



HIGHER EDUCATION

Turmoil imperils research university in Andes

Budget cuts and firings threaten Ecuador's plans for an academic powerhouse

By **Emiliano Rodríguez Mega**

Paola Ayala knew it was a gamble to dial down her physics research at the University of Vienna in May 2015 and spend most of her time at Yachay Tech University, a nascent institution in rural northern Ecuador backed with an estimated \$1 billion in government funding. But the allure of the grand experiment to create a world-class research university in the Andes was overpowering. Ayala, the first Ecuadorian woman to get a Ph.D. in physics, was eager to return home as the new dean of physical sciences and nanotechnology. “I wanted to help change my country,” she says.

Ayala's run in Ecuador didn't last long. Last month, Yachay Tech fired her and five other scientists in leadership positions, including Chancellor Catherine Rigsby, a geologist recruited from East Carolina University in Greenville, North Carolina. Ecuador's struggling economy may have played some role; the university in a 22 June statement said that the terminations were part of an austerity plan meant to trim \$2 million in expenses. But the ousted academics say they are victims of shifting national priorities and a personality conflict with Yachay Tech's new rector, the university's top position.

The acrimonious dispute comes at what everybody involved agrees is a moment of truth for Yachay Tech. Ecuador's former president, Rafael Correa, launched the institution in 2013 as part of a bid to transform

the nation's economy from one reliant on exports of oil and other commodities to one that generates its own innovations. The government began erecting a sprawling campus in Yachay, a new science city 3 hours north of Quito, Ecuador's capital, in Urcuquí province, and the nascent venture wooed overseas faculty with competitive salaries.

Since then, oil prices have plummeted and Ecuador's new government, which came to power in May, does not appear to share Correa's vision for Yachay, which means “knowledge” in Kichwa, the local language. Tensions rose in recent months as Yachay Tech's rector, Carlos Castillo-Chavez, derided the university's overall research output. Faculty members pushed back, charging that ad-

ministrators failed to live up to promises of support for their work. Laboratories are still works in progress, and scientists say they lack equipment and materials. Ayala and others accuse Castillo-Chavez of steering the institution away from its original concept of a research powerhouse and toward a more typical university that emphasizes teaching.

Castillo-Chavez, a prominent Mexico-born mathematical biologist who retains a position at Arizona State University in Tempe, expressed his disillusionment with Yachay Tech days after arriving on the campus last May. Despite “tremendous working conditions for the faculty,” he wrote in a 4 June email to Ayala and other senior scientists that *Science* obtained, he had found “limited productivity and almost zero efforts to bring [in] extramural funding.” Most of Yachay Tech's professors are overpaid and would “not be hired at most research universities in the USA,” he asserted. “This is not the environment that I expected.”

Yachay Tech, he further wrote, must “embrace the national educational policies, which demand access, more students, reduced costs, and institutional collaboration.” In its statement on the firings, the university also noted plans to boost enrollment to 5000, a fivefold increase, over the next 4 years.

“We went from feeling like we were at the top of the world to complete despair,” says Paul Baker, who was Yachay Tech's geology dean until he was fired last month. (He has since returned to his previous institution,



Yachay Tech Rector Carlos Castillo-Chavez.

Yachay Tech plans to shift focus from research to education and greatly expand student enrollment.

Duke University in Durham, North Carolina.) In a 20 June email to Castillo-Chavez, Ayala wrote she was “ready to tighten the budget.” And she challenged him to “be that person we were waiting for [for] months. The leader who can take care of the politics.”

But the administration’s plans were already in motion. On 20 June, Yachay Tech dismissed Ayala, Baker, and four colleagues. In later media reports, Castillo-Chavez criticized the dismissed researchers for not teaching (Baker and others say they were never asked to teach) and for excessive travel. (They say Castillo-Chavez had approved their travel.) After Baker questioned the qualifications of his successor as dean, Castillo-Chavez emailed Duke Provost Sally Kornbluth a message that Baker saw as a threat to his visa. “We are in the process of reporting his behavior to the appropriate immigration authorities of Ecuador,” the rector wrote.

