of Engineering supports two key youth program initiatives: Venture and L.E.A.P., which work to engage students from Kindergarten to Grade 12 in engineering and science. Combined, these programs reached more than 19,800 students in Summer 2018, through camps run on campus and travelling workshops throughout Ontario.

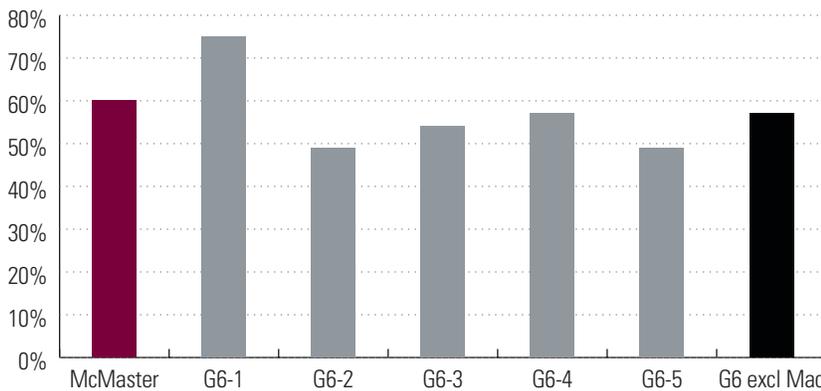
These programs seek to provide educational opportunities to underrepresented youth and those who may not otherwise consider a university education.

- Last year, 27 students spent a full semester at CityLAB Semester in Residence, working with City of Hamilton staff to put their skills to the test on real-world challenges and opportunities facing the City.
- McMaster's students have been successful in finding employment: of those students graduating with a bachelor or first professional degree in 2015, 89 per cent had found employment within 6 months and 95 per cent within 2 years (source: Ministry of Training, Colleges and Universities' 2017 Ontario University Graduate Survey).

McMaster hosted the FIRST Robotics District Competition for the second consecutive year, which attracted hundreds of high school students from across Ontario.



Share of OSAP Recipients at an institution relative to its total # of eligible students 2017-18



Note 1: Total full-time OSAP awards at institution based on academic year-end data (OSAP academic year starts August 1, with academic year-end data available at end of August in the following year)/Total Fall operating grant eligible headcount enrolment at institution (based on November 1st reporting).

Note 2: These OSAP participation rates are the latest sector-wide OSAP rates available as reported for the Strategic Mandate Agreement.

Note 3: G6-1 to G6-5 represent McMaster's Ontario peers who are members of the U15 (Canada's 15 research-intensive universities).

Source: OSAP and Official government enrolment data.

Strategic Goals

GOAL THREE: STRENGTHENING THE EXCELLENCE OF OUR RESEARCH AND OUR GRADUATE EDUCATION AND TRAINING, WHILE SEEKING OPPORTUNITIES TO INTEGRATE RESEARCH MORE PURPOSEFULLY INTO OUR ACADEMIC MISSION.

3

Ranked as Canada's most research-intensive university, McMaster excels at interdisciplinary and collaborative research, working with industry, government, and community partners, as well as other academic institutions around the globe. Our research reflects current and emerging issues of relevance to our local and global communities, and has impact across a wide range of disciplines. We intend to build on our track record in technology transfer and entrepreneurship to provide opportunities for commercialization to our faculty and students, and bridge the gap between research and commercial application. Committed to engaging students at all levels in research activities, we strive to integrate research and teaching across our programming in creative ways. Our graduate training is central to sustaining our research intensity and we are committed to equipping graduate students in all programs with the practical skills and experiential knowledge that will enable them to translate their academic achievements into success after graduation.

