Submission to the SSAG

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Royal Society Te Apārangi Early Career Researcher Forum

The Royal Society Te Apārangi's Early Career Researcher (ECR) Forum represents Aotearoa NZ's ECR community and celebrates their achievements and contributions in the fields of physical, biological, and social sciences, as well as the humanities. The Forum is dedicated to engaging Aotearoa NZ ECRs on issues important to them and fostering a collaborative, communicative, and respected community under the auspices of Royal Society Te Apārangi.

Questions

1. In what areas must New Zealand have or develop in-depth research-based expertise over the next two decades?

a. At what levels should research prioritisation occur?

Investing in and supporting Early Career Researchers (ECRs) is crucial for the long-term sustainability, innovation, and competitiveness of academia. ECRs represent the next generation of scholars, responsible for advancing knowledge, addressing global challenges, and driving new discoveries. Without adequate support, many talented researchers leave academia, leading to a loss of expertise and intellectual capital. ECRs bring new ideas, interdisciplinary approaches, and novel methodologies that drive progress in their fields. They challenge existing paradigms and contribute to disruptive innovations that can reshape industries and societal practices. Many ECRs face precarious employment, short-term contracts, and limited career security, leading them to leave academia or move to other sectors.

b. What are some criteria for research selection?

Excellence, level of collaboration (ie. ECRs, mid-career AND industry partners) and development of emerging and early career researchers, impact on community AND the current/relevant strategic research areas.

As well as funding interdisciplinary collaboration there needs to be equity for ECRs across industry and institute. The recent New Zealand Mana Tūāpapa Future Leader Fellowship used a stratified selection ballot to equalise dissemination of funding across gender and culture, however, 19 of the 20 awarded fellowships were for ECRs at Universities and only a single ECR from a CRI. **This is not equitable.** There should be proportional distribution of grants/funds/fellowships awarded to ECRs across institutions **including** private industry and Institutes of Technology and Polytechnics (ITPs) that habitually conduct relevant and important, industry-connected and community-connected research that has scope to impact social, and cultural, economic and environmental areas.

3. What does New Zealand do to improve workforce retention and develop the research workforce from the early career to the mature? How does New Zealand ensure the retention of research/innovation leaders?

Funding Stability for All Disciplines: Provide long-term fellowships, seed grants, and bridge funding to reduce precarity across all disciplines. The government's current funding foci will lead to many humanities and social science ECRs leaving New Zealand. This will have a hugely detrimental impact on the sustainability of New Zealand society, particularly its science system and business ecosystem. Humanities and social science scholars contribute substantially to understanding and addressing the complex social, economic, and ecological problems we face as a society. These scholars also contribute substantially to the work of biophysical sciences.

Other funding bodies, such as Horizon Europe, draw on decades of evidence (including many failed innovation projects) which illustrates the essential role humanities and social science research plays in supporting

science and innovation projects in identifying research questions, understanding research problems, interpreting results, and achieving impact. The government needs to reconsider its decision to defund the humanities and social sciences and also find ways to encourage equitable forms of interdisciplinary collaboration across the biophysical sciences, social sciences, humanities, and creative arts.

International and Industry Collaboration: Facilitate visiting fellowships, sabbaticals, and encourage knowledge transfer opportunities through funding. The academy could foster, and jointly-fund initiatives that increase workforce opportunity and retention by involving industry (as co-funder) at PhD level. By fostering strategic and industry-specific learning outcomes, facilitating collaborative research with industry, it will result in new roles and employment (increasing the viability of post-docs) of graduates that are highly-skilled, work-ready and will be employable researchers with the capabilities to move between universities, ITPs, CRIs and the private research sector.

4. Are there other key issues (beyond the quantum of funding) that should be considered in the science and innovation system not yet addressed in this or the previous report and consultation?

The report highlights that:

> "Overhead rates in universities and CRIs are excessive by global standards, inhibiting companies from contracting research services from the PROs or universities. This is a function of the current funding models for both, plus the incentives on CRIs as Crown-owned companies to make returns and very similar issues in universities. Too much of the competition between the institutional players in New Zealand is driven by competition to receive these overheads. While it is beyond this first stage of either review, other countries can provide lessons on how this issue can be addressed, much related to the overall funding models in play"

While mentioned, the issue of overheads does not go into more detail. This is a critical issue, in general and particularly for ECRs:

In Aotearoa New Zealand, huge overhead rates mean that grants meant to support research are instead used to subsidize core institutional expenses. Universities and Crown Research Institutes (CRIs) routinely charge overheads of 100–300% on top of researchers' salaries—far higher than the 25–55% typical in the US, UK, or Australia, where institutions receive stable core funding separately.

These excessive overheads create a cascade of problems. First, they make some researchers—particularly those at CRIs—prohibitively expensive to include in projects, forcing collaborators to prioritize budget over expertise (this is particularly dire for ECRs at CRIs who lack the institutional clout to be prioritised on grants given their high charge out rates). Second, limited funding and high overheads fragment researchers' time across multiple grants, reducing efficiency and increasing burnout (this is particularly bad for ECRs). Third, the model disincentivizes hiring postdocs, who are more expensive than PhD students, creating a bottleneck in career progression and weakening the research workforce – this means that PhDs are often used to deliver milestones, which distracts from its intended purpose which is for the student to learn, there are few opportunities for PhDs after graduation, and we do not have postdocs around and they are critical in pushing research forward. Finally, using unpredictable research grants to fund core institutional needs creates systemic instability, as overhead rates fluctuate wildly and prevent long-term planning. In addition, it makes the system less transparent regarding the actual use of the funding. Base funding would increase transparency.

This model not only wastes limited funding but also undermines New Zealand's ability to compete globally. Prestigious grants like the Marsden Fast-Start often do not even cover basic salary costs once overheads are applied.

The solution is clear: research institutions need stable core funding from the government to cover infrastructure and administrative costs. Research grants must fund research—providing protected time and enabling collaboration, workforce development, and sustained scientific progress. Without structural reform, more funding will only reinforce inefficiencies. To rebuild a thriving, internationally competitive research ecosystem, New Zealand must separate institutional support from research funding and allow grants to serve their intended purpose: advancing knowledge.