Greek science: hope in crisis

Although the Greek debt crisis is taking a toll on research in the country, it is also forcing scientists and doctors to be more creative and collaborative in their work. Jasmine Malone reports.

See Correspondence page 337

To say Greece has been in turmoil over the past few years is an understatement. The latest elections on June 17 brought some much needed stability, albeit in the form of a very weak coalition. The new government has promised to try to negotiate a better austerity deal with Europe, in an effort to ease the strain on Greek voters, but it will not be an easy feat, as pressure increases from Europe for the country to meet most of its agreed bailout conditions, including severe cuts to public spending.

Alongside from the Armageddon-like atmosphere of tumultuous elections, speculation over Greece leaving the eurozone, the controversial return of fascist party members to Greek Parliament, and the intense world media spotlight bearing down on the country and scrutinising its every political move, for most Greek scientists and clinicians, it is business as usual.

Enduring ongoing cuts in salaries, research and development grant freezes, pauses on recruitment, and with more austerity to come (panel), the country's universities and research institutions continue to work on maintaining their hard-won place on the international science spectrum.

"Things are difficult, but we do what we can", says Eleftheria Rosmaraki, an immunology lecturer at the University of Patras, western Greece. "Funding was not sufficient to begin with, so we are quite used to this situation."

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Figures show that even before the crisis, the Greek Government was one of the countries that spent the smallest percentage of their gross domestic product (GDP) on research and development in Europe, spending at most just 0·60% of GDP in 2007—comparatively, the UK spent 1·78% and Finland, the highest spender, 3·47% in the same year.

Cuts in the public sector as a result of the government's ongoing austerity drive have had a marked effect, though. "Governmental funding as well as salaries have both severely decreased", says Irini Margiolaki, a lecturer at the Department of Biology at the University of Patras and visiting scientist at the European Synchrotron Radiation Facility in Grenoble, France.

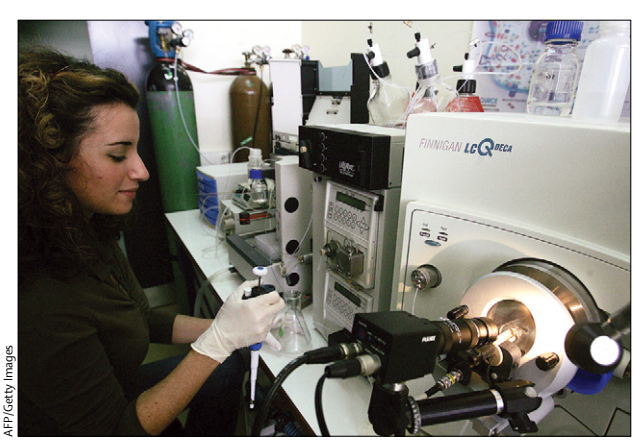
"We used to receive a small grant for our lab", adds Rosmaraki, "This has also been cut by about 50%." The government research grant Rosmaraki refers to is around €1500 per year and is meant to cover laboratory costs and sundry materials. Researchers and lecturers receive a further €200 towards each student they have to cater for, to cover their study and material costs. This leaves little room for research experiments—for an immunologist like Rosmaraki, there is hardly anything left for antibodies and cell culture materials, with antibodies commanding as much as €400 each.

Staff regularly use their own funds to cover unexpected costs and any extras, such as travel to large scale facilities and international conference attendance. However, salary cuts have made this a lot harder to maintain. "We understand that we have to take a pay cut for the good of the country and the majority of us are happy to do so", says Rosmaraki. "We actually consider ourselves well paid compared to other Greeks and are quite grateful, even if our salaries no longer reflect our qualifications on a European standard. However, ongoing cuts are making it increasingly difficult to self-fund research."

The Greek Government used to offer competitions for research grants, but none have been held in the past 5 years. "Individual efforts to obtain the necessary funds for our research is the common practice", explains Margiolaki. "Collaboration between departments and universities is essential, and funding from industry is also highly desirable these days."

Although Greek scientists have done really well in obtaining funds from European schemes such as the Framework programmes—where Greek scientists are second in the amount of funds allocated per scientist in Europe—the funds gained from European grants are usually only enough to cover post-graduate student salaries and some materials.

