

# CORRESPONDENCE

## Obama must match science rhetoric with action

SIR — I welcome the news of Barack Obama's smart choices for cabinet and sub-cabinet positions. This is a promising sign that the scientific process will once again be broadly valued here.

A group of graduate students recently asked my perspective on the impact of the current funding crunch. As a young investigator who began a tenure-track position in 2004, one year after the US National Institutes of Health (NIH) funding trajectory inflected from flat to negative, I understand the challenges to new scientists.

Since 2004, I have been the main author of three published articles. During this time, I have been awarded several small grants and have narrowly failed to attain an R01 application — the benchmark for promotion and tenure at most US universities. Meanwhile, I have watched junior faculty with similar records moved out of the tenure stream, seen scientific enthusiasm eroded and heard faculty members question the rewards of a career committed to research. What makes the crucial difference for me is tremendous support from my department and colleagues.

The former NIH director, Elias Zerhouni, strove to reverse the trend that has raised the average age of first funding from 37 in 1980 to 42 in 2007. As a result of his efforts, at least 1,650 investigators will receive their first R01 in 2009, up from 1,354 in 2006 (see *Nature* **456**, 153; 2008). I hope to be among them. My age? 39. My optimism? High, reflecting a supportive university environment.

Continued, active investment in new faculty not only ensures the success of young scientists but also directly influences the career decisions of PhD candidates. I hope our new president and administration truly recognize that our future is in science and technology, and that a

new generation of innovators needs their full support.

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## Problems with anti-plagiarism database

SIR — Sophisticated tools have been developed to detect duplicate publication and plagiarism, as noted in M. Errani and H. Garner's Commentary 'A tale of two citations' (*Nature* **451**, 397–399; 2008) and in your News story 'Entire-paper plagiarism caught by software' (*Nature* **455**, 715; 2008). To my surprise, one of these tools, Déjà vu (<http://spore.swmed.edu/dejavu>), classifies four of our publications as unverified duplicates. These report the analysis of Bruton's tyrosine kinase mutations associated with the rare disease X-linked agammaglobulinaemia (XLA) and of the database BTKbase.

Each of these is a genuinely different and independent report; they cover the development of the database and different analyses of the growing data set. The reason why they are branded as suspect cases is probably that the journal *Nucleic Acids Research*, in which three of them were published, has a special format for articles in their annual database issue.

Between 1995 and 2006, we published eight articles on BTKbase. The number of XLA cases recorded in the database has grown from 118 to 1,111 during this period. Several colleagues who maintain databases are also listed in Déjà vu. It is worrying that such legitimate articles written by research infrastructure developers and providers are labelled as unethical, just because of some overlap with previous papers as a result of a journal's strict formatting requirement.

Detection of fraud, including

duplications, is obviously crucial to the integrity of science. But it is unethical to list thousands of scientists in a public Internet service as suspects, without verifying the claims that are being made. Although the developers indicate that the data are provisional, there is still a risk that the listing will affect decisions on careers, promotions or research funding if individual cases are not investigated.

No professional scientist wants even the slightest suspicion of fraud to tarnish their scholarly reputation, so listed cases need to be closely investigated. To detect real duplicates, the full-length articles must be analysed, not just the abstracts — which occurred in the case of our publications.

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## Honeybee and the Phoenix analysing instrument

SIR — In the News Feature 'Phoenix: a race against time' (*Nature* **456**, 690–695; 2008) you report on a problem that stopped the doors to the ovens on the Phoenix spacecraft's Thermal and Evolved Gas Analyzer (TEGA) instrument from opening fully. You note that the University of Arizona team responsible for TEGA noticed the door interference problem during engineering tests and sent revised designs to Honeybee Robotics of New York, but that Honeybee Robotics sent back new parts using the "original flawed designs".

We at the University of Arizona are concerned that Honeybee's responsibility for the TEGA door opening has been overstated. As the dust-cover manufacturer, the company played a very minor role in the overall TEGA construction. Most importantly, it was not responsible for establishing that the TEGA doors functioned properly after the dust-cover

assembly was installed.

Unfortunately, because the door-opening mechanism is a single-use actuator, which is buried deep within the instrument, we on the instrument team could not test it on the flight unit without a time-consuming process of dismantling and rebuilding the system.

In light of the publicity given to the door problem, we would like to set a few of the facts straight. When the door-opening problem was first observed during testing of an engineering prototype, we documented the needed change, along with some other changes, in an engineering drawing that was a modification to an earlier Honeybee drawing. Our drawing had more than a dozen changes on it, all but one of which were well documented with new dimensions called out. However, the change that related to the issue with the doors, although drawn properly, was not explicitly called out as a change in this way.

We should have asked to review the final drawing before metal was cut, but we did not. As we could not test the operation of the doors in the flight unit, we should have checked the parts when they arrived, but we did not. I recognize that my group at the University of Arizona operates a bit more informally than is current practice in the aerospace industry; this has served us well in the past in keeping costs down, but entails risk. We should have caught the problem and we didn't. In the end, the buck stops with us.

There is nothing associated with this event that changes our full confidence in Honeybee's competence. We have had an excellent working relationship with the company on this and several earlier projects, and Honeybee would clearly be our vendor of choice for similar projects in the future.

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