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**Australian Academy of Science submission on the
*Discussion Paper: A New Plan for ARC-Funded Research***

The Australian Research Council (ARC) serves as Australia's main government entity for investing in fundamental research. The Academy endorses the ARC's dedication to early-stage research and fostering a greater appetite for risk within the National Competitive Grants Program (NCGP).

The Academy recommends:

- the Initiate grants have a minimum duration of 3 years, ideally 4 years, and embedded fellowships should align with the duration of the primary grants.
- clear pathways between NCGP grant schemes to support researchers' career progression.
- the design of the Lead and Mentor scheme be changed to focus on talent attraction.
- the new NCGP create clear structures that enable multidisciplinary research.
- maintenance and enhancement of a LIEF-like small infrastructure grant function.
- facilitation of international collaboration through participation in established forums like the Belmont Forum and Horizon Europe.
- strengthening and improving peer review processes.
- development of an implementation plan with ongoing evaluation and clear communication to researchers.

The ARC is the government's primary mechanism to invest in basic research and this must remain the central focus of the NCGP. As such, scope creep to focus on later stage research should be carefully guarded against throughout this reform.

Reforms to the National Competitive Grants Program must also be aligned with the Australian Government's Strategic Examination of Research and Development (R&D). The NCGP is a vital part of Australia's R&D investment and any changes to the scheme should be considered in the context of broader transformation of Australia's R&D system.

[Two years is too short for the Initiate scheme and embedded fellowships](#)

Two years is too short. The proposed duration of Initiate grants and embedded fellowships is insufficient, risking excessive administrative load and inadequate research outcomes. Shorter grants detract from research productivity, particularly impacting early- and mid-career researchers (EMCRs). Longer grants are necessary to foster groundbreaking research and attract skilled researchers.

Recommendation: Initiate grants should be at least three years, ideally 4 years, and embedded fellowships aligned to the duration of the primary grants. Naming embedded fellowships is also recommended to enhance their attractiveness and prestige.

[The new NCGP model should consider research career pathways and progression between schemes](#)

Receiving an ARC grant or fellowship is a major milestone in a researcher's career, so the NCGP should consider their career pathways. The Academy acknowledges that these pathways are not solely the ARC's responsibility; universities and research institutions must also support them. Nevertheless, the NCGP can communicate the connections between its schemes and the various pathways researchers at different career stages can follow to advance their research and careers.

Recommendation: The design of the NCGP must consider pathways between different grant schemes administered by the ARC and other entities, including the unique role the ARC plays in Australia's R&D system and how they impact career pathways.

Supporting EMCRs in teams with shared resources, recognition, opportunities and mentorship

The Academy strongly supports a shift towards funding teams, reflecting the nature of modern science. EMCRs should be embedded in successful teams where infrastructure and resources are pooled. However, to further support EMCRs, they need to be named as investigators across the grant schemes. The program could also support EMCRs' spending time overseas and returning with new concepts.

All researchers leading a team should strive to be mentors for the next generation. This role is essential for developing Australia's research capability and should be embedded across the NCGP schemes. Having a separate scheme – Lead and Mentor – is unnecessary.

The Academy supports the continuation of the Georgina Sweet Australian Laureate Fellowship and introduction of new grants to support Indigenous academic leaders – these are important grants to recognise outstanding research leaders and promote diversity in STEM. However, the ARC should change the wider Lead and Mentor scheme's design to more accurately reflect Laureate's original intent, which was to be a talent attraction scheme for Australia.

Recommendation: The ARC should change the design of the Lead and Mentor scheme and consider options to incentivise and reward mentorship across the NCGP.

The new NCGP must seize the opportunity to enable multidisciplinary research

The national and global challenges we face are complex and require multidisciplinary research to produce solutions. It is unclear how the program structures described in the discussion paper will enable collaboration across disciplines. The ability to support multidisciplinary and interdisciplinary collaboration is a gap frequently highlighted across much of the Academy's recent science advice and policy work. The transformation of the NCGP must not miss the opportunity to level up our research funding system by creating mechanisms for different disciplines to work together.

