

## ARGENTINA

# Economic Crash Brings Ill Winds for Science

In the wake of their country's financial meltdown, Argentinean scientists are finding it harder and harder to keep their labs afloat

**BUENOS AIRES**—On a warm summer day, biochemists bustle about in air-conditioned rooms crowded with protein sequencers and centrifuges at the University of Buenos Aires (UBA). The scene, not unlike that in any well-funded biology lab elsewhere in the world, seems far removed from the smashed bank windows and government offices marred with graffiti in central Buenos Aires. But this vision of normalcy may not last much longer. The funds that sustain this group's work are dwindling with Argentina's falling peso. "We are asymptotically going to zero," says UBA biochemist Juan Paul Rossi.

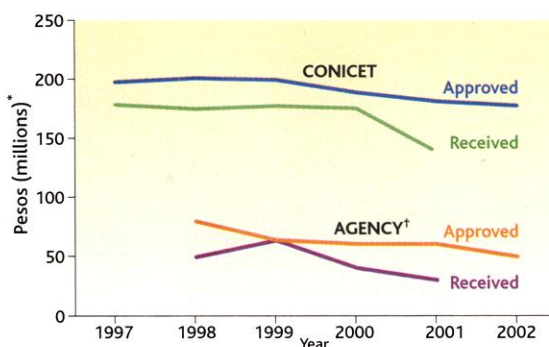
He's not the only Argentinean scientist starting into the abyss. "I've been in this business more than 35 years, and this is the worst," says biochemist Eduardo Charreau, the new director of the Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina's main science funding agency. A severe belt tightening is squeezing grants and salaries and scotching bigger efforts as well: Last month, the government aborted a new grants program aimed to lure young Argentinean investigators back from abroad. Even worse, Argentina is bracing for a brain drain that could turn back the clock on its scientific development. "It takes years and a lot of effort and luck to build successful labs and centers, which could be dismantled in a few months," says UBA ecologist Osvaldo Sala. "It will take a long time to reverse."

Science budgets had already suffered during the last 4 years of recession, but they went even further south when Argentina partially defaulted on its debt and was forced to allow the peso to trade freely in currency markets in January. The peso has lost more than 70% of its value since then. And although CONICET, which pays salaries and stipends, and "the Agency"—the Agencia Nacional de Promoción Científica y Tecnológica, which funds research grants—received level funding in the 2002 budget (177 million pesos and 42 million pesos respectively), they likely won't get the full

amount from the Treasury (see graph). The Agency has already suspended this year's grants competition for at least 3 months.

The devaluation and budget squeeze are a vicious one-two punch. "My salary was \$3000 [per month] a year ago, and now it's \$645," says UBA physicist Oscar Martínez. Even researchers with international grants lost money if their funds were not sitting in foreign accounts when the crisis hit.

Because of government-imposed limits on withdrawing money from banks and buying imports, most labs, like UBA's, have had to raid cash and supply reserves to continue op-



\* Peso-dollar exchange rate was 1:1 until January 2002. In mid-March, it was 3:1.  
† Agency figure includes some Secretary of S&T activities.



**Falling fast.** As Argentinean science budgets slide and purchasing power plummets with the peso's exchange rate, researchers such as those at the biochemistry department at the University of Buenos Aires are bracing for an inevitable slowdown.

erating normally, says Sala. In the longer term, Sala hopes that his international grants will keep his group afloat.

Others aren't so fortunate. Rossi and his colleagues at the Faculty of Medicine, who have only CONICET, UBA, and Agency grants, are now frantically applying to foreign funding sources such as the Wellcome Trust, a British charity. UBA's José María Delfino says he has shelved plans to replace his lab's creaky 30-year-old spectropolarimeter. Journal renewals and meetings fees are looming nightmares.

Heightening the anxiety for some scientists are the new government's plans to merge CONICET with the Agency, created 5 years ago in part to fund peer-reviewed research. Although CONICET had a modest grants program, the Agency plied 20 times more grant money into science, says physicist Mario Mariscotti, its first director. Moreover, the grants are much larger: up to 50,000 pesos, compared to 5000 for CONICET. Equally important, the Agency introduced to Argentina rigorous peer review using international reviewers. CONICET's review system is flawed, many scientists claim, because high-level CONICET scientists do the final sorting and tend to steer grants toward their own institutes. The Agency's system, coupled with heftier grants, helped non-CONICET scientists build labs.

Charreau insists that the plan to merge the two agencies would "combine the best of both systems." That could include divvying up funds into much smaller grants than those dispersed by the Agency.

In another sign of retrenchment, the Secretary of Science and Technology, engineer Julio Luna, last month canceled a fellowship program for scientists under 40, saying that the last administration didn't allocate money for it. Of over 400 applicants, most living abroad, 70 winners were told last fall they would receive 3-year stipends of 30,000 pesos (then worth \$30,000). "I had spent 2 years trying to come back," says one recipient, virologist Andrea Gamarnik. Despite the setback, she recently returned to UBA from the University of California, San Francisco, with other support. Luna has promised that the would-be grantees will be given smaller CONICET grants.

The program's cancellation has fueled fears that the crisis is exacerbating Argentina's inability to retain talent. Although there are no hard data, scientists point to a surge in requests for sabbaticals and letters of recommendation for posts abroad.

"It's not [just] the number. It's that it's the best ones" who are leaving, says biochemist Armando Parodi of the Institute for Biotechnology Research at the University of San Martín.

Few see a clear path to recovery for the scientific community. Charreau thinks Argentina could follow the example of Brazil, which recently began taxing companies to fund research as a way to build its economy (*Science*, 2 March 2001, p. 1685). But creating new programs may be unrealistic. For now, Charreau says, "we have to try to avoid the scientific base disappearing."

—JOCELYN KAISER

CREDITS: (TOP TO BOTTOM) SOURCE: CONICET AND THE AGENCY; J. P. ROSSI/QUIFIB