

Royal Society Te Apārangī Early Career Researcher Forum Response

Who we are

Royal Society Te Apārangī's Early Career Researcher (ECR) Forum represents New Zealand'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 New Zealand ECRs on issues important to them and fostering a collaborative, communicative, and respected community under the auspices of Royal Society Te Apārangī.

This submission was collated through a series of online talanoa, emails and feedback from our *He Pito Mata Wananga* that brought together over 300 ECRs at Te Whare Waka o Pōneke to connect and envision a future for Aotearoa New Zealand's research sector. Attendees included ECRs from universities, CRIs, wānanga, IROs, industry and private companies. Invitations to contribute to this submission were sent to our forum members and He Pito Mata attendees. This was an iterative process over 4 months. Vinaka vaka levu to ECR Forum members who volunteered their time to bring this document to fruition.

Summary of Recommendations

1. Ensure career stability of ECRs by providing multiple pathways in which researchers can join the workforce and contribute value at various levels within and across research priorities and institutions.
2. Involve and engage ECRs (both in precarious and stable employment) in designing the future research sector, including during the research priority conceptualisation, how they are actioned, and in carrying out the research activities.
3. Adopt the recommendations in the submission made by ECR Tangata Whenua and Tagata o le Moana: *Building a Tiriti World*.
4. Commit to property and capital investment that reflects a commitment to Te Tiriti, collaboration, carbon-zero goals, diversity and inclusivity.
5. Base funding must contribute to ECR career development and stability.
6. Enable investment into ECRs at the institutional level through base funding earmarked for ECR development with clear evaluation criteria.
7. Base funding needs to be inclusive of all disciplines, transparent in nature, and contribute to solving our inequity issues.
8. Research evaluation should be reframed to focus on the development of research capability (including equity and diversity) and research impact for Aotearoa, including national-scale and place-specific outcomes.
9. Create a National Centre for Researcher Development and Resources.

NGĀ WHAKAAROTAU RANGAHAU

RESEARCH PRIORITIES

We support research priorities that boost the career stability of ECRs by providing multiple pathways in which researchers can join the workforce and contribute value at various levels. We encourage the involvement and engagement of ECRs throughout the whole process of designing research priorities.

1. How we design these priorities. For example, what should be the size, scope and focus of the priorities?

We advocate the direct involvement of ECRs in the design of research priorities. Without such representation, the selection of priorities will likely reflect the interests of established researchers, yet have the greatest impact on the research and career development opportunities of ECRs.

ECRs are a versatile workforce, having expertise in foundational and applied research (including commercial and industry focused), both areas of which we believe should be factored into the research priorities. There is a desire among ECRs for the impact of the research priorities to be clear when they are being conceptualised. We support research priorities being inclusive of ECR development such as ensuring that funded priority areas incorporate opportunities for ECR development through networking, stable careers and mentorship.

An important consideration is how existing staff, and ECRs especially, can move between priorities as their careers develop. This could include a mix of longer-term research priorities to address foundational issues; moderate length programmes that further specify and advance workstreams on the priorities; and shorter, smaller 'blue skies' project areas that are responsive to emerging priorities. This would give ECRs a range of opportunities to contribute their novel ideas whilst still early in their careers, and develop their leadership capability through smaller projects that contribute to larger priorities.

Also vital is ensuring stability for ECRs within these priorities, such as flexibility to stay within organisations and in specific locations even as the research priorities change. ECRs are often younger and continuous short-term contracts are disruptive to their lives, families and connections with communities. Some ECRs have strong connections with certain locations, for instance as their iwi is located there, and forcing ECRs to continue to move to "where the work is" is detrimental to their wellbeing, research relationships, and consequently their ability to deliver impactful research. The design of research priorities needs to centre these concerns.

2. A) How we decide what these priorities are. What process should we use for determining these priorities and who should be involved in the decision-making process. B) How can this process best give effect to Te Tiriti?

We believe it is important to have ECR voices involved in decisions about priorities, including a space at the table for ECRs specifically, as it is the cohort whose careers are going to be most shaped by these priorities. Having ECRs involved throughout the process would also encourage a future focus, as well as adaptability as needs arise.

