Geneticists question fees for use of patented 'junk' DNA

Carina Dennis, Sydney

Most geneticists have never heard of Malcolm Simons. But they could get to hear about him pretty soon when they're asked to pay for use of non-coding DNA — sometimes known as 'junk' DNA — on which the New Zealand immunologist has won wide-ranging global patents.

Genetic Technologies (GTG), the Australian company that now holds the rights to the patents, is starting to assert these rights in universities. And researchers could shortly need a licence from the company to use any non-coding sequence in genetic analyses of any species in their research.

"We have contacted academic research groups in Australia, New Zealand, the United States, Japan and Europe," says Mervyn Jacobson, chairman of GTG, who says that the company is in the final stages of negotiations with three universities in Australia and one in the United States.

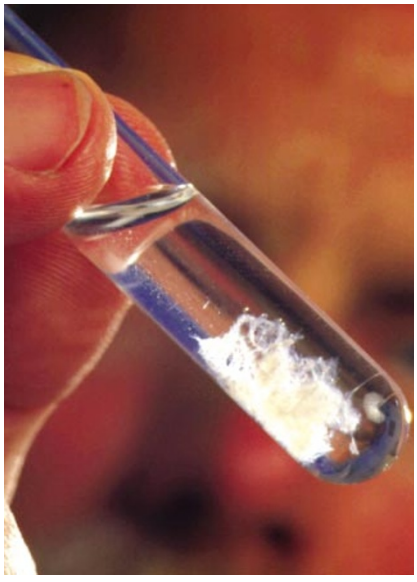
Some academics — used to the fact that most patent-holders don't ask for license fees from basic researchers, at least until a researcher tries to make money through commercial applications — are not exactly thrilled by GTG's plans.

"I feel outraged," says Joe Sambrook, a molecular biologist at the Peter MacCallum Cancer Institute in Melbourne, Australia, and author of a well-known technical manual for molecular biologists. "I think that asking licence fees from academic researchers can only inhibit research. If they do it, other people will do it — and it has not been a common practice."

But under most nations' laws, patent-holders are perfectly at liberty to ask for licences, often in return for fees from users, including basic researchers. "Whether it is right or wrong, I don't know, but that's the law," says Deon Venter, a pathologist at the University of Melbourne who was recently appointed to oversee GTG's own programme to perform genetic tests for patients' susceptibility to, among other conditions, breast cancer.

Simons first cottoned on to the value of non-coding DNA some 15 years ago, while studying the immune system's genes. Afterwards, he successfully applied for several patents involving access to the information that is embedded in the non-coding DNA of all species.

Melbourne-based GTG has already amassed millions of dollars' worth of licensing deals from drug companies, and is now turning its attention to universities. "Researchers have nothing to be frightened of — it's not going to be financially burdensome for them," argues Jacobson. "We are negotiating several at the moment for a thousand dollars — which doesn't even cover our legal costs in producing the document. We are not intending to be aggressive or hostile, or to stifle research."



V. STEGER/SPL

Money-spinner: patents on junk DNA could cost university researchers dear.

It isn't clear if universities will challenge the charges, or bite the bullet and pay up. "We are very concerned about the patents," says Debra Graves, chief executive of the Royal College of Pathologists of Australasia, based in New South Wales. Graves is coordinating a submission from researchers to the Australian government on the matter. Several academics have said that their universities will seek legal advice before deciding whether a challenge is worthwhile.

GTG has already attracted controversy over its licensing deal with Myriad Genetics of Salt Lake City, Utah, which gives GTG exclusive rights to Myriad's genetic-susceptibility tests, including those for breast cancer, in Australia and New Zealand. "We plan to be the leading genetic-testing facility in the region," says Jacobson.

Meanwhile, Simons, who retired from GTG in 2000, has little to show for his foray into the DNA goldmine. Despite being seriously ill with cancer, he has lost none of his interest in genetics, claiming that current hunts for complex disease genes are off the mark. "I'd like to set them straight in the time I have left," he says.

Simons' life will soon be the subject of an Australian Broadcasting Corporation television documentary. ■

Physicist takes the reins at Santa Fe complexity centre

Geoff Brumfiel, Washington

For almost two decades, scientists at the Santa Fe Institute (SFI) in New Mexico have been struggling to describe some of the world's most complicated systems. But simplicity is the goal of their new boss, a straight-talking nuclear physicist named Robert Eisenstein.

Eisenstein is a seasoned administrator who ran the physics directorate at the National Science Foundation (NSF) from 1997 to 2001. He was then seconded from the NSF to CERN, the European particle-physics lab, where he has been helping to install a 7,000-tonne detector called ATLAS.

Last month, he was named president of the SFI, which specializes in the study of complexity — an approach to the modelling of everything from the pattern of spots on a cheetah to the movements of the stock market.

The SFI has always relied on informal processes to keep it running and to bring in new talent, says Stuart Kauffman, a biophysicist and member of the SFI's science board. When Eisenstein takes over next month, he may take a more structured management approach.

He has a knack for grasping the big picture and "not getting overwhelmed by the details", says Joseph Deahmer, current head of the NSF's physics division.

The SFI was set up in 1984 by an iconoclastic group of researchers from nearby Los Alamos National Laboratory, who wanted to bring a new approach to science. They sought to apply their ideas about complexity to hard-to-quantify topics, such as cellular behaviour and evolution, and even the social sciences.

"We're all very aware of the fact that that institutions tend to lose their edge over time," notes Erica Jen, a mathematician and research professor at the SFI. She says that many see Eisenstein's appointment as a chance to boost the recruitment of fresh talent into the institute.

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Eisenstein: straight-talking attitude.

Eisenstein thinks his track record at the NSF can help.

"I saw an enormous variety of different kinds of science come across my desk," he says. "And I learned a lot by watching what was happening in those programmes." ■