Castillo-Chavez did not respond to emails from *Science*, and a Yachay Tech spokesperson stated that the rector would not comment for this story. But in a 27 June report in Ecuador’s *El Telégrafo* newspaper, Castillo-Chavez said that to save money, junior professors at Yachay Tech would serve as temporary deans for 1 to 3 years. The austerity plan, he told *El Telégrafo*, would not include a reduction of his own Yachay Tech income—\$18,126 per month, or triple former President Correa’s government salary in 2015—because his “family needs” required his full salary. He is also continuing to work half time as a regents professor at Arizona State and co-director of the Simon A. Levin Mathematical, Computational and Modeling Sciences Center, for which he is drawing a salary of \$122,069 a year.

Yachay Tech’s turmoil has not subsided. “For me, all hope is lost. Academic freedom no longer exists at Yachay Tech,” one professor told *Science*. “I am finding my fastest way to move on and leave this broken institution.”

If Yachay Tech unravels, some fear that science in Ecuador will suffer a severe setback. “The way that we were treated was abhorrent, but all that is eclipsed by the missed opportunities of a whole country,” says Vladimiro Mujica, former dean of chemistry and engineering who was also fired last month. Ayala, who has returned to Vienna, adds: “We will have to wait at least 100 years until someone else risks investing in a similar project, once people have forgotten about all of this mess.” ■

Emiliano Rodríguez Mega is a science journalist in Mexico City.

FUNDING

Head of France’s main funding body resigns amid acrimony

Cash-strapped National Research Agency was torn by clashes between scientists and administrators

By Elisabeth Pain

The head of France’s National Research Agency (ANR), the country’s main science funding body, suddenly stepped down last week after more than a year of power struggles within the agency, which had led to the dismissal of staff scientists and resignations by members of evaluation panels. Michael Matlosz, a U.S.-born chemical engineer who headed ANR since 2014, handed in his letter of resignation on 18 July, according to a statement from France’s research ministry, which oversees ANR.

The statement offered little explanation but said Matlosz agreed that ANR needed “a new impetus.” Matlosz, who did not respond to questions from *Science*, has now been asked to write a report on public funding mechanisms in France.

ANR was created in 2005 to fund competitive projects in all scientific disciplines, in a break with the French tradition of supporting research through core funding to institutions. Its budget has fluctuated somewhat but is about €670 million this year—a very modest amount compared with what funders in other European countries spend. ANR’s low success rate for applicants, now 12.5%, has caused frustration among researchers. Meanwhile, the agency has had several internal crises.

In March 2016, ANR dismissed the head of its social sciences and humanities department, François Héran, who reportedly led a group of scientific department directors that wanted a bigger role in the agency’s decisions. Three months later, the entire 20-member evaluation panel for mathematics and informatics resigned to protest “the confiscation of scientific choices by an entirely administrative management process.”

Last month, ANR also dismissed Catherine Dargemont, the department director for biology and health programs. In a letter to ANR’s governing board,

Dargemont had complained that agency administrators were bypassing scientific expertise in evaluation procedures. Around the same time, the panel for cellular and developmental biology wrote Matlosz a letter charging that rules were “unclear, illogical, and sometimes contradictory” and were taking ANR evaluation procedures “away from international standards.”

The letter described cumbersome and time-consuming procedures for recruiting external reviewers and vague criteria for funding young researchers. It also criticized a measure introduced this year that gives applicants a chance to see external reviews before evaluation panels rank proposals. According to ANR’s website, the measure aimed to let applicants “inform the panel of a potential error” ahead of the ranking. But the policy created confusion and raised false hopes among applicants, says the panel’s chair, Bernard Hoflack of Technical University Dresden in Germany. “We were

“We were quite discontented about the way evaluations were conducted.”

Bernard Hoflack, Technical University Dresden

quite discontented about the way evaluations were conducted,” Hoflack says. Matlosz’s departure “is very good news and will open, I hope, a new era in the functioning of this agency,” says Patrick Lemaire, a developmental biologist at the Cell Biology Research Center of Montpellier in France and a co-founder of Sciences en Marche, a grassroots association of scientists. (The group is not affiliated with the party of French President Emmanuel Macron, La République En Marche!)

Researchers who were hoping that Macron’s election would alleviate the budgetary woes at ANR have so far been disappointed, however. During his campaign, Macron had promised to boost R&D spending from 2.24% to 3% of gross domestic product. But earlier this month, his government announced plans to reduce the higher education and research budget by €331 million as part of sweeping national cuts. Many scientists worry that could mean more hardship ahead for ANR. ■

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