KEY INITIATIVES

- McMaster's Strategic Plan for Research, *Research for a Brighter World*, affirms our commitment to research excellence, highlights the core values and diverse strengths of the University's research enterprise, and identifies eight strategic initiatives designed to meet the complex challenges of the future.
- McMaster researchers are playing a leading role in working to address the most significant health issues facing our local and global communities:
 - The Michael G. DeGroot Institute for Infectious Disease Research has a global reputation for excellence in infectious disease research and antimicrobial resistance. A recent investment of \$2.6M will support the Institute's pursuit of improved treatments for diseases such as TB and Malaria.
 - McMaster is home to the Canadian Institutes of Health Research (CIHR) Institute of Infection and Immunity, which is at the forefront of research into antimicrobial resistance, HIV, Hepatitis C, Lyme disease, the microbiome, and organ transplantation. Our work in this area has been bolstered by a \$7.9M investment in support of the Institute and the research it enables.
 - A recognized leader in scientific research related to child development, the Offord Centre for Child Studies endeavours to improve the present and future lives of children, youth and families by encouraging and supporting evidenced-based policy development. With the support of a \$3.4M investment, researchers affiliated with the Centre are investigating the impact of parenting methods on behavioural and emotional problems in babies and children.
 - Researchers at the Labarge Centre for Mobility in Aging are applying a design-led approach to examine the biological, behavioural, technological, and environmental factors affecting individual and community mobility as people age. The goal of the Centre is to optimize the well-being of our aging population.
- McMaster is known for its innovation and excellence in advanced materials and manufacturing research:
 - McMaster is a key partner in Next Generation Manufacturing, the national supercluster network designed to bring industry, academia, and not-for-profits together to develop Canada's next generation of manufacturing capabilities. McMaster is also one of three Ontario universities leading the Advanced Manufacturing Consortium, which provides businesses with access to our technical expertise and world-class assets.
 - Through the McMaster Manufacturing Research Institute (MMRI), McMaster is the only university partner in the Southern Ontario Network for Advanced Manufacturing Innovation (SONAMI), a FedDev funded network that supports local companies from prototype development to production planning and automation. In 2018, MMRI was able to achieve a twenty-fold increase in productivity for a Burlington-based partner following the design, testing and implementation of new tool and machining parameters.



A recent investment of \$2.6M will support The Michael G. DeGroote Institute for Infectious Disease Research. The Institute has a global reputation for excellence in infectious disease research and antimicrobial resistance.

- The Canadian Centre for Electron Microscopy (CCEM) – a national facility housed at McMaster providing world-class electron microscopy capabilities and expertise to Canadian researchers and industry – enables discoveries on the atomic and electronic structure of materials in areas as diverse as biomedical applications and medical imaging, energy conversion, water purification, sensor technologies, and quantum computing.
- The McMaster Automotive Resource Centre (MARC), one of the world’s leading academic research centres focused on transportation electrification, engages more than 475 graduate students, undergraduates, and postdoctoral fellows. Through partnerships with companies such as Fiat Chrysler Automobiles, Ford, GM, and ArcelorMittal Dofasco, in addition to numerous SMEs, students work on experiential learning projects in support of industry needs, while studying and working at MARC.
- McMaster continues to be a Canadian leader in nuclear science. The University houses an integrated suite of research facilities that enable discoveries in medicine, clean energy, nuclear safety, materials and environmental science, and include the following nuclear infrastructures:
 - The McMaster Nuclear Reactor (MNR) provides neutrons for research and medical isotope production, and is the world’s only self-funded research reactor. Access to neutrons is essential to support Canadian innovation in medicine, environmental and agricultural science, advanced materials, and clean energy technology. Neutron sources are also the only means of generating important medical isotopes for the treatment and diagnosis of cancer. A major role of the MNR is to provide service to nearly 30 commercial entities within Canada and internationally.
 - The Centre for Advanced Nuclear Systems (CANS) is a regional nuclear research centre, headquartered at McMaster, which provides unique world-class capability to advance research in three focus areas: nuclear materials behaviour, nuclear safety thermohydraulic behaviour, and health physics dose response investigation.
- The Faculty of Social Sciences continues to develop the Centre for Empirical Social Sciences Research (CRESS). The overarching goal of CRESS is to enhance the research facilities and research support available to faculty, research staff, and graduate students in the social sciences.
- The McMaster Health Forum, which supports and promotes evidence-informed policy about health and social systems in Ontario, Canada, and internationally, celebrated its 10th anniversary this year, with new grants, partners and milestones, as well as an expanded focus on social systems. The recently launched Partners for Evidence-driven Rapid Learning in Social Systems (PERLSS) is a partnership of 70 people across 27 organizations in 14 countries who are using Social Systems Evidence to directly inform decision-making relating to the United Nations’ Sustainable Development Goals. The Forum has also funded 60 internships and expanded its Queen Elizabeth Scholarships program.

