

## **Australian Institute for Bioengineering and Nanotechnology Doctoral of Philosophy candidates' response to McKeon Review of Health and Medical Research**

AIBN PhD candidate community comprise of 110 full-time candidates and would like to address specifically terms of reference 2, 3 and 7 of the McKeon Review.

We believe that PhD candidates directly contribute to the competitiveness of Australian Health and Medical Research as the skill sets acquired through PhD candidature are perfectly aligned with successful research and innovation. However the current support for PhD candidates does not reflect their value and contributions, therefore our recommendations are:

1. Retain an active research community that attracts and trains highly skilled PhDs for the benefit of Australian businesses, informed policy-makers, and the health-care industry
2. Extend the candidature of PhD scholarships to recognise that these are typically a 4 year program
3. Provide a stipend that is commensurate with the Australian standards for minimum wage

AIBN's experience in training highly sought-after graduates is that a PhD in health and medical research is not a 3 year program. While we recognise that funding for PhD students comes from government education budgets rather than health budgets, we wish the McKeon review to consider the impact of underfunding these schemes on attracting and retaining students into postgraduate research degrees in the Health and Medical research sector.

A recent report from the Centre for the Study of Research Training & Impact (SORTI - <http://www.newcastle.edu.au/research-centre/sorti/publications/>) at the University of Newcastle, which investigated PhD completion times in Australian universities (with a significant response from UQ research higher degree [RHD] students) concluded: "Our recent project covering 804 PhD candidates at 8 Australian universities across all discipline areas indicated that the mean candidacy time was a fraction less than 4 years (7.9 semesters) with a range from 3.5 years for Education candidates to a little over 4 years for Engineering candidates."

With the increase in multidisciplinary research projects to address health related problems, students must not only build knowledge in their specific discipline but also develop strength and depth of knowledge in the corresponding cross-discipline. Typical PhD projects in the AIBN might involve a graduate from Engineering or Physical Science needing to learn advanced cell biology, or alternatively a biology graduate having to become conversant in advanced nanotechnology synthesis and characterisation techniques. These multidisciplinary projects are where the breakthroughs and innovation are occurring, but also often necessitate longer-than-average candidature. For PhDs to be successfully trained in both disciplines, 4 year funding models are required.

A four-year funded PhD is commensurate to that of US and European PhD funding models. This has provided many of those PhDs time to develop the necessary skills and publish their findings in high impact journals. These PhD graduates have built an excellent and competitive track record to compete for Fellowships, which is the first step to an academic or industrial career. It is generally found within the AIBN that after 2.5 to 3 years, most PhDs are only now ready to develop their own research methodology and strategy, and require additional time to significantly contribute to the field. Current scholarships hit a funding shortfall at the 3- 3.5 year milestones, when students are their most productive.

With the increase in International PhD (research only) students, 3 years with an extension of 6 months is not sufficient to complete their PhDs. This is further complicated by visa restrictions for international students or if a living allowance cannot be obtained by the candidate after 3.5 years. The AIBN strongly feels that a 4 year funded PhD will eliminate these issues, but in general provide PhDs with the opportunity to generate competitive track records for Fellowships around the world. The additional time has been a significant contributor to the increased number and quality of work published, and has added to the internationally renowned reputation of the AIBN.

Skilled workers who possess PhD degree are the pillars of research and innovation as their skill sets aligned them perfectly with successful R&D activities. The pre-requisite of PhD candidature is a relevant undergraduate degree; therefore the candidates already possess professional knowledge and skills. The pre existing skills set that every PhD candidate has acquired prior to starting their research project should be reflected in the RHD stipend for PhD candidates. This means a remuneration/ stipend comparable to the salary of a trainee with at least 4 years of undergraduate

courses. The PhD candidatures further improve the candidates with specialised trainings to further their capabilities. During the PhD candidature, the candidates would acquire both tangible and intangible valuable skill sets. These skills are often highly relevant even outside the candidates' field of study and contribute greatly to academia, industry, policy and health services.

While the Australian Postgraduate Award (APA) has always been the dominating, if not the sole income source for PhD students, the APA stipend as of 2012 for full time PhD candidates is only \$456.31 per week. By comparison, the Australian minimum wage set out by the Minimum Wage Panel of Fair Work Australia is \$589.30 per week while the Australian Poverty Line in September quarter 2011 reported by Melbourne Institute of Applied Economic and Social Research for single person including housing is \$459.83 per week. This clearly highlights the need to review the current APA stipends and/ or funding for RHD students. The tremendous commitment required for the completion of the candidature requires the students to dedicate full-time hours 40+ hours per week to the project thus it is difficult to have alternate income stream without compromising the quality of research work.

The SORTI report also indicated that the average commencement age for PhD candidates in Engineering, Science, Agriculture and Health is between 29-34 years old. Individuals within this age group are highly likely to be considering or they may have already started their family. The current APA stipend level significantly disadvantage candidates striving for a healthy work-life balance and only offer two alternatives: delay the start of having a family or not commence RHD. Both of them can long term substantially affect not only the research sector but also the general economic growth of the nation. This in turn will also positively impact the female workforce by attracting and retaining women in leadership roles in the medical research sector.

Attracting domestic students into higher research degrees such as a PhD has increasingly become harder due to uncertain future perspectives (cutting of funding) as well as unattractive working conditions for the duration of RHD training (e.g. stipend at the poverty level, long working hours, stress-related diseases) when compared to entry level jobs offered to university graduated. Therefore the remuneration and term of scholarships should be evaluated, such that RHD students are living above the poverty line, and are sustained for the typical completion time-frame. Early career researchers require training and mentorship. The travelling fellowships and career development fellowships provide essential career steps for medical researchers.

In conclusion, the AIBN student body has several recommendations in response to the McKeon Review to maintain competitive advantage of the Australian Health and Medical Research:

- The funding structure for Full-time PhD scholarship should be increased to 4 years
- The remuneration sum of the scholarship should be increased to \$30,000 per year tax free inflation adjusted to align with minimum wage and above the poverty line.
- The value and contributions of the PhD candidature should be recognised and their welfare adequately addressed.

Yours Sincerely,



Michael Song



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Student representatives, on behalf of the AIBN student community.