

UVIC RESPONSE TO NSERC LONG RANGE PLAN

1. VALUE OF THE INSTITUTES

PIMS plays a vital role at the University of Victoria. Its programs make a difference at all levels and adds serious value by (1) obtaining provincial funding for mathematics; (2) attracting international funding by virtue of its classification as a CNRS international laboratory.

We derive the following benefits from PIMS:

- PIMS post-doctoral Fellowships: PIMS has a highly competitive program providing a handful of positions each year. PIMS funding covers approximately half of the cost of a postdoc and host researchers and teaching covers the remainder. In recognition of the value of these positions, our University has started making matching contributions to externally funded post-doctoral positions.
- PIMS has created a framework under which there has been a steady stream of top-notch visitors to the region.
- PIMS education programs have provided substantial focus to our outreach activities.
- PIMS membership as an external CNRS laboratory enables us to invite French researchers to spend semesters or years at the University of Victoria (funded by CNRS).
- PIMS Collaborative Research Groups have promoted regional research efforts.
- PIMS promotes (and offers funding for) summer schools that have a substantial impact in raising the visibility of research in the region.

2. TRAINING OF UNDERGRADUATES

The recent changes in evaluation of NSERC discovery grant applications have disproportionately hit researchers in small undergraduate only institutions. The success rate has dropped by approximately 40% in this group over the time that the new evaluation system has been in place, while it has dropped by about 20% in large Universities and 30% in medium-sized Universities. For researchers in small institutions the score for training frequently ends up as ‘Moderate’, simply because of the lack of opportunities for training and this typically leads to a proposal being unfunded. At the same time, in this group a small amount of funding often goes a long way. While the University of Victoria has not been directly affected by this problem having a vibrant national training of undergraduates is a significant issue for us

This group represents a vital pipeline for the nation’s graduate programs. Cutting it off or leaving it under-resourced is a major concern. At the same time, NSERC regulations forbid giving USRA funds to researchers not supported by Discovery grants, creating a ‘double whammy’.

This is a clear instance where there are deserving training programs falling between the cracks. We envision a network of hybrid Federal/Provincial Research/Training grants: Research is federally supported, while education is Provincially supported. Undergraduate research at smaller institutions falls between the two. A program to address this need not cost a great deal, but would provide tremendous benefits.

3. RESEARCH METRICS

We are extremely concerned about NSERC's use of crude bibliometric data in reallocation of research funding between the disciplines, as was done in 2008 in the CCA 'State of the Nation' report. While bibliometric data are cheap to collect and appear to be objective, there are typically substantial ill-understood hidden biases in this type of data. Additionally once the target metric is known, number-crunching metrics of this type are all too easily manipulated (*"Once the metric becomes a target, it ceases to be useful as a metric"* (Marilyn Strathern DBE, FBA generalizing Goodhart's law in Economics)). A high-level report on the topic of metrics was produced by Sir Gareth Roberts, commissioned by the UK's Research Assessment Exercise.

The rational response to metric-based reallocations from Universities, departments and the discipline as a whole is to align research priorities with areas that are likely to perform well on the metric du jour, leading to enormous funding gaps in other areas. Such a 'Wall Street' to science funding is likely to do untold damage to Canadian research over the long run.

In an analysis of the ARIF metric (used to assess research quality in the disciplines in the 2008 CCA report) the hidden sources of bias were analysed in detail and it was shown that variability of citation practices within a subject area and different research priorities from one country to another produce a confounding effect comparable to the variability in the metric.