Over the last five years, from 2014 to 2018, McMaster researchers generated over \$1.7B in external research funding (Re\$earch Infosource).



- McMaster Innovation Park (MIP) provides a range of office, lab, and specialized facilities to more than 65 companies with more than 800 people working onsite. MIP is also home to The Forge, the University's accelerator, which supports early stage entrepreneurs and rapid growth technology companies in its incubation space.
- The McMaster Industry Liaison Office (MILO) is focused on supporting commercialization of the cutting-edge work undertaken by our researchers, enabling them to successfully bridge the gap from research to commercial application and creating positive economic and social impact in the region. Recent initiatives include:
 - The 2018 Health Sciences Venture Fair attracted more than 100 investors, industry professionals, researchers and students, and provided the opportunity for McMaster faculty and students to showcase innovations with high commercialization potential to the investment and pharmaceutical communities.
 - More than 250 industry representatives, entrepreneurs, academic researchers and students attended MILO's 9th Annual Innovation Showcase. With the theme focused on biomedical technologies, the event highlighted the role and impact of McMaster research in shaping the future of healthcare.
- MILO's Entrepreneur-in-Residence program is a new initiative which matches successful entrepreneurs and executives who are interested in providing guidance and consultation for projects, with researchers exploring opportunities for commercialization and entrepreneurship.
- McMaster's Centre for Probe Development and Commercialization (CPDC), which translates research findings on medical isotopes into new diagnostic tests and cancer treatments, is one of five National Centres of Excellence for Commercialization and Research and is the only such Centre to have been awarded funding from the Centres of Excellence program for a third time.
- McMaster is expanding its R&D relationships with aerospace and transportation sectors. Our researchers are working with companies such as General Dynamics, Thales, PatriotOne Technologies, Bombardier, Eaton Aerospace, Fiat Chrysler Automobiles, and Honda to develop a critical mass of expertise and design industry-relevant courses, workshops and events.
- McMaster is a partner in the \$10.5M Centre for Integrated Transportation and Mobility (CITM), along with Nokia Canada, Canada Cartage, Geotab, IBM Canada, Ontario Centres of Excellence (OCE), the City of Hamilton, Mohawk College and Innovation Factory. CITM provides business and technical advisory services and resources to Ontario-based start-ups and small- and medium-sized enterprises with the aim of accelerating the development of connected and autonomous, multi-modal and integrated mobility technology solutions and business models.
- A research partnership with General Dynamics Mission Systems is helping to train highly qualified personnel and advancing state-of-the-art sensing technologies resulting in significant economic and societal impacts.
- New research is helping engineers at Fiat Chrysler Automobiles improve their modelling capabilities, resulting in more sophisticated algorithms and development tools, and enabling the company to design higher-quality prototypes more quickly.



From 2013 to 2017, McMaster received \$498.5M in corporate research partnerships (grants or contracts received from corporate sources), placing McMaster first in Canada (Re\$earch Infosource 2018).

