

Push to free up biotech tools for all

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Scientists anywhere in the world, including developing nations, should have free access to the scientific tools of modern biology and genetics, says an Australian geneticist.

Dr Richard Jefferson, founder of the non-profit organisation [CAMBIA](#) based in Canberra, is urging the global biotechnology community to support a new program to promote this "open access".

The new program is called Biological Innovation for Open Society (BIOS) and Jefferson will announce it at the [World Economic Forum](#) to be held in Davos, Switzerland next January.

Jefferson said the tools of innovation were being withheld from the public and from innovators themselves, stifling competition, fair play and creativity.

"For example, access to the fundamental tool used to transfer a gene into a plant, Agrobacterium transformation, is controlled by a handful of large companies," he said.

Jefferson called for a "democratisation of innovation" based on "open source genetics". Central to this concept was a distinction between the tools of innovation and the products of innovation.

Tools of genetics and modern biology should be made freely available just as computer programming tools were shared in the open source software movement, he said.

"CAMBIA is developing an alternative technology that's equally as effective [as the Agrobacterium transformation] but will be made available to anyone who wants it."

Another technology, developed by colleague Dr Andrzej Kilianm, called DarT, was a powerful gene mapping technology already being made available under the open access regime, said Jefferson.

"The open source revolution in information technology has proven itself rock solid as one of the greatest innovations in the history of creativity. If you decentralise the group of tool creators and make sure people are bound to a public good ethos, it works and makes money for people," he said.

"With Linux and all the open source innovations, you're not seeing the death of Microsoft, you're seeing Microsoft work harder to be a better company so that it can stay afloat."

The scientific tools under BIOS would be licensed under a similar agreement as the general public licence of the Linux computing community, Jefferson said.



Richard Jefferson thinks "open access" biotechnology could help all scientists

"That licence will say you will agree to share improvements in the core technology. You can make your own applications as proprietary as you want; you can patent your invention. But the tools to do that must be a public good."

He said the current domination of biotechnology innovation by "large monolithic corporations with high capital" was not serving the public at large, including developing nations, and had led to a "legitimate unease by the public about biotech".

"I don't think that multinationals are necessarily evil, but I do think they have to be complemented by alternative technologies," he said.

"Biotechnology, the way it is right now, is needed in the developing world like a screen door on a submarine," said Jefferson. "What it really needs is what good science can do in biology, in biotechnology. And that means a different agenda and a different group of innovators.

"We'd like to use the tools of modern genetics, some of which will be molecular markers, some of which might be transgenic, to improve the spectrum of what we can offer as a tool."

He added such tools could also help us understand and improve agricultural management systems such as organic approaches. An example of this would be the development of new "bioindicator" plant varieties that would tell farmers about their soil nitrogen levels.

But most importantly, BIOS would offer a choice to farmers at the local level: "We have a 3D philosophy: democratise, decentralise and diversify," he said.

CAMBIA's main funding comes from technology licensing and the [Rockefeller Foundation](#) in the U.S.

<http://www.abc.net.au/science/news/stories/s999733.htm>