ECRs are supportive of a balance between community and expert opinion in the development of priorities, preferably iteratively. In particular, it is important to ensure those who are intended to benefit from an initiative are involved in co-design to help mitigate against unintended consequences and have the flexibility to adapt as issues arise. If done well, the process may bring greater diversity to the research sector by inspiring some of these individuals to become future ECRs.

It is important that the process recognises differences in resourcing and capacity between contributors. Many ECRs are often on multiple precarious contracts with limited resources and communities likewise can also face considerable demands on their time. It is vital therefore that the process of deciding research priorities includes resourcing for volunteer contributors to ensure these groups are not run into the ground or excluded.

3. How we operationalise and implement these priorities. We need to determine who will be involved in determining the strategy for each priority, how they will be governed and how the priorities will operate on a day-to-day basis?

We support the involvement of ECRs (both in precarious and stable employment) in all aspects of operationalising and implementing the research priorities, alongside the range of actors involved in carrying out each priority (e.g. technicians, established researchers, community groups). This involvement of ECRs must be more than tokenistic, empowering them to make a meaningful contribution to priority definition.

In the National Science Challenges, ECRs have reported very different experiences depending on the challenge that they were involved in. Some benefited from inclusive and collaborative leadership, with authentic involvement in planning and implementation of the challenges. ECRs also need a platform to provide feedback to the management involved in each research priority. This will promote the shifting of unhelpful leadership behaviours if honest and constructive feedback is gained from across the research priority workforce.

It is important that as a part of any research priorities there is adequate training and support, especially of ECRs, in carrying out the research and implementing any new initiatives. Previously, when new initiatives have been introduced there has not always been adequate support for them to reach their full potential, which places a burden on individual researchers to upskill and adapt to meet the new demands-with varying success. Examples of this have been seen with the introduction of Vision Mātauranga without the necessary support and education for its integration into the research system, resulting in ECRs (especially Māori researchers) being spread too thin and involved in projects in tokenistic ways.

TE TIRITI, MĀTAURANGA MĀORI ME NGĀ WAWATA O TE MĀORI

TE TIRITI, MĀTAURANGA MĀORI, AND SUPPORTING MĀORI ASPIRATIONS

We support the submission made by ECR Tangata Whenua and Tagata o le Moana: *Building a Tiriti World*.

TE TUKU PŪTEA FUNDING

We support funding that helps to achieve stable career pathways for ECRs. Enabling investment into ECRs at the institutional level through base funding earmarked for ECR development and evaluating the consequences of funding for ECRs presents opportunities for ECR stability.

Should a base funding model be implemented, we recommend that measures are put in place to ensure it does not worsen ECR career stability. As ECRs typically have limited institutional leverage, there is a possibility that other constituencies within research organisations will be prioritised over ECRs.

1. How should we determine what constitutes a core function and how do we fund them?

In addition to considering critical research, high-priority services and databases we argue that core to the viability of any research organisation is ensuring access to high-quality ECRs, training them, and retaining them. We recommend that workforce planning and stable career pathways be considered part of the core function of the research sector and of research organisations.

2. Do you think a base grant funding model will improve stability and resilience for organisations? How should we go about designing and implementing such a funding model?

We believe a base funding model could be a means toward stability and resilience for organisations. For ECRs, in particular, a base funding model could be used to designate reliable amounts of funding for ECRs across discipline areas.

Presently, Aotearoa New Zealand's competitive funding systems are the source of funding for many, if not most, post-PhD research positions. There is significantly more demand than supply. In addition, the low grant success rates and short term nature of contracts creates a highly unpredictable employment landscape for researchers nearing the end or having ended, their

PhD. This unpredictability applies both to gaining a position and once employed, transitioning from contract employment to secure work. We see the base funding model as having the potential to avoid the 'boom and bust'/'hit or miss'/'do or die' scenario that currently characterises ECR employment in Aotearoa New Zealand.

As for how such a model should be designed, we encourage those involved to bring a career stability and career trajectory lens to these deliberations. This would enable the model to build in settings that incentivise organisations to invest in ECRs and ECR career stability.

NGĀ HINONGA INSTITUTIONS

Research institutions need to be driven by our overarching commitments as a research sector, including Te Tiriti, collaboration, carbon-zero and inclusivity. If institutions are to better support the capabilities and skills of ECRs, there need to be stable career pathways for ECRs that include longitudinal planning for leadership and career development opportunities, including for those in precarious work.

