

Australian Fulbright Scholar co-leads the first indigenous Human Genome Project

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An Australian Fulbright scholar co-led a team of 48 scientists, which has cracked the DNA code defining the genetic diversity of indigenous peoples of Southern Africa. The discovery was reported in *Nature*, on 18 February 2010.

Using genetic material from a number of Bushmen from the Kalahari Desert, as well as the Archbishop Desmond Tutu as representative of Southern African Bantu, Dr Hayes, Fulbright Professional Scholar to Pennsylvania State University in 2009, conducted ground-breaking research with U.S. host and co-leader Professor Stephan C. Schuster. The team found 1.3 million new DNA variations, providing insight not only into modern humans oldest living descendents, but importantly provides a basis to advance medical research efforts based on genetic profiles.

The work produced the first complete human reference genome of indigenous persons and is also a first for Australian researchers.

“This work will greatly assist medical efforts to combat complex common diseases, including cancer research. It means we can use human variation to assess disease risk and response to drugs,” Dr Hayes said.

The information gained from this research is already being used to develop new tools that can be used to advance medical research across many diseases.

The Australian-American Fulbright Commission congratulated Dr Hayes, and her research collaborators, on the achievement. “It is truly exciting to see a spin-off of this magnitude from one of our Fulbright Scholars. It shows the power of collaboration and proves the benefits of programs such as the Fulbright program in giving scholars the opportunity to cross-fertilise with others in their research areas overseas,” said the Commission’s Executive Director, Dr Joe Hlubucek.

In addition to the *Nature* article, the research findings will be presented at a public forum in Windhoek, Namibia, on 18 February 2010. Dr Hayes and Prof. Schuster will host the event, which will be opened by the Right Honourable Prime Minister Nahas Angula of Namibia with the special guests to include Archbishop Desmond Tutu.

The genome sequence data will be made freely accessible via the internet at the time of publication and public announcement.

Dr Vanessa Hayes is Group Leader of Cancer Genetics at the Children’s Cancer Institute Australia, University of New South Wales. Dr Hayes’ Fulbright Scholarship to Pennsylvania State University

was to apply next generation genome sequencing techniques to examine human genomes, and prostate cancer genomes in particular. It led to the collaboration on the work reported in *Nature*.

The Australian-American Fulbright Commission is a non-profit organisation in Australia, established through a bi-national treaty between the Australian and United States governments in 1949. The Fulbright Program is one of the largest and most prestigious educational exchange programs in the world.

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