

► through a restructuring of Colombia's science agency, the 50-year-old Colciencias, which has been subject to budget cuts in recent years. Funding decreased from US\$135 million in 2013 to \$106 million in 2018.

The ministry's creation follows a 2016 treaty between the government and the left-wing guerrilla group known as the Revolutionary Armed Forces of Colombia (FARC) that ended 50 years of civil conflict in Colombia. A top government priority has been to open up highly biodiverse regions — once inaccessible because of guerrilla control — to scientists and economic development.

Colombia currently invests only 0.24% of its gross domestic product (GDP) in research and development (R&D), according to figures from the United Nations Educational, Scientific and Cultural Organization. That increases to 0.67% if building and other infrastructure costs are included, says Fanor Mondragon, a chemist and member of the Colombian Academy of Science, based in Medellin.

Duque has pledged to increase R&D spending to 1.5% of GDP by 2022, following a failed commitment to a similar investment by former president Juan Manuel Santos in 2015. Of the other countries in the region, Brazil (1.17% of GDP), Argentina (0.59%) and Mexico (0.53%) invest the most in R&D.

#### OUTSOURCING

Mondragon says that Colombian industries currently outsource most of their R&D, and that the country needs institutes of applied sciences to bring resources and talent back to Colombia.

"We need to deliver both applied and basic research," Mondragon says. "Putting money into Colciencias isn't enough, because we do not have a science and technology system to promote the research we need in Colombia."

Colombians generally have a favourable view of science, says Ximena Serrano Gil, president of the Colombian Association of Scientific Journalism in Bogota. But they don't see it as being a priority or integral to their daily lives, she adds. Colciencias conducted a survey of Colombian students last year and found that half of them weren't interested in science.

Serrano Gil hopes that the creation of the ministry will promote the democratization of knowledge through public policy and the participation of researchers and journalists.

The ministry's leadership is also crucial, says Mondragon. "It is important the minister has a knowledge-based vision for the development of the country."

Iván Darío Agudelo, the Colombian senator who championed the science ministry's formation, says Duque will pick the new minister during the 12-month transformation of Colciencias. Agudelo hopes the president will choose someone in the mould of neuroscientist Andrés Couve Correa, the inaugural head of Chile's Ministry of Science and Technology.

"We need to have a minister with a scientific aptitude and a political attitude," Agudelo says. ■



Protesters in Kolkata hold signs condemning unscientific claims made at a major science conference.

INDIA

## Protesters decry anti-science talks

*For the second time in four years, a major meeting has been used as a platform for outlandish beliefs.*

BY T. V. PADMA

Indian scientists have criticized two speakers at a major conference for making bizarre, unscientific claims, including that ancient Hindus invented stem-cell science. Groups of researchers held protests in Bengaluru, Kochi, Kolkata and Thiruvananthapuram on 6 January, calling for an end to presentations at the Indian Science Congress that promote unscientific personal beliefs.

"Any theory based on personal beliefs and not verified by science should not have any place in a science congress," says physicist Soumitro Banerjee, general secretary of the non-profit Breakthrough Science Society in Kolkata, which promotes science and organized the protests.

In response to the outcry, congress organizers say that, from next year, they will require speakers to submit abstracts of their talks. "We will also ensure moderators for all sessions who can ensure that the content is scientific," says biochemist Premendu Mathur, general secretary of the Indian Science Congress Association in Kolkata.

The congress, the country's largest annual gathering of scientists, was held in Jalandhar

from 3 to 7 January this year. It is the second time in four years that the conference has been condemned for giving a platform to people promoting unscientific ideas: in 2015, a speaker claimed that ancient Indians were the first to build aeroplanes.

During a talk on 4 January, chemist Gollapalli Nageswara Rao, vice-chancellor of Andhra University in Visakhapatnam, cited an ancient Indian poem, the Mahabharata, as proof that knowledge of *in vitro* fertilization and stem cells existed in India thousands of years ago. Rao did not respond to *Nature's* questions about the incident.

Krishnaswamy VijayRaghavan, principal scientific adviser to the Indian government, wrote in a blogpost that it is unfortunate that a vice-chancellor of a university says something that is "scientifically completely untenable".

Another speaker contested Albert Einstein's theories of relativity and Isaac Newton's theories of gravity during the children's section of the science congress. ■