1. How do we design collaborative, adaptive and agile research institutions that will serve our current and future needs?

While we support the principles of adaptive and agile research institutions, we also emphasise the importance of stability within institutions to ensure stable career pathways for ECRs.

We support an inter-connected research sector that decreases unproductive competition between institutions. This includes an integrated research sector that prompts transdisciplinary training and practice, to support ECRs to form connections between disciplines and strengthen their relationships to institutions and communities beyond the research sector. Existing examples that show potential include: (1) Joint Graduate School (Partnerships between Academic Universities and CRIs); (2) Public Sector Internship Programme; and (3) partnerships with business/industry/philanthropic organisations/NGOs.

2. How can institutions be designed to better support capability, skills and workforce development?

Currently, ECR contracts do not reflect the reality of living in New Zealand and simultaneously further embed inequity in the system; this makes working within the research undesirable long term for many ECRs. If institutions are to better support the capabilities and skills of ECRs, there need to be stable career pathways for ECRs that includes longitudinal planning for leadership and career development opportunities, including for those in precarious work. Given the high skill levels of the research sector, pay needs to accurately reflect living in some of the most expensive cities in the OECD. Ethnic, gender and disability pay gaps need to be addressed.

Government-funded research programs should stipulate that Equity, Diversity and Inclusion (EDI) are key components of successful research programs and could consider similar EDI measurements as the TEC.

3. How should we make decisions on large property and capital investments under a more coordinated approach?

Capital and large property investment need to be driven by our overarching commitments as a research sector inclusive of Te Tiriti, collaboration, carbon-zero and inclusivity:

- Recognition that many of our large institutions' initial capital was raised through the sale of Māori land.
- Physical buildings can both limit and encourage collaboration, future decisions need to be driven by opportunities to create and support collaboration.
- Research related infrastructure should be included under the public sector carbon neutral scheme.
- An audit of current property in terms of accessibility and future campuses/buildings built with best practice accessibility and inclusiveness.

Our largest infrastructure is heavily dependent on teaching priorities which can limit our research sector scope, creative solutions to this become necessary to encourage private investments (for instance, Rocket Labs' Mt Wellington premises).

4. How do we design Te Tiriti enabled institutions?

We support Māori led responses in relation to Te Tiriti enabled institutions. We support the submission made by ECR Tangata Whenua and Tagata o le Moana: *Building a Tiriti World*.

We need to ensure that ECRs are being trained to have the capacity and capability to contribute, lead and work in Te Tiriti enabled institutions and suggest a national centre for this in Research Infrastructure.

5. How do we better support knowledge exchange and impact generation? What should be the role of research institutions in transferring knowledge into operational environments and technologies?

We support increased opportunities for ECRs to move between, and work across, different research institutions in Aotearoa New Zealand, including universities, wānanga, CRIs, iwi organisations, public and private sectors, industry, and Te Pūkenga. One avenue could include increasing opportunities for researchers in CRIs to hold academic positions (e.g. properly compensated joint/adjunct positions).

With support, ECRs can be an important avenue through which to encourage knowledge exchange and impact generation.

TE HUNGA MAHI RANGAHAU WORKFORCE

Our research sector workforce requires clear pathways into stable careers that support our national commitments to Te Tiriti, diversity and inclusion.

1. How should we include workforce considerations in the design of research Priorities?

We advocate the direct involvement of ECRs in the design of research priorities to ensure those workforce considerations are adequately incorporated and that the selection of priorities focuses on future challenges and opportunities for Aotearoa.

To promote workforce equity and diversity through the design of research priorities, we recommend that research teams established under each priority be required to meet equity and diversity criteria. These criteria should go beyond demographic representation and focus on the creation of opportunities and conditions that enable under-represented groups to succeed in the RSI sector, such as training and professional development opportunities. There is also a need for wider and ongoing evaluation of equity and diversity in public-funded research institutions.

An underlying principle of equitable workforce development and evaluation should be a requirement to take into account underlying socio-economic conditions in order to create the conditions for researchers to succeed. For example, growing the Māori RSI workforce requires accounting for the very different support available to and challenges facing Māori researchers across the motu, depending on their background and the communities they work with.

