

## Research Universities of the Year Ranking Method

Canada's Top 50 Research Universities List 2009 ranks universities based on their total sponsored research income. In order to obtain a more balanced picture of how universities are performing, the Research Universities of the Year rankings take into account both financial input and research output and impact measures<sup>1</sup>. The financial input measures are: total sponsored research income and faculty research intensity. The research output and impact measures are: total number of publications, publication intensity and publication impact.

For each measure, the top ranking institution in each Tier (category) was assigned a score of 100 point and the other institutions' score were calculated as a percent of the first ranking institution. The total score for each university was out of a possible 100 points.

Listed below is an explanation of each criterion:

A. Financial Input Indicators: measures each institution's success in attracting financial support to conduct research (total of a possible 40 points)

Financial data were obtained from Statistics Canada. Faculty data were obtained from Statistics Canada, Conférence des recteurs et des principaux des universités du Québec (CREPUQ) and the RESEARCH Infosource University R&D Database.

1. Total Sponsored Research Income (20%)
  - ▶ Based on the university's Fiscal 2008 Top 50 rankings.
2. Faculty Research Intensity (20%)
  - ▶ Faculty research intensity is defined as total research income per full-time faculty position (full, associate and assistant faculty positions only were included). Fiscal 2008 research income and academic year 2007-2008 full-time faculty data were used to calculate ranks and allocate points.

B. Research Output Indicators: measures each institution's success in publishing in the peer-reviewed academic literature (total of a possible 40 points)

Publication data obtained from Observatoire des sciences et des technologies' (OST) Canadian bibliometric database which contains data from the SCI-Expanded, SSCI and AHCI databases of Thomson Reuters. Faculty data were obtained from Statistics Canada the RESEARCH Infosource University R&D Database.

1. Total Number of Publications (20%)
  - ▶ Publications include articles, notes and reviews published by researchers affiliated with Canadian universities or research hospitals in approximately 9,900 peer-reviewed scientific international journals, covering different fields of natural science, health science and social science and humanities. Points are based on the total number of publications published by researchers affiliated with a particular university. Rankings were based on publication data for 2007 (the latest available data).

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<sup>1</sup> Only full-service universities that placed in the Top 50 are included.  
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2. Publication Intensity (20%)

- ▶ Publication intensity is defined as the total number of publications per full-time faculty (full, associate and assistant faculty positions only were included). It has been estimated that there is, on average, a minimum 2-year lag time between research and publication. Calendar year 2007 was used for publication counts and therefore academic year 2004-2005 for full-time faculty counts were used to calculate the ranking and allocate points.

C. Impact Indicator: measures each institution's success in being cited in the peer-reviewed academic literature (total of a possible 20 points)

Impact data were obtained from Observatoire des sciences et des technologies' (OST) Canadian bibliometric database which contains data from the SCI-Expanded, SSCI and AHCI databases of Thomson Reuters.

1. Publication Impact (20%)

- ▶ Points are based on the Average Relative Impact Factor (ARIF), which was developed and provided by OST. It is based on a measure of the perceived impact of research through a calculation of citations received by journals. The impact factor does not measure the specific number of citations per article (direct impact), but rather, a measure of the probability of being cited (perceived impact). OST developed the ARIF to compare the impact factor from several specialties because an article's probability of being cited is not the same for all fields. The ARIF does not include journals from the Humanities field. To ensure that the ARIF score was meaningful, any university with less than 50 publications was not allocated points. Rankings were based on ARIF scores for 2007.