Statement of Principles:
The Dynamic Interplay Between Fundamental Research and Innovation

Preamble

Governments worldwide invest considerable resources in the research enterprise, with the expectation that investments in fundamental research will lead to long-term prosperity and societal benefits. Innovation – the creation and diffusion of new products, processes and methods – is an important driver of economic growth and provides crucial contributions to addressing societal challenges. In the global context, innovation draws on knowledge and concepts from across the world, though still often rooted in unique local and regional strengths.

Research and innovation are linked within complex national ecosystems involving multiple players and flows of people, ideas and funding. As such, the direct contribution of research funding to innovation and societal impact is challenging to measure. Under pressure to demonstrate accountability and return on research investments, some governments are shifting funding towards applied research with a promise of more immediate economic return. Maintaining long-term, stable support for publicly funded fundamental research is essential, as focusing too much on short term results will put the future seeds of innovation at risk.

Within complex research and innovation ecosystems involving interactions between many stakeholders, the traditional concept of a linear innovation pipeline no longer applies. A renewed conceptualisation of the relationship between discovery and innovation is as a dynamic interaction with numerous entry points and feedback loops, where information flow is multidirectional. In an era of extraordinary technological transformation, as research converges across physical, digital, biological and social boundaries, GRC participants aspire to become change agents and to inspire new ways of promoting and performing research.

Building upon the "GRC Statement of Principles for Funding Scientific Breakthroughs" (2015), participants in the 6th Annual Meeting of the Global Research Council recognize the following principles as integral to promoting the dynamic interplay between fundamental research and innovation.

Principles

Research underpins innovation and societal benefits

Innovation is the outcome of a dynamic interplay between a diverse array of participants within complex systems that are interdependent, non-linear, and increasingly open and collaborative. Socio-economic benefits and practical outcomes often arise in unexpected ways from fundamental research. A vibrant research ecosystem is essential to developing the talented individuals who will pursue curiosity driven research as they respond to the world's pressing challenges and become leaders in the global knowledge and skills economy. GRC participants contribute to the innovation system through the funding and conduct of excellence-based research, and by proactively linking this role to other parts of the innovation ecosystem.

GRC participants support the dynamic interplay between research and innovation by clearly promoting the role of research in contributing to a wide range of societal benefits. A stronger focus on interdisciplinary research, exploratory research and on cultivating talent in all its diversity are expected to lead to enhanced innovation outcomes.

Collaboration and dialogue within the innovation ecosystem

Fundamental research is an essential component of the ecosystem, but collaboration and dialogue with other system stakeholders is required for the overall progression and sustainability of the ecosystem. Linkages between publically funded research organizations and industry may result in information and knowledge exchange that can inform the direction of research, allocation of investments, and the quality of innovation outcomes. By engaging with other actors, research institutions can enhance their effectiveness, relevance, and capacity for meaningful and sustained contribution.

GRC participants should encourage the cultivation of collaborative networks and meaningful dialogue between research organizations and other parts and actors of the ecosystem, and share best practices in terms of programs and instruments to promote this engagement.

Evaluating impact

To complement measures of research excellence, many organizations are increasingly measuring research impact and contributions to innovation – how ideas or discoveries contribute to solutions for business, policy makers, consumers and society as a whole. The methods used to judge success determine how research is monitored, evaluated, valued and funded, and how risk is perceived and acknowledged as part of the process. Great attention should be given to the respective time frames of research, industry and other societal spheres.

GRC participants should share research assessment and communication practices that incentivize engagement with the innovation ecosystem and appropriate risk-taking, and that are informed by and adapted to their national contexts.

Intra-regional cooperation

Connectivity and collaboration at a regional level enhances the relevance of research and output of the innovation system, recognizes regional challenges and values, and thereby strengthens the goals of the GRC worldwide.

GRC participants should seek opportunities to strengthen regional networks and collaborations, whilst also pursuing worldwide linkages and collaborations. Regional perspectives and lessons-learned should be shared globally.

Nurturing talent and enhancing skills development

Researchers and trainees who are internationally mobile, who work at the interface between disciplines, or who acquire work experience outside of academia, enlarge and strengthen the innovation system by facilitating knowledge transfer, diversity of viewpoints, cultural adaptation, and entrepreneurship.

GRC participants should seek to incentivize and provide opportunities for non-linear career paths and diversity of experiences by encouraging national and international mobility across the innovation system including in industry, government, non-governmental organizations, and corporate, non-government or academic think tanks.