# The other side of staying out of a BIND

**To the editor:**

Last September, *Nature Biotechnology* published a letter by William Busa[1] critical of an editorial[2] in a previous issue bemoaning the lack of public funding available for the Biomolecular Interaction Network Database (BIND).


On March 20 this year, Thomson Scientific (Philadelphia) acquired the BIND database together with a stable of software and services through the purchase of Unleashed Informatics (Toronto). These products were originally created by my laboratory using public funds. They were the intellectual property of my former host institution, Mount Sinai Hospital, in accordance with its employment contracts and policies.

Confidentiality constraints from the outset of the discussion with Thomson Scientific, which predated Busa's letter, prevented me from addressing Busa's comments at the time. I would now like to address several misapprehensions and inaccuracies in his comments.

It is ironic that Busa, a US citizen, would complain about taxes paid by Canadians for database services that were provided free to all US residents. My first problem with Busa's letter is his exaggeration of its costs to taxpayers of Canada. He claimed that our burn rate was "nothing short of shocking."

In fact, the BIND databases, software and other systems we created, like the Small Molecule Interaction Database, cost Canadian taxpayers less than the estimated $4 million per annum it takes to fund a notable US model organism genome database. The final accounting shows that the taxpayer funding for BIND was only $CDN 17.8 million, not $CDN 25 million. At the time, this was equivalent to $12 million, so already our taxpayer funded burn rate is half of what Busa implies.

I am not sure how anyone arrived at a conclusion that the project period was a mere two years, but that inflates the annual burn rate proportionally. In fact, the period of accounted project activity was from April 1, 2002 to December 31, 2005. So our annual burn rate was $3.5 million per year. It would be negligent for me to leave this misperception uncorrected.

Indeed, other value to the project was provided in the form of capital assets like computer infrastructure contributed at deep discounts by computer and network infrastructure vendors. These were not taxpayer-supported investments. They were donations to Mount Sinai Hospital's research institute and remain property of the hospital for research use.

The management of the BIND project was fiscally prudent and governed by very hands-on and diligent financial accounting undertaken by both of our funding agencies as well as our host institution. There was no room for extravagance. Staff paid for BIND T-shirts out of their own pockets. Both provincial and federal funding agencies carried out full audits of the operation.

There is no shame in my legacy; on the contrary, I am quite proud. The staff I worked long hours to train left a remarkable imprint in the local community and beyond. My former staff now occupy six tenure-track faculty positions and seven management roles in a variety of peer-review funded projects, including Genome Canada itself.

Busa's accusations of "scraping" and "modest scope" are nonsense. BIND has always had the broadest scope of any interaction database (all organisms) as well as the deepest annotation (down to atomic three-dimensional structures). BIND curators extracted information from figures—a feat no text mining tool can do and 85% of hand-curated BIND records have information arising from figures. It is the breadth, depth and quality of BIND that led to its commercial acquisition. And this was pursued only after having exhausted all possible means for continued public support.

Further irony arises from the fact that Busa's own contribution to interaction science—the design of the STKE knowledge base system—was missing GenBank or any other unambiguous sequence identifiers. Thus, it grew to be a system incapable of integration with others. In 2002, *Science* magazine/the American Association for the Advancement of Science (Washington, DC) contracted my team to fix the problems in Busa's original design. What Busa failed to grasp was the importance of controlling its implementation at the outset and building future integration capability into the initial design. Foresight in this regard is the key to the longevity of any database project, and a key to BIND's success and cost.

COMPETING INTERESTS STATEMENT

The author declares no competing financial interests.

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1. Busa, W.B. *Nat. Biotechnol.* **24**, 1065 (2006).
2. Anonymous. *Nat. Biotechnol.* **24**, 115 (2006).

**To the editor:**

A very unsympathetic correspondence in last September's issue[1] by William Busa calls the disbanding of BIND, a database with public funding, a "happy consequence" so that the "rigors of the marketplace can impose upon its owners some deep regard for efficiency and utility." As a biologist who uses databases every day, I do not find BIND, a manually curated protein interaction database, a particularly suitable poster child for this argument.

Imagine how my research would be transformed if the many biological databases I use day to day in my work were operated under the rigors of the marketplace. To generate a set of mouse linkage data to study a disease, I would have to pay the GEO and ArrayExpress