

Into the breach?

The US federal commitment to basic research in the physical sciences could double in the next decade. In the proposed FY07 Federal Budget, funding for the National Science Foundation is up by 7.9%, and the budget of the Office of Science — the largest funding source for the physical sciences — is increased by a whopping 14.1%. This sounds like good news, providing a much-needed infusion of research money in areas that have been languishing for years.

But there is great pressure on the overall budget, and this increase in support for the physical sciences has to come from somewhere — off the back, it seems, of the other sciences. Support for the National Institutes of Health (NIH) will decrease; student aid

and support for higher education programmes at the Department of Education will be flat or cut; NASA will see its budget increase by only 1%, less than the rate of inflation.

Already these shifting priorities are creating tension. NIH officials are crying foul, and NASA has indicated that it will accommodate the anticipated budget reduction — at a time when they are undertaking a return to the Moon and a manned mission to Mars — by cutting science programmes. Among those facing cuts or delays are the next-generation space telescope, new probes of cosmic anisotropy and dark energy, and the Terrestrial Planet Finder mission. As these projects are also of great interest to the physics community, it is not clear what the net



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gain for physical sciences from the new budget really is.

Besides, any rational increase in support for the physical sciences must take into account that the boundaries between disciplines are disappearing. Just as Harold Varmus, former head of the NIH, argued when the NIH budget was doubled and the physics budget cut, it is increasingly difficult to compartmentalize scientific progress. The tools of physics are important in biology, and biological systems are providing new phenomena for physicists to study.

One can hope that the upcoming negotiations will result in a budget that allows fundamental research to flourish across the board. But I wouldn't bet on it.

Lawrence M. Krauss