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Singapore's salad days are over

Uncertainty has replaced confidence as economic reality bites science in the city-state and scientists find that their research funds now come with strings attached.

When Neal Copeland and Nancy Jenkins, a renowned husband-and-wife team of cancer geneticists, left the US National Cancer Institute in Bethesda, Maryland, for the Institute of Molecular and Cell Biology in Singapore in 2006, they joined a string of star names in the city-state that suggested its remarkable investment in research was paying off. Generous funds have flowed to science in Singapore for the best part of a decade, and researchers from around the world have followed. Drawn by hefty salaries and enviable working conditions, they have rapidly given Singapore an international presence. The Genome Institute of Singapore, for example, has asserted itself as one of the most important basic genomics research organizations in the world.

Best of all for scientists, despite Singapore's reputation for top-down autocracy, its investment in research came with relatively few strings attached. The administration realized that researchers prefer to have the freedom to follow their curiosity and that, to attract the best minds, they needed to loosen the reins. As a result, Singapore's biomedical infrastructure seems set to enter the next stage in its development, in which researchers looking for their next posts — especially the much-sought promising young researchers and postdoctoral students — are starting to consider Singapore, not only because of the large grants, but also because of its scientific reputation and intellectual ferment.

To many outsiders, the Singapore experiment seemed too good to be true — and perhaps it was. Singapore is not immune to the economic pressure mounting on research communities around the world, and policy-makers everywhere want returns on their investments. Rumours of purse-tightening measures have grown over the past year, but researchers in the city-state were still stunned by the news in September that almost one-third of the total research budget will be abruptly shifted to competitive 'industrial alignment funds'. Access to that funding will now depend on researchers' abilities to show that their work has industrial applications. The policy will affect all research but is aimed particularly at the biomedical sciences, which are senior figures feel are not pulling their weight.

Nobody should cry for Singapore's scientists, who don't expect sympathy. They have been living large and will continue, if they can prove themselves, to be paid generously. And having to write grant applications is not enslavement — it is the norm for most researchers around the world. The problem is not Singapore's shifting priorities, but how the government is implementing the change.

In response to a call for research proposals last month, Singapore's scientists have had to scramble to draft application-oriented proposals. They know that industrial contracts would help. But, given the shaky state of the global pharmaceutical industry, such contracts are not easy to come by. Many applications are going in with a weak note: "industrial partner to be decided". Singapore's scientists worry that, given only weeks or months to secure deals, they will be forced into unfavourable agreements. One researcher at Singapore's Agency for

Science, Technology and Research says that the policy is an attempt to turn the agency "into a contract-research organization overnight".

Researchers also worry that the government has not made clear how it will review the sudden influx of research applications. Singapore has used external review committees to audit its institutes in the past. But reviewing individual grants is a different and much more labour-intensive procedure if done properly. Will Singapore be forced to rely on a small number of bureaucrats and selected scientists for reviews? Frustrated by the changes, Copeland and Jenkins have decided to leave Singapore. Many other scientists there are also looking for new posts.

The government should move quickly to clarify the grant-review process. Easing the industrial-application restrictions would help scientists in the short term. More fundamentally, as researchers have suggested, the government could phase in the funding changes over the next few years, rather than introducing them all at once.

Singapore's rapid transformation came about through massive, perhaps even excessive, funding. The move to align scientific objectives with economic reality is understandable. But it would be a huge waste if doing so with undue haste and insufficient planning were to destroy Singapore's impressive experiment. ■

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Animal instinct

Germany must better explain the scientific use of animals to remain a major biomedical force.

Ten years ago, researchers using animals in Britain found themselves in a particularly hostile environment. A campaign of intimidation and violence by animal-rights extremists had spun out of control. The London-based lobby group Understanding Animal Research — a historic organization founded in 1908 — responded with a counter-campaign of its own that, in 2005, smoothed the introduction of laws giving the police increased powers to stop extremists from harassing scientists and from harming animal-research organizations.

Scientists in Germany have not yet experienced such a degree of violence, although the potential is there. In one incident in Munich, activists rented billboard space to display the name, home address and telephone number of a scientist whose research involved animals. In another, they distributed flyers describing a local researcher as a killer and torturer. Similar or worse incidents have occurred in other cities such as Bremen