KEY OUTCOMES

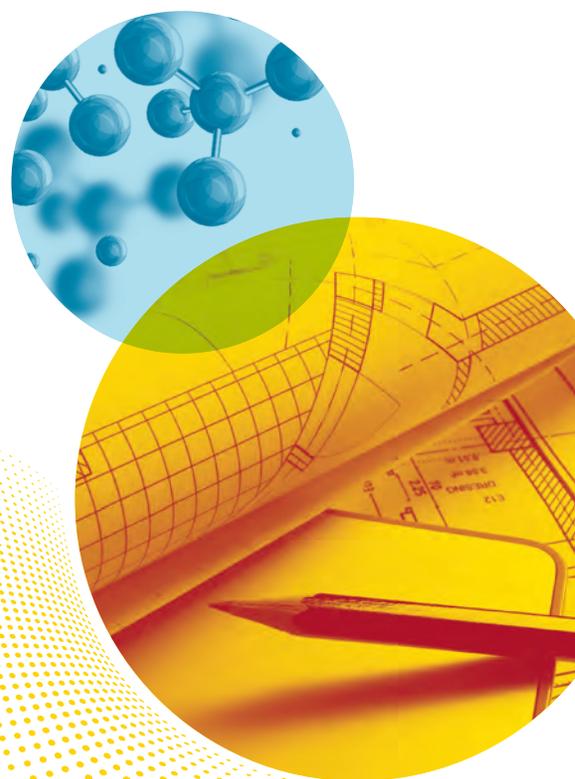
- In 2018, McMaster ranked first in the country for research intensity for the second consecutive year, averaging \$434,700 per faculty member, a 7.3 per cent increase from the previous year, and more than double the national average. McMaster also ranked seventh overall in total research income, bringing in \$380M (Re\$earch Infosource). We are one of only two Ontario universities consistently ranked among the top 100 universities in the world and are currently ranked fourth in Canada (ARWU).
- Over the last five years, from 2014 to 2018, McMaster researchers generated over \$1.7B in external research funding (Re\$earch Infosource).
- From 2013 to 2017, McMaster received \$498.5M in corporate research partnerships (grants or contracts received from corporate sources), placing McMaster first in Canada (Re\$earch Infosource 2018).
- The strength of McMaster's research is seen in the 2018 listing of the world's most highly-cited researchers from Clarivate Analytics. The listing included 18 McMaster researchers, placing us third among U15 institutions. Based on Clarivate Analytics data, McMaster ranks second

within the U15 in Category Normalized Citation Impact (last 10 years – 2009 to 2018).

- McMaster is home to 70 Canada Research Chairs (CRCs), 114 endowed chairs, 14 endowed professorships, two Canadian Institutes of Health Research Chairs, one Canada 150 Research Chair, six Natural Sciences and Engineering Research Council (NSERC) Industrial Research Chairs, and two Ontario Research Chairs. The University also has more than 70 research centres and institutes.
- McMaster has the highest average total Tri-Agency funding allocation per principal investigator (\$101,278 in 2016-17; most recent data available) of Ontario's research-intensive universities.
- In 2017-18, McMaster researchers, graduate students, and postdoctoral fellows received \$102M from the federal granting councils: \$56.7M from CIHR; \$35.9M from NSERC; and \$9.9M from the Social Sciences and Humanities Research Council (SSHRC).
- The McMaster Health Forum has worked with the World Health Organization (WHO) and the Pan American Health Organization (PAHO) to support, monitor and evaluate Evidence-Informed Policy

Networks in dozens of countries around the world. Together, McMaster and PAHO work towards the integration of research databases in Latin America and the Caribbean and the dissemination of relevant publications within the region.

- The Canadian Centre for Electron Microscopy has engaged more than 400 graduates, undergraduates, and postdoctoral fellows in its work, has partners and users from 170 research groups in Canada and internationally, and has supported more than 100 companies.