Recommendation: The new NCGP must create clear structures that enable multidisciplinary research.

Collaborate and Prioritise schemes

Consider the balance between the Collaborate and Prioritise schemes, focusing on the number, length, and scale of grants. While recognising the importance of research on national priorities, the program must retain freedom for new ideas to emerge and be funded at the highest levels. For instance, quantum research, highlighted as a success by the ARC, was funded through Centres of Excellence despite not being a priority at the time.

The Collaborate and Prioritise schemes must support crucial functions like research infrastructure, international collaboration, and utilising the expertise of Australia's learned academies. Although the discussion paper mentions these themes, the Academy stresses their significance during the detailed design of the schemes.

Smaller infrastructure grants have an important role in the research system

Smaller infrastructure grants, supported by the current LIEF program, play an important role in Australia's research system, complementing the national research infrastructure investments through NCRIS. LIEF is used to augment NCRIS capabilities for specific use cases, leveraging national infrastructure investments. Further, by identifying and funding emerging infrastructure at the institutional scale, it provides a basis for infrastructure that could later evolve to national research infrastructure.

Recommendation: As the new model is developed, a LIEF-like function should be maintained at minimum and ideally enhanced.

Leveraging Australia's learned academies through the NCGP

The ARC's access to independent expert advice from Australia's learned academies is crucial. Historically facilitated through schemes like Learned Academies Special Projects (LASP), maintaining this capability is essential for informed ARC decision-making.

Recommendation: The ability to access the independent expertise of Australia's learned academies should be revitalised in the new program.

The NCGP should facilitate international collaboration in new ways

The ARC should explore how a new model for the NCGP can enhance international research collaboration, including incentivising overseas partner investigators' participation, providing opportunities for researcher exchange at overseas institutions and facilitating Australian researchers to access international funding schemes.

Provisions for Australians to participate in established mechanisms like the Belmont Forum would provide stability and choice in uncertain geopolitical climates. These are established, reputable, institutional mechanisms for international collaboration that are otherwise absent in Australia's R&D ecosystem. Australia would set the criteria for allocating its funding and can choose which funding calls to participate in.

21st-century challenges, such as climate change, require global cooperation. Engaging with international researchers helps Australia leverage overseas expertise and technologies, mitigating risks amid geopolitical uncertainties. Australian contributions to global research ensure its relevance to our national contexts and highlight our priorities in multilateral science-policy forums.

Recommendation: The NCGP should facilitate Australian researchers to deepen international collaboration and participate in established multilateral research forums such as the Belmont Forum and Horizon Europe.

Peer review processes will underpin the success of the new model

The nature of the new program's peer review and assessment processes will be critical to its success.

The lack of suitable expert peer review is a major issue in the current program. Currently, assessors on the College of Experts are required to assess many grants outside of their field of expertise. When decisions are made by people too far from the field of research, they may miss the subtle novelty of innovative approaches.

The design of the program should encourage and reward Australian reviewers to contribute and efforts must be made to broaden the base of available reviewers by recruiting up-and-coming researchers, diverse assessors at different career stages and rebuilding a network of international peer reviewers. Processes must be streamlined, balancing the need to reduce burden on time poor assessors with transparency, accountability and providing applicants with meaningful feedback which is particularly important for ECRs to improve. The peer review system must also account for the unique needs of interdisciplinary research, including identifying and supporting the development of assessors with the skills to assess these projects.

Reducing the number of Initiate grants will also ease the burden on peer review.

Implementation must be evaluated and clearly communicated

Transformational change to the NCGP is essential. An implementation plan must clearly communicate the impacts on researchers, include evaluation, and permit adjustments if aspects of the new model prove ineffective or harmful.

To discuss or clarify any aspect of this submission, please contact Mr Chris Anderson, Director Policy and International at Chris.Anderson@science.org.au.