

Correspondence

Argentine science in crisis again

Several board members of Argentina's National Council for Science and Technology (CONICET) issued an alarming document late last year on the financial crisis that is afflicting the central administration and its hundreds of research institutes. They offered a dark prognosis for the months to come.

Budget cuts over the past three years have severely curtailed the recruitment of researchers and technical staff. The repatriation of Argentinian researchers, international collaborations, academic contacts and conferences are all affected. Infrastructure and equipment in national laboratories, animal facilities and libraries are deteriorating. The result is an ageing and demoralized science community. Scientific research is starting to give ground to other national interests and goals.

The situation echoes that of 18 years ago, albeit with a different context and cast of characters, and again it threatens to quell the dynamism of Argentina's research community. **Ricardo A. Ojeda** *The Argentine Dryland Research Institute – CONICET, Mendoza Center for Science and Technology, Mendoza, Argentina.* rojeda@mendoza-conicet.gob.ar

Plough payouts back into research

David Hedding rightly questions South Africa's practice of financially rewarding researchers for their publications (*Nature* **565**, 267; 2019). To my knowledge, and to that of my colleagues at other tertiary institutions here in South Africa, these subsidies are put towards further research (see K. G. Tomaselli *S. Afr. J. Sci.* **114**, 4341; 2018). Using them for personal profit does indeed risk undermining our country's scientific reputation and should be stopped.

Some might argue that

personal reward helps to attract and retain researchers. I find that unlikely, because academic salaries in South Africa are second only to those in Canada (P. G. Altbach *et al.* in *Almanac of Higher Education* 89–99; NEA, 2013).

Punitive measures should be introduced for publication in predatory journals. Subsidies that scale according to journal rank (using the SCImago Journal & Country Rank indicator, for example) would also help to stem the flow of weak papers and those that 'salami-slice' research results. **Warwick Hastie** *University of KwaZulu-Natal, Westville, South Africa.* hastiew@ukzn.ac.za

Conservation: high impact, low funds

We work for three nature conservation charities. Our organizations are among the six UK institutions with the highest mean citation rates per published paper in the fields of environment and ecology over the past decade, according to the Web of Science's InCites Essential Science Indicators (see go.nature.com/2bnhj1n).

But over the past 5 years, those institutions received less than 0.025% of the UK Natural Environment Research Council's (NERC's) expenditure. NERC aims to support research that will have an impact on society (go.nature.com/2rfcjc9). We argue that research to underpin biodiversity conservation often has considerable societal impact, even when it doesn't always meet the NERC funding criteria of "originality" and of addressing "extremely important scientific questions".

Increasing the weight given to potential societal significance relative to scientific originality in allocating funding for conservation research proposals would seem to be justified, as would targeting funding through directed programmes specifically addressing

conservation issues.

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Promote human rights in science

As part of a drive by national academies worldwide to integrate human rights into their activities (see go.nature.com/2ttrvna), the Committee on Human Rights of the US National Academies of Sciences, Engineering, and Medicine now provides an online forum for the scientific community to become more involved with human rights (see go.nature.com/2wurosw).

This resource includes advice on lending expertise to human-rights projects, integrating human rights into teaching, highlighting the dangers of censorship and assisting colleagues under threat. On behalf of the committee, we invite *Nature*'s readers to use it, suggest additions to it and inform us of colleagues suffering human-rights abuses who might benefit from the advocacy offered by the committee.

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Find the switch for healthy lighting

In my view, developments in lighting technology call for a deeper insight than we have at present into how artificial light affects our physiology and behaviour (see K. M. Zielinska-Dabkowska *Nature* **553**, 274–276; 2018).

At the right (or wrong) time, light can suppress the production of melatonin, advance or delay

our internal clock, and affect how alert we are. These visual functions depend on a special class of cell in the human eye that responds to light signals independently of the rods and cones used for image perception. Known as intrinsically photosensitive retinal ganglion cells, they express a pigment called melanopsin that is sensitive to short-wavelength light.

The boost in the contribution of short-wavelength illumination at dawn and dusk relative to daylight seems to act as a crucial signal for circadian rhythms (M. Spitschan *et al.* *Sci. Rep.* **6**, 26756; 2016). It stimulates activity in mice during those times (L. Walmsley *et al.* *PLoS Biol.* **13**, e1002127; 2015). These and other facets of the complex circadian system need to be investigated if we are to design genuinely healthy artificial lighting.

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Maps of earthquake vulnerability

Marco Pagani is mistaken in claiming that the Global Earthquake Model's seismic-hazard map is "the first major global effort of its kind since 1999" (see *Nature* <http://doi.org/gfn5hr>; 2018). The United Nations Global Assessment Report's atlas 'Unveiling Global Disaster Risk', launched during the UN conference on International Strategy for Disaster Reduction in Cancun, Mexico, in May 2017, also assessed seismic hazards worldwide (see go.nature.com/2rn4v6a).

The UN Atlas covers 216 countries and territories, and uses a multi-hazard probabilistic approach (Global Risk Model) to assess hazards, including risk from earthquakes, for 2013, 2015 and 2017.

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