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December 5, 2012

Isabelle Blain
NSERC
350 Albert St.
Ottawa, ON K1A 1H5

RE: Changes to NSERC PDF program eligibility

Dear Isabelle,

Like many of our sister organizations, the Canadian Association of Physicists (CAP) is concerned about the low success rate in last year's NSERC Postdoctoral Fellowship (PDF) competition, where only 98 PDFs were awarded to 1254 applicants. The decision to limit to one the number of times that an applicant can apply will certainly change these statistics, but has its own serious drawbacks. More importantly, such a change does not address the key issue, namely the overall small number of PDFs that are available to our best graduates.

The NSERC PDF program is the one that is best suited for training academic researchers – i.e. our next generation of faculty members. It is very competitive and only the best of our PhD students are awarded an NSERC PDF. PDFs funded through this program can seek to work with the research group whose interests are best aligned with their long term goals, giving them more flexibility to choose which research problem they will tackle. This gives them a unique edge as they develop into independent researchers under the guidance of an experienced mentor. It is therefore unfortunate in our opinion that the total number of such awards has decreased from 284 PDFs in 2010 to last year's record low of 98.

How does this compare to the number of new academic researchers? There were 480 early career researchers (ECR) in the 2012 Discovery Grants Competition (2012 Competition Statistics, NSERC 2012). Presumably some of these are repeat applicants given the low success rate for ECR applications. Another estimate of the number of new academics in science and engineering is available through statistics published by the Canadian Association of University Teachers. In 2010-2011, there were about 400 full time university teachers appointed (CAUT Almanac, 2012-2013). Either way, there seems to be a discrepancy between the number of PDFs funded and the number of new academic researchers. Admittedly, it should not be expected, nor even desired, for all new Canadian academic positions to be filled by Canadian NSERC PDF's. It is nonetheless important for Canada to provide continued training opportunities and motivation for sufficient numbers of our very best graduates to pursue academic careers in Canada.

We know that there has been an increase in the number of PDFs funded through the CREATE program; it appears that each new CREATE program funds approximately 2 PDFs (The Black Hole, University Affairs, November 12, 2012). But 50% of CREATE funding is for industry-related projects and generally PDFs in this program are funded to provide training for graduate and undergraduate students, not necessarily to develop their own research strength or follow their research interests. Neither of these situations is ideal for development of independent researchers.

Hiring for academic positions is extremely competitive. In physics, we typically receive at least 100 applications for each position. We are worried that Canadian students will not receive the experience they need to compete for these positions

and potentially miss out on these career opportunities.

We have heard advice from members about several aspects of the problem of the low PDF award success rate, but we think the main problem is the low overall number of fellowships and the negative long term impact this will have on science and engineering faculties in Canada. We would be happy to participate in or support in any way the development of a long-term strategy for a balanced stream of well-trained scientists for government, industry and academia. One model for such a long term strategy has recently been put forward for biomedical researchers by the US National Institutes of Health (Biomedical Research Workforce Working Group Report, National Institutes of Health, June 2012), but others potentially more suited to the Canadian system surely exist.

Perhaps we can discuss this further at our meeting on December 13.

Best regards,

A handwritten signature in black ink, appearing to read "G. Kunstatter". The signature is fluid and cursive, with a large initial "G" and a long, sweeping underline.

Gabor Kunstatter, President
Canadian Association of Physicists
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