Further, it is important that research priority design and team development are inclusive of the wider Pacific region to promote equity in both the RSI workforce and research impact. All research priorities that have implications for the wider Pacific region (e.g. climate change) should be required to include Pasifika researchers in the design and delivery of the research programme.

Finally, to promote workforce equity and the delivery of research priorities, we strongly urge a reframing of research performance evaluation away from traditional publication-based metrics towards the development of research capability and impact for Aotearoa. Assessment of research impact should recognise and prioritise outcomes for place-based communities alongside national-scale outcomes.

2. What impact would a base grant have on the research workforce?

We support the use of base grant funding to create permanent RSI positions and support career progression for ECRs, thereby reducing ECR precarity. However, we observe that at present, the majority of institutional funding is invested in senior researcher and management positions, rather than the creation of ECR roles and training. We, therefore, argue that the Ministry will need to either set conditions on the use of base funding by institutions (e.g. requirements to allocate a proportion of funding to ECR development) or include ECR development in the performance evaluation of base grant-funded institutions. An alternative approach would be to set up a National Research Council that allocates base funding to researchers working in research institutions, rather than the institutions themselves, thereby giving the Ministry more control over workforce outcomes.

We also agree that base grant funding could improve workforce flexibility and grow interdisciplinary research. The current system limits the career development of many ECRs by locking them into working on only those projects they are funded for. Base grants that fund institutions or RSI staff to work on more broadly defined topics or fields would enable staff to apply their skills and expertise across a wider range of projects, and be responsive to emerging issues. Such flexibility to work on varying projects is an important contributor to ECR capability development, as well as the development of interdisciplinary and collaborative capability across the RSI sector.

We support base grant funding for multiple disciplines, including the STEM disciplines, social science, and humanities, as well as Indigenous-led research. We are concerned that the status quo allocation of base grants would privilege STEM research and infrastructure, resulting in the loss of funding options and capability for humanities research in Aotearoa. The cost and infrastructure requirements of humanities and social science research (e.g. libraries, archives) are often underestimated, leading to underinvestment in these sectors. If base grant funding is to support a diverse workforce and interdisciplinary research, it is important that funding conditions and infrastructure investments explicitly include the humanities and social sciences.

We also support linking base funding to research priorities and core functions, to provide direction and security for researchers, technicians, and institutions to invest in capability development. The opaqueness and seeming arbitrariness of current grant and fellowship evaluations are significant contributors to uncertainty in funding and ECR precarity. For base grant funding to promote stability for institutions, reduce workforce precarity and guide capability development, funding conditions or performance expectations need to be set in a way that provides long-term coherence and predictability in funding outcomes. Research priorities and core functions appear to be appropriate evaluative mechanisms for providing medium-long term security for individuals and institutions and ensuring that capability development is directed towards public good outcomes. For priorities to generate such security, they will need to remain relatively stable at the 5-10 year timeframe.

Finally, we emphasise the need for transparency in the use of base and research grant funding, to ensure that it funds researchers and research, rather than institutional overheads. We believe that provision of base funding should be geared towards reducing the overheads that institutions

charge for research grants. The current funding model has resulted in institutional overheads accounting for a huge proportion of grant funding, with no transparency or accountability for institutional overhead rates. These high overheads are a key reason that so few ECR positions are included in project grants, as the overheads render ECRs so much more expensive than students. Funding conditions should therefore be set to promote transparency and reduce institutional overheads across the board.

3. How do we design new funding mechanisms that strongly focus on workforce outcomes?

In our experience, the postdoctoral model is not working well in Aotearoa. Not only are there very few postdoctoral fellowships, but those that exist only fund part of a postdoctoral researcher's time due to the huge overheads charged by institutions. Further, many institutions do not provide clear pathways for postdoctoral researchers to attain permanent positions, leaving many postdoctoral researchers stuck on cycles of fixed-term contracts. Therefore, while we support changes to funding mechanisms to grow the number of ECR positions (including postdoctoral fellowships) across the sector, we argue that it is essential that those ECR positions have clear career progression pathways. This should include creating ECR leadership positions within institutions, to support the development of future generations of research leaders and managers. If MBIE simply increases the number of postdoctoral positions without clear pathways into permanent research roles, we will simply delay the lack of options available to graduates by a few years.

