Correspondence

Don't dodge retraction of fraudulent papers

There is a major obstacle to correcting errors arising from research misconduct — namely, a university's potential conflict of interest in acting on the outcome of any investigation it instigates into an employee's alleged misconduct. When a prominent scientist is implicated, the university might be reluctant to take the necessary steps to correct the situation if doing so could threaten lucrative grant awards for research and overhead expenses.

I once served as an external expert in a misconduct case for a university. An individual, under pressure to produce particular results to support a predetermined outcome, simply fabricated data. The independent panel concluded that gross misconduct had occurred and strongly advised the university to retract the fraudulent papers.

Several years later, however, none of the bogus papers has been retracted. They are still collecting hundreds of citations, and related work continues to attract grants. The scientific record should not be compromised because of conflicting interests.

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Climate data need shared and open governance

We agree that climate-data accounting systems should be interconnected globally, but caution against putting such greenhouse-gas ledgers into corporate hands (see A. Luers *et al. Nature* **607**, 653–656; 2022). Corporately owned platforms would put climate data at risk of centralization and commercialization, creating another data monopoly for big tech.

Collaborative efforts are under way by several groups, including our own Climate Action Data 2.0. An open community of tech entrepreneurs, climate-data providers, researchers and non-profit organizations aims to create open and decentralized solutions for interoperable, digitally supported climate data. Existing and future climate data sets will be integrated as a 'digital commons'. This shared digital infrastructure and ownership will allow nations and other climate stakeholders to safeguard their data and data sovereignty.

Such an approach will ensure transparency regarding who is generating which emissions and whether actions to address them are effective. The global community can then hold everyone accountable for climate (in)action.

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The authors declare competing interests: see go.nature.com/3unjpey for details.

Russian theorists will benefit British physics

Sixty years ago, Soviet scientist Lev Landau (1908–68) won the Nobel Prize in Physics. This anniversary coincides with the London Institute for Mathematical Sciences' announcement of five Landau Research Fellowships. These have been created in Landau's honour to enable theoretical physicists and mathematicians from Russia to work with us in London.

At the Ukrainian Institute of Physics and Technology in the 1930s, Landau opposed pressure from the Soviet authorities to do research with military applications. During Joseph Stalin's Great Purge in 1936–38, Landau was one of only two Soviet citizens to denounce the leader in print. Threatened with 20 years in a *gulag* labour camp, he was released after a year as a result of intervention by physicist Peter Kapitsa. Kapitsa claimed that only Landau could solve the baffling problem of superfluidity — whereby liquefied helium at temperatures near absolute zero climbs out of its container, for example. He was right. Landau's theory of superfluidity won him the Nobel prize.

The freedom that scientific discovery needs to thrive is again under threat in Russia. Our fellowships, each lasting three years, offer an opportunity for researchers to relocate and for science in Britain to benefit. Fellows will work at the Royal Institution, where Michael Faraday pioneered the field of low-temperature physics in which Landau made his breakthrough.

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Close the gap in the US CHIPS and Science law

In August, US President Joe Biden authorized the investment of US$280 billion to boost the manufacture and research of semiconductors in the United States. The CHIPS and Science Act, where 'CHIPS' stands for 'creating helpful incentives to produce semiconductors' and 'Science' covers new applications of the research, is now law. I contend that a design-driven entrepreneurial approach will be necessary to implement and commercialize the science component.

New discoveries arising from use-inspired basic research on semiconductors are unlikely to directly advance technologies that could help society and the economy, such as artificial intelligence, quantum computing and genetic engineering (see go.nature.com/3rcev8z). It takes time and ingenuity to design and create things that people and organizations want to buy. Moreover, markets for new technologies are inherently uncertain and need entrepreneurial input.

If the United States wants further economic spin-offs from its investment, then it should create an accompanying innovation programme that brings in scientists, technically grounded designers and entrepreneurs. This would improve the potential of CHIPS to generate scientific and technological advances for innovation (for other examples, see J. Luo *Design Sci.* **1**, e2; 2015).

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