Correspondence

Reject US anti–China sentiment

Open societies have benefited immeasurably from an influx of international scientists. The rapid exchange of ideas and expertise depends upon such movement, as do innovation and economic growth. It is therefore extremely worrying to read reports of Chinese scientists in the United States being treated unfairly (see *Nature* **571**, 157; 2019).

About one-quarter of US National Academy of Sciences members and one-quarter of US Nobel prizewinners were born abroad — and many more are children of immigrants. Three of the past five presidents of the Royal Society in London came from overseas, myself included: I'm an Indian-born US and British national.

Appropriate immigration controls, national security, local laws and ethical norms must all be taken seriously. But 'innocent until proven guilty' is an axiom of law throughout the civilized world. Guilt should never be assumed on the basis of national origin or religious belief, or on a perceived association. Actions such as the internment of US citizens of Japanese descent during the Second World War or the blacklisting of actual or alleged communists during the McCarthy era are now considered shameful episodes in US history.

We scientists must stand up for openness and fairness. Discriminating against someone because of their ethnicity, turning down a collaboration or refusing a visa for a conference on the grounds of nationality, or simply making someone feel unwelcome because they are an immigrant — these are all morally objectionable and practically counterproductive. Such behaviour must cease.

V. Ramakrishnan MRC Laboratory of Molecular Biology, Cambridge, UK.
ramak@mrc-lmb.cam.ac.uk

Eukaryote origin: 2D or not 2D?

The intense debate over the origin of eukaryotes is being fuelled by the lipids in the cell membrane of an engineered bacterium (see *Nature* **569**, 322–324; 2019). These could be evidence for a 'two-domain' (2D) model, in which eukaryotes diverged from a subgroup of the archaea. But in our view, the lipids offer better support for the 'three-domain' (3D) model, in which the two groups of organisms share a common ancestor.

Bacteria and eukaryotes have a similar set of lipids in their membranes. Archaeal membranes contain a different set. In both the 2D and 3D scenarios, there could have been an intermediate organism with mixed lipids. This might have arisen either during the transition from archaea to eukaryotes (2D) or at the start of the archaeal lineage (3D).

John van der Oost and his colleagues present an argument that could favour the 3D scenario — namely that the engineered bacterium, which also contains archaeal membrane lipids, is more resistant to heat shock than normal bacteria are (A. Caforio *et al. Proc. Natl Acad. Sci. USA* **115**, 3704–3709; 2018). This might explain why archaeal lipids were selected when archaeal ancestors started colonizing hot springs. The 2D model requires archaeal lipids to have been replaced in eukaryotes by weaker bacterial lipids — which seems to us implausible.

Patrick Forterre, **Morgan Gaia**, **Violette Da Cunha** *Pasteur Institute, Paris, France.*
patrick.forterre@pasteur.fr

Boost science input into SDGs

Government heads will meet in September to review progress on the United Nations' 17 Sustainable Development Goals (SDGs) and set a course for the next four years. The latest predictions are that no single country will meet all of the goals by the 2030 deadline (see go.nature.com/2nmfsxf) and that "countries need to step up efforts and act fast" (*Nature Sustain.* **1**, 377; 2018).

Universities, businesses and science academies are rallying their communities to make the SDGs a reality. An InterAcademy Partnership report released in May calls for the global science community, particularly national academies, to support the goals more effectively and with greater urgency (see go.nature.com/2xqxq73).

The report, entitled 'Improving Scientific Input to Global Policymaking with a focus on the UN Sustainable Development Goals', highlights mechanisms for feeding science into the UN and ways in which scientists can get involved. These include helping to strengthen targets and indicators for the SDGs, plugging data gaps and monitoring progress. Understanding interactions between goals, as well as their impact on wide-ranging policy interventions, is crucial. The report also advises on concrete actions that the scientific community should take to ensure that the best evidence is brought to bear at national, regional and global levels.

Scientists in all countries, from all disciplines and across all generations must play their part.

Teresa Stoepler, **Tracey Elliott** *The InterAcademy Partnership, Washington DC, USA.*
Eva Alisic *The University of Melbourne, Australia.*
telliott@iapartnership.org

EU farmers need independent advice

Pollution from nutrients and pesticides, degradation of soils and loss of habitats and biodiversity are a function of developments in agricultural science, as well as of farmers' management decisions (see G. Schmidt-Traub *et al. Nature* **569**, 181–183; 2019).

Farming practices have been transformed over the past half-century by specialization and simplification (for instance, the division of livestock and cash-crop farming) and by agrotechnologies such as biotechnology, robotics and remote sensing. However, there has been no parallel development of farming-systems science to integrate the short- and long-term economic, environmental and social effects of these innovative technologies at local scales. In Germany, for example, most technical advice for farmers is provided by representatives of the agricultural supply chain, who can neither evaluate their recommendations in a whole-farm context, nor assess the rebound effects on the biosphere.

The world's broken food system needs innovations in farming-systems science — for example, in the ecology of crop and livestock farming, in the biogeochemistry of land use and in the ethics of livestock husbandry and rural sociology. The benefits of new practices need to be realized without adverse environmental consequences.

Hans Schnyder* *Technical University of Munich, Germany.*
**On behalf of 4 correspondents (see go.nature.com/3jqmiv for full list).*
schnyder@wzw.tum.de

CONTRIBUTIONS

Correspondence may be submitted to **correspondence@nature.com** after consulting the author guidelines and section policies at **go.nature.com/cmchno**.