For every grant allocated through the European Framework scheme, the Greek Government is committed to matching 15% of the grant's value. Unsurprisingly, this has been impossible since the crisis began, and many projects have come to a



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Some government scientists have used their personal funds to cover research costs

standstill or have found themselves in debt until the government can afford to pay their share.

"There will not be a problem funding research and technology," assures General Secretary for Research and Technology at the Minstry of Education, Kostas Kokkinoplitis. "We will be able to secure work and pay for 5000 researchers for 3 years. As the European grant allocation has already reached Greece and the second lot of funding is due to start in 2014, we have the opportunity—if our government funds are ready in time—to fund research for many years without financial difficulty."

For those relying predominantly on external money, low confidence in Greece's future and worries about political instability have had an effect on external grant allocation. "Competition is stiff", says Rosmaraki. "Unfortunately, our reputation as a country precedes us, and often when our grants are unsuccessful we suspect it is because a lab in a Greek university might not be seen as a reliable investment."

And with further austerity yet to be imposed, optimism about future funding is guarded. "The government insists that no further cuts will be performed that affect the research and education sector", says Margiolaki. "But I think everyone expects the situation to become even more severe."

Amid a lot of uncertainty, new projects are increasingly relied on to provide hope for the future. Such a project is the biomedical research centre Bioacademy in Athens, which opened in 2004 and brought an injection of €16 million in grant investment and around 400 new hires, showing that all is not lost in a country that prides itself on pursuing scientific achievement against the odds. "The crisis has pushed us to think across parochial entities and collaborate more with each other", says Dimitrios Boumpas, a leading immunologist who is heading up the rheumatology research department at Bioacademy.

"There is a lot of talent, and a lot of creativity here. What has changed with the crisis and lack of funds is that where, previously, the scientific talent in Greece stemmed from a few brilliant individual efforts, we now have to collaborate more and be more creative with how we work and use our resources. We are learning how to work better as a team", he adds.

Despite Greece's ongoing health-care crisis—with facilities fast running out of supplies and experiencing staff shortages or closure—clinical research funding is providing a much-needed income to Greece's overstretched hospitals. However, it is a difficult balance. "We have increasingly less time to organise trials and trial patients", says Boumpas. "Some grants coming from Europe, which give the hospital a much needed income, need a lot of time for administration, to fill out [forms], and to meet the criteria. This leaves less time for patients and treatment, but we do it as we are aware of a need for balance."

A crucial change towards a more sustainable research infrastructure was brought forward when the Greek Government passed a law changing the governing structure of universities. Amid the political turmoil of the past 12 months, the influence of this change is yet to be felt, but scientists feel it is essential that policy makers do not underestimate the Greek research community's ability to contribute towards financial recovery and future development.

"The problem that has come to the forefront during this financial crisis, is a cultural one", explains Boumpas, who has long campaigned to bring back Greek researchers from abroad. "Our country has struggled with the idea that in order to be competitive with the rest of Europe we will have to dedicate ourselves to the pursuit of excellence—a motto which is ingrained in science and research."

"Scientific research and education embody these European values, and, therefore, it stands that for us to be competitive amongst our peers, our country and our citizens will have to give the pursuit of science the priority it deserves."

Ultimately, scientific and clinical research in Greece is of a higher standard than expected, considering the limited resources. Lack of adequate financing is not a foreign feeling to any researcher, but has been a harsh reality in the laboratories of Greece for many years, even before the crisis. Now, more than ever, the Greek scientific community needs the support of both their own government and that of the international community to continue their work when it is most needed.

"I sincerely hope that our politicians will soon realise that research is an essential element for the evolution of a society and will support our efforts to continue our work in Greece", says Margiolaki.

Boumpas' parting comments embody the stoicism that has brought scientific achievement to the country so far. "Finances are important", he says. "But, ultimately, our country has been through worse and we know we have the talent to get through this and maintain our respectable standing as researchers. We just need to be more creative."

Jasmine Malone

***Panel*: Timeline of the funding crisis in science**

2010

- First government request for a bailout
- Direct government financing of universities and research institutes cut by 20%
- First austerity measures see government contributions to institutional research funding cut by 15%
- Recruitment frozen in government research facilities and universities

2011

- Government scientists' pay cut by 10% at the beginning of the year, and then by a further 10% in July
- Cut to financing of research education and institutes

2012

- Cuts yet to be announced but austerity measures and increased cost of living affecting researchers in the country