To ensure that new funding mechanisms are growing ECR positions and career pathways, research institutions should be evaluated according to staff career progression (including metrics for ECRs, MCRs, and technical staff). A limit should also be placed on the number of fixed-term contracts a staff member can be employed under, to prevent ongoing career precarity and inequitable working conditions (since fixed-term staff often have access to fewer benefits).

We see opportunities for funding mechanisms to promote workforce equity and diversity by improving options for part-time and flexible research positions and adjusting performance expectations to account for part-time work. Many ECRs face the challenge of trying to launch their research career at the same time as starting a family, while others experience complex health and family care needs; yet research positions and evaluation systems privilege full-time researchers with no breaks in their academic record. Permanent part-time positions are particularly uncommon—especially in academia, where the PBRF system makes it almost impossible for part-time researchers to succeed. The current system not only forces ECRs to make choices between career progression and family responsibilities, but these costs are unequally born by women, researchers from low-income and single-parent households, and Māori, Pasifika and other researchers who have wider care responsibilities within their whānau or community. We see opportunities for funding mechanisms to lead system-wide change toward more flexible working conditions by 1) enabling researchers to apply for fellowships and research grants on a part-time basis, 2) creating funding opportunities tailored to researchers with high family or health care needs to promote researcher retention, and 3) revising

performance evaluation models so that part-time researchers are not disadvantaged in grant/fellowship applications and career progression.

We believe that there are also opportunities to improve the efficiency and equity of the funding system by reducing the bureaucracy associated with research funding mechanisms, and increasing transparency. Under the current funding system, some institutions are investing more resources in applying for funding than they receive through resulting research grants, which in turn reduces the resources available to invest in permanent positions and capability development. In particular, we note that research funding is currently administered through two providers—the TEC and MBIE—which use different research performance measurement, funding models, timelines, and accountability structures. This not only dramatically increases the bureaucracy required to administer funds by the agencies and receiving institutions, it also creates the potential for duplication and inefficiencies in funding (for example where academics' research time is funded by both TEC and research grants or fellowships). We similarly see opportunities to reduce the bureaucracy associated with the administration of particular funds, by streamlining application and evaluation processes. For example, the recent Whitinga fellowships were able to significantly improve the efficiency and equity outcomes of the allocation process by assuming excellence across candidates.

Finally, we see opportunities to improve workforce outcomes through improving funding mechanisms for internships, placements, and summer scholarships. These funding mechanisms should span undergraduate to early career researchers, creating opportunities for emerging researchers to gain experience in research institutions, government, and industry, and promoting integration across different parts of the RSI sector. Such internships and scholarships provide emerging researchers with valuable skills and experience to guide their career development and can open pathways for those who do not see a future for themselves in the RSI system at present. As such, these positions can be an important tool in improving equity in the RSI system and should be targeted at creating opportunities for underrepresented demographics. Importantly, if such positions are to improve equity in workforce outcomes, internships must be paid a living wage that reflects the cost of living in different locations and must be sufficiently flexible for researchers with families and other mobility constraints (e.g. enabling them to locate in a local office, rather than move to Wellington).

TE HANGANGA RANGAHAU RESEARCH INFRASTRUCTURE

1. How do we support sustainable, efficient and enabling investment in research infrastructure?

Without an increase in investment, we will need creative and cutting edge solutions that promote the security and development of ECRs within the sector.

We suggest the following responses:

1. An international campaign that leverages our COVID response and desirability as a stable democracy to encourage international investment into the sector. I.e specific visas that target investment into our sector. It would be beneficial to reclassify PhD students as workers for residency and visa reasons, and to improve the pathways for international PhD candidates to remain in New Zealand post-PhD.
2. National centre for researcher development instead of every institution using resources to develop their own training. This could be similar to Ako Aotearoa but research focussed.
 - a. Research software use (like NVivo or SPSS)
 - b. Vision Matāuranga
 - c. Pacific research methods and methodologies
 - d. Te Tiriti
 - e. Digital tools - national level <https://resbaz.auckland.ac.nz/> and NeSI access across all organisations <https://www.nesi.org.nz>
 - f. Equity and inclusion
3. National centre for research resources
 - a. Journal Subscriptions through UNZ access (something like shared wifi agreements)

