

THIS WEEK

EDITORIALS

CONSERVATION China's red-line policies should help shape other nations' rules **p.457**

HALO EFFECT Vapour from water droplet helps creates triple halo **p.459**



SNAKEBITES Wellcome Trust invests in antivenom for poor nations **p.461**

What Europe is doing right

The European Union's research programmes encourage scientists to collaborate across borders and offer lessons for the rest of the world.

This week, the European Union is holding parliamentary elections — as it does every five years — and researchers are paying close attention. With the United Kingdom still scheduled to leave the bloc, and with populist and nationalist sentiment growing in many nations, there's a sense that the integration on which the EU has thrived for decades might be on the wane. Last month, the European Geosciences Union held a special session at its general assembly in Vienna to air concerns on the topic, and issued a declaration that “threats to a united Europe are threats to scientific research”.

It's right. The value of an integrated EU for science hasn't been lauded enough. The unique economic and political union built from the rubble of Europe after the Second World War has created an increasingly peaceful and prosperous continent, and has spun a precious web of research collaborations among its member states and beyond. No other group of countries collaborates at such a scale. That's why, in a special issue this week, *Nature* is looking beyond Brexit to the future of research in Europe (see go.nature.com/europe).

Convinced that research is the bedrock of economic and social progress, EU member states have committed an increasingly larger share of their central budget to it. The EU's framework programme for research and innovation has grown from 4% of its annual budget a decade ago to 8% now, and totals €74.8 billion (US\$83.5 billion) for 2014–20 alone. The programme has set up the highly competitive European Research Council (ERC) and has incorporated a widely admired system of cross-border research projects and training fellowships, enabled by the close harmony of the EU's single market. The research programmes have been powerful forces for European integration.

The EU earmarks extra funds — €44 billion — to help poorer nations to build up their research infrastructure; these funds have been particularly valuable to the formerly communist Eastern European nations that have joined the bloc since 2004. This geographic diversity breeds stronger research. And EU member states, recognizing that they are more powerful together than apart, have crafted world-leading policies on environmental standards — including climate change, chemical regulation and plastics pollution. They are also setting new, exemplary standards for data protection and open science.

So what does the future hold? Although Europe's relative share of global science and research spending is shrinking (as China's expands), its research remains highly cited and influential (see page 470). One possible cloud is growing inequality in European science: since the global financial crisis of 2008, countries such as Spain haven't recovered their former levels of research spending and number of scientists. Some of the newer EU member states seem unwilling to make large domestic investments in research, which could put them at risk of falling further behind.

The EU is now planning its next budget and big framework programme, called Horizon Europe (see page 472), set to run from 2021 to 2027 — which a new parliament and commission will continue hammering out later this year (see page 479). Concerns that this

parliament might be less research friendly should be tempered: some parliamentarians have been much more committed than national science ministers in EU member states to the task of supporting European science. And although the increased desire for innovation and translation in Horizon Europe is laudable, it must remain grounded. There is no innovation without fundamental research, and so the parties involved in budget negotiation should give a more generous increase to the ERC.

“The value of an integrated EU for science hasn't been lauded enough.”

It is clear which lessons the new parliament — and others interested in furthering global research — should take from EU history. Rigorous research requires collaboration, long-term planning and stability, and holding fast to those strengths against populism, nationalism or any other forces that threaten to drive countries apart. The future parliament should champion this — and individual researchers can, too. They should simply tell others how the EU is fundamental to their work. ■

Essay competition

Nature launches a contest to find the most inspiring ideas about the research of the future.

This year, *Nature* turns 150 years old. To mark this occasion, we are celebrating our past but also looking to the future.

We would like to hear from you. *Nature* is launching an essay competition for readers aged 18 to 25. We invite you to tell us, in an essay of no more than 1,000 words, what scientific advance, big or small, you would most like to see in your lifetime, and why it matters to you. We want to feature the inspiring voices and ideas of the next generation.

The deadline for completed essays is midnight, UK time, on 9 August 2019. The winner will have their essay published in our 150th anniversary issue on 7 November, and receive a cash prize (£500 or equivalent) as well as a year's personal subscription to the journal. For further information and to submit, visit go.nature.com/30y5jkz.

We are looking for essays that are well reasoned, well researched, forward-looking, supported by existing science, and leave room for personal perspective and anecdotes that show us who you are. We encourage you to entertain as well as to inform; we are not looking for academic papers, an academic writing style or science fiction. Submitted essays will be judged by a panel of editors, including *Nature's* editor-in-chief Magdalena Skipper, physicist Jess Wade at Imperial College London, and immunologist Faith Osier from the KEMRI–Wellcome Trust Research Programme, Kilifi, Kenya.

E-mail any questions to essaycompetition@nature.com. We look forward to reading your imaginative and thought-provoking essays. ■