

FUNDING

US research facilities anticipate budget gloom

Interdisciplinary centres are at the sharp end of proposed cuts.

BY EUGENIE SAMUEL REICH

As US federal agencies prepare for lean times ahead, concern is growing at some of the centralized, multimillion-dollar facilities supported by the National Science Foundation (NSF). These provide users with access to specialized instruments that include powerful X-ray sources, high magnetic fields and large telescopes. Several such centres are expecting cuts in the 2012 budget.

"If the proposed budget goes through, the impact on users will be quite severe," says Sol Gruner, director of Cornell's High Energy Synchrotron Source (CHESS), which the NSF has told to expect a possible 25% cut. The NSF-funded source of high-energy X-rays is used by around 1,000 researchers a year to characterize materials from semiconductors and superconductors through to proteins and even artwork.

Congress and the White House remain at odds over the 2012 federal budget, but the political furor surrounding the budget deficit almost guarantees that most government departments and agencies will face some austerity measures. The NSF's 2012 budget request to Congress calls for a decrease in the proportion of its budget going into research infrastructure, from 24% in the provisional 2011 budget to 22% in 2012 (see 'Scaling back'). Given an overall increase in the budget request, this amounts to an increase of 3.9% in infrastructure investment.

But some facilities may suffer more than the figures published so far suggest because of the discontinuation of funds awarded under the stimulus bill, the American Recovery and Reinvestment Act (ARRA), and other supplemental grants. The ARRA doled out \$361 million to facilities in 2010 — on top of a facilities budget of \$954 million.

On paper, for example, CHESS and the Cornell Electron Storage Ring look to be due a 71.9% increase in funding in 2012. But Gruner says this does not seem to take account of supplementary grants, some of which were distributed under ARRA, that he has been told will not continue. The result is the predicted 25% cut to the current budget of \$20.3 million. Because of fixed staff costs, Gruner says, this could reduce the light source's running time by as much as 50%.

► NATURE.COM
For more US science budget stories, visit:
go.nature.com/eg2noo



NATIONAL HIGH MAGNETIC FIELD LABORATORY

The National High Magnetic Field Lab is one of many interdisciplinary centres slated for substantial cuts.

Other centres also face reductions. The National Nanotechnology Infrastructure Network (NNIN), a group of 14 centres with specialized nanotechnology equipment, is expecting a 4.3% cut. At one NNIN centre, the Cornell NanoScale Science and Technology Facility, this is not enough to reduce running time, but is likely to drive an increase in user fees, says Dan Ralph, the centre's director. The National High Magnetic Field Laboratory (NHMFL) at Florida State University in Tallahassee, used by scientists studying quantum effects in substances ranging from graphene to biological molecules, is facing a 6.4% cut.

Greg Boebinger, the director of the NHMFL, says that the interdisciplinary nature of the

users of some NSF-funded centres puts them at risk of disproportionate cuts. "The challenge is always to find interdisciplinary funding for interdisciplinary research," he says.

Meanwhile, Ian Robertson, director of the NSF's Division of Materials Research (DMR), which funds interdisciplinary facilities including CHESS and the NHMFL, acknowledges that in planning for fiscal year 2012 the division's facilities budget was cut by 15%, even though the research budget is up by 12.8%. But he denies that the NSF's priorities have changed. "There is no shift away from facilities," he says. "We have a complex portfolio and we have to balance our roles."

Two astronomical facilities, the National Optical Astronomy Observatory, which runs telescopes on Kitt Peak in Arizona, and the National Astronomy and Ionosphere Center, which runs the Arecibo Observatory in Puerto Rico, face cuts of 7.4% and 17.9%, respectively, under the fiscal year 2012 budget.

Both the DMR and the NSF's astronomical sciences division will hold external peer reviews later this year that are expected to address the balance between facilities and research grants.

Ray Bowen, a mechanical engineer at Texas A&M University in College Station who chairs the NSF's oversight board, says that there has been no specific advice from the board to pull out of facilities, but it is possible that NSF management has decided to do so as one way to trim its budget. "That would be a prudent decision," he says. ■

SCALING BACK

Infrastructure expenditure, including facilities, by the US National Science Foundation (NSF) has declined as a proportion of total budget.



*Does not include economic stimulus funding