Confidentiality - 9(2)(ba)(i)



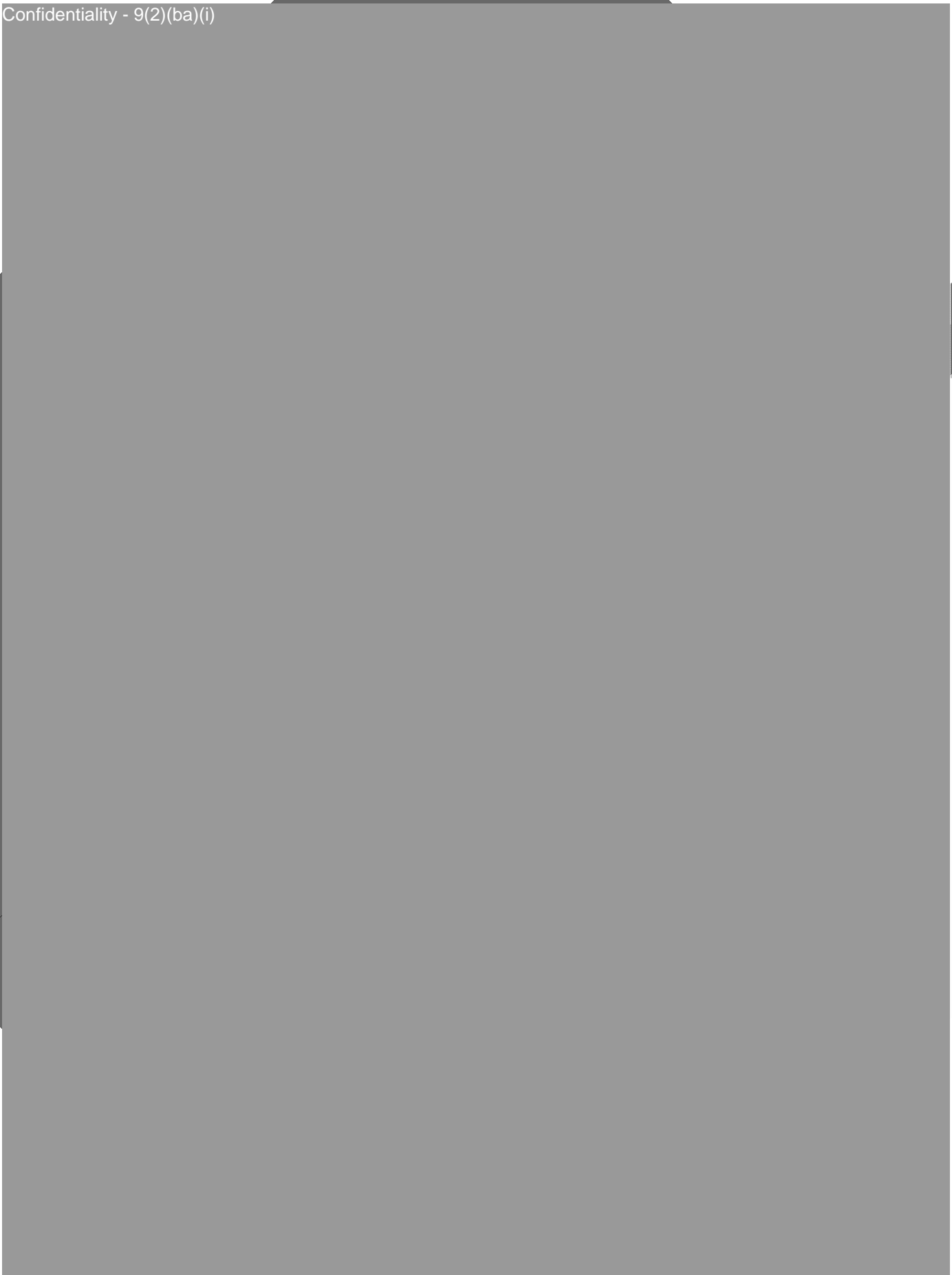
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