Abstractions

***NATURE* PODCAST HOST**

Christopher Smith, known to his fans as the 'naked scientist', could be described as an accidental broadcaster. The host of several science-based radio shows in Britain and of *Nature*'s weekly podcast stumbled into radio as a student. He was demonstrating how to extract DNA from onions at a science festival in Cambridge, when his work attracted the attention of a local radio station. The subsequent broadcast turned into a weekly show and — between finishing his PhD, and then a medical degree — Smith secured grants both to hire more help and to get some formal training. The results are radio shows that attract thousands of UK listeners, and 'podcasts' that often rank among the most downloaded of their category. Smith takes a break between lecturing, doctoring and broadcasting to talk to *Nature* about his work.

How did you come up with the title 'naked scientist'?

You know how it is when you're trying to avoid doing something you hate — which in this case was writing up my thesis. I was doing the washing up, I thought of the title, because the show was really putting scientists in reach of the general public. And the domain name was available.

How did you get formal training in broadcasting?

As a doctor I had no track record in radio, making it difficult to be taken seriously by major broadcasters. So I applied to the Churchill Trust to fund me for six months with a broadcaster in Australia. I got to work in an international science broadcast unit with someone who was at the top of their game. It was baptism by fire. It taught me to have a good idea for a good story, how to dissect the key facts and sell the story on the radio.

You divide your time between lecturing, practising medicine and broadcasting. How do you manage?

I'm a clinical lecturer in virology at the University of Cambridge. I'm pretty busy. I applied to the Wellcome Trust for core funding in 2005. That enabled me to take on an assistant to help produce my weekly show.

Why do you think the shows have been so popular?

Humour — buying goodwill by making something fun goes a long way. Also, by making scientists directly accessible to the people on the street. People are realizing science is important, it affects their daily lives and people want to make informed decisions about it.

How long will you keep producing the show?

Until I die, which, at this rate, will be in about a year. ■

MAKING THE PAPER

Rudolph Jaenisch

Plotting a course through the ethical minefield of stem cells.

The technique for deriving embryonic stem cells in mice described on page 212 of this issue offers a rare example of science being driven by biomedical ethics.

Rudolph Jaenisch, a professor of biology at the Massachusetts Institute of Technology, had become frustrated at the US government's policy on human embryonic stem-cell research. The idea of taking DNA from a patient and deriving stem cells from this material in an embryo — often described as therapeutic cloning — could offer medical benefits for conditions such as Parkinson's disease. Although such work is usually carried out on 'excess' embryos generated during *in vitro* fertilization procedures, extracting the stem cells necessarily means the destruction of a human embryo. The US government has put a moratorium on such work, saying that it destroys human life as the embryos could theoretically have been implanted and brought to term.

Jaenisch wondered whether the idea of 'accelerated nuclear transfer', or ANT, put forward by bioethicist William Hurlbut of Stanford University, might offer a way out of this dilemma. In essence, Hurlbut suggested that if research in human embryonic stem cells used a biological entity that could never have developed into a fetus, the argument that life was being destroyed would no longer stand.

Jaenisch accepted the challenge and set about turning this theory into practice. Working with mice, he reasoned that the criteria for the concept would be met if he could create an embryo that was unable to implant in the uterus. The target for this work became the gene *Cdx2*, which in mice is responsible for placental implantation.

His student, Alexander Meissner, began the project using mouse skin cells. With a little work, he was able to silence the *Cdx2* gene in the cells and then cloned them to create an embryo that could not be implanted successfully. Meissner completed the work in about four months. "That is really fast for such a complicated experiment," Jaenisch says.

The work, which *Nature* published online on 16 October 2005, has had a mixed response from politicians and ethicists. "Some people will still say it is a particularly devious way of murder," Jaenisch says. "But many very prominent ethicists think this is a very serious way to proceed."

The next step, Jaenisch says, is to try this approach in humans. Theoretically this should be straightforward, as humans have a gene that is equivalent to *Cdx2*. Jaenisch remains optimistic that the concept could prove acceptable to the US government, and so allow stem-cell research to proceed.

"I think that the ANT approach gives people in Congress who want to support this, but don't dare, some confidence that the ethical problems may not be insurmountable," Jaenisch says. But he acknowledges that any work on human embryonic stem cells — no matter how they are derived — will still attract some criticism. "It has been controversial before and it will be controversial after this paper," he says. ■

QUANTIFIED **COSTA RICA**

A numerical perspective on *Nature* authors.

At the Monteverde Cloud Forest Preserve in Costa Rica, the impetus for most of the research comes from visitors from international universities. But as the institute's only full-time staff member, Alan Pounds drives projects on the ecological consequences of global climate change.

Heading an international team, Pounds has used a case study from Monteverde to show that global warming may already have caused many species in the American tropics to disappear (see page 161). The paper's authors are scattered around the globe, forming a loosely knit group — in fact, Pounds is the only one to have met all of the other team members face-to-face. "We exchange a lot of e-mails," he says. "This paper would not have been possible before the information age."

4 previous *Nature* publications on the ecological consequences of global climate change have been authored or co-authored by Pounds.

406 is the total number of citations for Pounds's previous *Nature* publications so far, according to Google Scholar.

6 countries are currently being worked in by Pounds and his team: Costa Rica, Ecuador, Venezuela, the United States, Canada and the United Kingdom.