



African Americans, such as this woman with lymphoma (left), are under-represented in genetic studies.

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Africa their ancestors called home.

That is a mistake, oncologist Olufunmilayo Olopade of the University of Chicago in Illinois told the AACR meeting. “Africa is a huge continent and you can’t just reduce it to one

monolithic population,” said Olopade, who presented her work on African Americans in Chicago and Africans in Nigeria.

Mindful of such concerns, Fejerman has expanded her genetic studies of breast cancer

to include Latinas outside the United States. She is putting together a consortium of researchers to study the disease in California and Latin American countries such as Peru. “It’s great for us and for the Latinas in the US because we are learning about a genome that they share,” she says. “But we are also giving something to the populations in Latin America that don’t have the resources.”

Despite such efforts, she worries that the cancer data gap will continue to widen. That would leave under-represented populations at a disadvantage as researchers pursue precision medicine, in which treatments are tailored to a person’s genome and physiology. “The problem is that [Latinas] are so behind, so low in terms of numbers compared to women of European ancestry, that it’s going to take a long time and a lot of money to make it equal,” Fejerman says.

And with a problem as multifaceted as health-care disparities, there are inevitable debates about where funding and efforts should be focused. Candace Henley, a patient advocate in Chicago, finds preliminary genetic studies of minority groups frustrating. Why spend so much time and money digging through genomes when society has yet to address known causes such as discrimination and access to health care, she asks. “If these issues are not addressed, they will continue to cause disparities,” says Henley. “We still have a long way to go.” ■

FUNDING

Brazil freezes science spending

Move to put nearly half of the science ministry’s budget on ice could derail major projects.

BY CLAUDIO ANGELO

Researchers in Brazil are up in arms after President Jair Bolsonaro’s government announced late last month that it had frozen 42% of the budget for the country’s science and communications ministry (MCTIC).

The decision is especially painful because the science ministry is already struggling with a budget that is one of its lowest in 14 years. Brazil’s congress approved 5.1 billion reais (US\$1.45 billion) for the MCTIC in 2019; the freeze, announced on 29 March, leaves the ministry with just 2.9 billion reais for the rest of the year.

Unless government officials release some of the funds, agencies within the MCTIC, such as the National Council for Scientific and Technological Development (CNPq) — Brazil’s main research-funding agency — could run out of cash as early as July.

The freeze will cripple Brazil’s scientific and technological development if the government

does not reverse it, said the Brazilian Science Academy and five other scientific societies in a statement on 1 April. “It will take many decades to rebuild the country’s science and innovation capacity.” The government tried to slash the MCTIC’s budget by 44% in 2017, but it restored some of the money later that year.

It is not yet clear how the current freeze will affect the MCTIC’s agencies and 16 federal research institutes. But the government did announce a nearly 80% funding freeze on 29 March for the ministry’s spending on infrastructure — including its new Sirius synchrotron facility in Campinas, which physicists hope to use to study the structure of matter. Scientists are on edge, fearing delayed projects, wasted research efforts and a brain drain.

Workers managed to complete construction of the Sirius synchrotron’s main building and two of its three accelerators last year, and researchers were planning to start experiments later this year, says Antonio Roque da Silva, the

project’s director. The facility will cost Brazil 1.8 billion reais over 8 years, making it the country’s most expensive science project ever.

Officials have scrambled to keep the state-of-the-art facility afloat since Brazil’s science-funding slump started in 2014. But they’ve received only half of the 255 million reais needed to run the facility this year. “Even during serious restriction periods, we managed to keep construction going,” Roque says. “But we never had our budget cut by half before.”

What worries Roque the most is losing personnel. “I have people constantly being offered positions in labs abroad,” he says. “Losing them is the biggest risk to the project.”

Ronald Shellard, director of the Brazilian Center for Research in Physics (CBPF) in Rio de Janeiro, fears for Brazil’s ability to honour international commitments. The CBPF is part of 20 international science collaborations, including the Large Hadron Collider near Geneva, Switzerland, and the Pierre Auger ►



Brazil's Sirius synchrotron facility was supposed to start experiments later this year.

► Observatory, a cosmic-ray observatory in Malargüe, Argentina.

Brazil's main federal science-funding agency was already in trouble before the latest budget freeze. Congress had slashed the CNPq's scholarship budget for undergraduate and graduate students, which funds 80,000 awards, from 959 million reais in 2018 to 785 million reais in 2019. The CNPq started this year 300 million reais in debt. If things remain as they are, the

money for scholarships will last only until the end of September, says the agency's president, João Filgueiras de Azevedo.

Even if the CNPq could meet its scholarship commitments, "there's no money for research grants", says Luiz Davidovich, president of the Brazilian Science Academy in Rio de Janeiro.

Davidovich worries about the impact of Brazil's ongoing funding crisis on young researchers. "Our best and brightest are leaving the

country," he says. He's been getting an increasing number of requests for letters of recommendation from graduate students and researchers who are planning to move abroad.

A constitutional amendment limits growth in government spending to what is needed to keep up with inflation. So a return to pre-2014 budget levels — before the MCTIC's funding started its free fall — is unlikely.

Bolsonaro, Brazil's far-right president who took office in January, has pledged to increase spending on research and development from 1% to 3% of the country's gross domestic product. He has also appointed Brazil's only astronaut, Marcos Pontes, as his science minister. But Bolsonaro's economy minister, Paulo Guedes, is pushing to shrink the size of Brazil's government to boost the economy.

This means that a situation that looks bad now could get worse, says Davidovich. "At the bottom of the well, there may be a trapdoor." ■

SEBASTIAO MOREIRA/EPA-EFE/SHUTTERSTOCK

CORRECTION

The News Feature 'Cops and loggers' (*Nature* **568**, 19–21; 2019) gave the wrong location for the Environmental Investigation Agency. It should have referred to the organization in Washington DC, not in London.

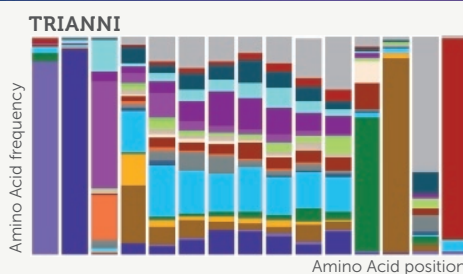
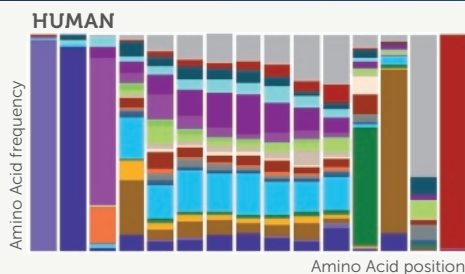
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