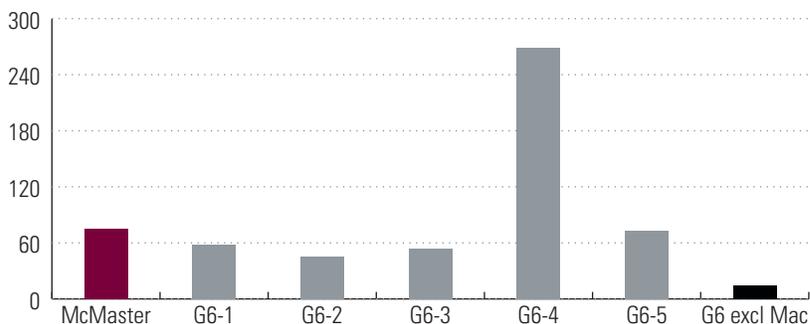


- Since the winter of 2015, over 500 graduate students and postdoctoral fellows from across campus have completed one or more of the five available courses for Teaching and Learning Certificates offered by the MacPherson Institute, which promote and support the integration of pedagogical research into teaching practices. In the Fall of 2018, 350 new and returning graduate student teaching assistants and sessional instructors attended the annual Teaching and Learning Forum.
- The number of graduate applications from students who meet the provincial grant funding eligibility criteria more than doubled (from 2,850 to 7,351) between 2007-08 and 2018-19, in part because of McMaster's international reputation for excellence.
- In 2017-18, several McMaster faculty were recognized for their research excellence: two were named as Fellows of the Royal Society of Canada; two were elected to the Royal Society's College of New Scholars, Artists and Scientists; two were awarded Killam Research Fellowships; one received the inaugural Gold Leaf Prize for Outstanding Achievements by an Early Career Investigator from CIHR; one was the recipient of an E.W.R Steacie Memorial Fellowship award from NSERC; and two were awarded the Order of Canada.
- In 2018, 11 McMaster graduate students were recipients of prestigious scholarships and fellowships – 10 were named Vanier scholars, placing the University second in Ontario, and one post-doctoral fellow was named a Banting Fellow.

STRATEGIC MANDATE AGREEMENT METRICS

Under the 2017-18 to 2019-20 Strategic Mandate Agreement (SMA2) with the Ministry, Ontario Universities agreed to report on a common set of system-wide metrics and targets in five priority areas. The SMA2 system level metrics shown below are those related to Goal 3.

Total Tri-Agency Funding (\$000,000) – 2016-17

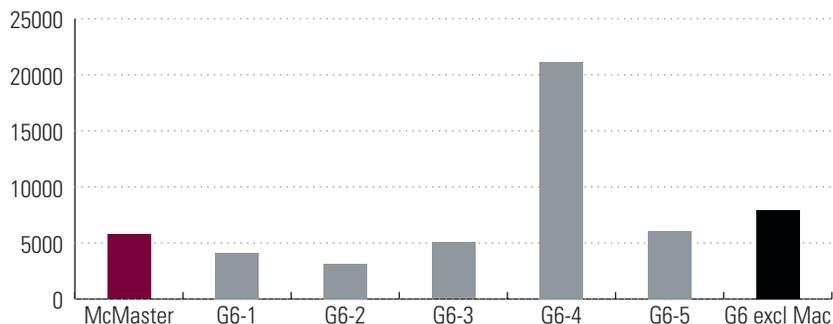


Note 1: 2016-2017 is the last comparable data available at the time of publication.

Note 2: G6-1 to G6-5 represent McMaster's Ontario peers who are members of the U15 (Canada's 15 research-intensive universities).

Source: Research Support Program, The Tri-Agency Institutional Program Secretariat.

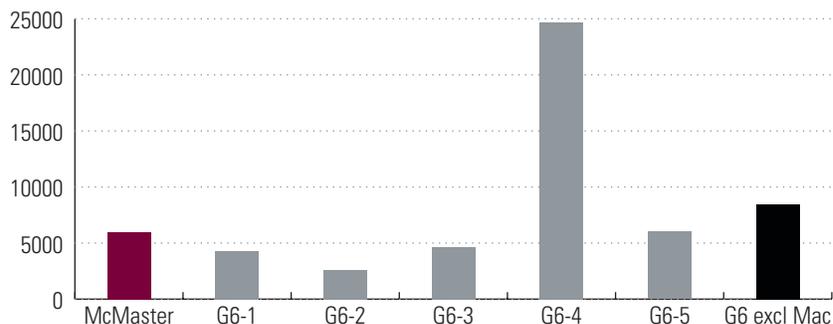
Total Number of Papers (InCites) – 2018-19



Note 1: The InCites count of Papers for 2018-19 is from the number of papers indexed in the Web of Science Core Collection for 2018-19 as of April 5, 2019.

Note 2: G6-1 to G6-5 represents McMaster's Ontario peers who are members of the U15 (Canada's 15 research-intensive universities).

Total Number of Citations (InCites) – 2018-19



Note 1: The InCites count of citations for 2018-19 is from the number of citations for papers indexed in the Web of Science Core Collection for 2018-19 as of April 5, 2019.

Note 2: G6-1 to G6-5 represents McMaster's Ontario peers who are members of the U15 (Canada's 15 research-intensive universities).

Source: Clarivate InCites 2018.



FACT BOOK: GOALS AND PRIORITIES 2018-2019

Any questions concerning the contents of this book should be directed to:

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**Any revisions to the McMaster University Fact Book: Goals and Priorities will be reflected in its web version.
Please check the Institutional Research and Analysis web site for the most up-to-date version.*



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