

TURNING POINT

Stacey Gabriel

MARIA NEMCHUK
US genomicist Stacey Gabriel was named 'hottest researcher' on Thomson Reuters' World's Most Influential Scientific Minds 2014 for publishing 23 of the most highly cited papers in 2013, the most recorded for the year. She directs the genomics platform at the Broad Institute in Cambridge, Massachusetts.

For how many papers were you lead author?
 None — which speaks to the highly collaborative nature of the work we do here.

Was it difficult to publish this many highly cited papers?

With so many good ideas springing up for projects, the challenge is keeping up with what technical advances need to come next. One of the Broad's founding principles is to make possible the types of project that are not feasible in individual research labs. We built sequencing and microarray capabilities that enable very large projects. For example, most of the papers I am working on right now are about identifying new regions of genes that may be implicated in a specific disease. The research bottleneck happens at the next step, which is the follow-on research that investigates which genome variations result in cancer.

Do you have a recent favourite?

Nature accepted one in late 2013 for publication in January 2014 (M. S. Lawrence *et al. Nature* **505**, 495–501; 2014) in which we looked at many tumour types to search for undiscovered cancer-causing genes. We found a few that we had not appreciated before, including some involved in cell death, genome stability and RNA processing. It brought together an enormous amount of work.

What is it like to be the most influential scientific mind of 2013?

Honestly, I don't keep track of it. I was amused that I had three more publications than my boss, Eric Lander — that did make me chuckle. But my career has revolved around building projects, not keeping track of my publication record.

How did you come to pursue genetics?

I was working as a phlebotomist at the University of Pittsburgh in Pennsylvania when I started studying diseases in Mennonites, a religious denomination that is considered a genetically isolated population. As a graduate student, I was drawing blood and taking family histories from participants. I learned how to isolate DNA from blood and



do mapping studies, which prompted my interest in this field.

Did the Human Genome Project (HGP) influence your career path?

Yes. I was completing graduate school in 1998, when genomics and human genetics were taking off. There were opportunities at many institutions to study DNA variation, which interested me. I met Eric — who has been my boss for 17 years — before the Broad Institute existed. While I was a graduate student, he gave a lecture that completely hooked me. Because my adviser knew him, I was able to meet him a few years later when I was looking for a position. He was developing some of the first microarrays to study human polymorphisms at a large scale, which was incredibly appealing. I've been studying DNA variation ever since.

What do you see ahead for 2015?

We're really at the tip of an iceberg when it comes to surveying the genomic landscape of many cancers. We're seeing how the application of technological advances to extensive sample collections sets the stage for discoveries. This rapid pace of discovery won't be a blip, given how fast technology is advancing.

Which paper do you consider a turning point?

In 2002, early in my career at Broad, we had a *Science* paper about haplotype blocks — sets of inherited DNA variation — in the human genome (S. B. Gabriel *et al. Science* **296**, 2225–2229; 2002). I was lead author, and it turned out to be a high-profile paper that helped me to become known to the broader community and write my own grants. ■

INTERVIEW BY VIRGINIA GEWIN

COMPLIANCE

Research regulations

The US National Academies is examining research governance for its impact on universities and researchers. A committee of experts on higher education, science and policy will work with university investigators to determine the labour and costs needed to comply with reporting requirements and other regulations, and to identify areas in which the added workload outweighs the benefits of compliance. Project director Anne-Marie Mazza says that her committee will gather input from regulators and investigators to understand the initial reasons for creating regulations, and to evaluate ongoing needs and implementation in light of current research practices. The study's findings are expected to be published next year.

MOTHERHOOD

Biases in US academia

Organizational biases against motherhood exist in academia, find US researchers. Kirsten Isgro at the State University of New York Plattsburgh and Mari Castañeda at the University of Massachusetts Amherst found that US universities and colleges conflate sabbatical leave and maternity leave, or expect female faculty members to time their child-raising years around tenure decisions (K. Isgro and M. Castañeda *Womens Stud. Int. Forum* <http://doi.org/z3j>; 2015). They collected accounts from more than 300 women in academic positions. Isgro says that there is no single ideal path for a woman to mesh her life as a parent with her work.

CHARITABLE DONATIONS

University gifts grow

US universities received more revenue from philanthropy and investments in 2014. A survey from the Council for Aid to Education in New York found that charitable contributions hit a record high of US\$37.5 billion, up 11% from the previous year, and the biggest jump since 2000, when donations rose by 14%. And a survey by the National Association of College and University Business Officers found that endowments netted an average return of 16%, up from 12% in 2013. The rapid growth is making up for difficult years after the financial downturn in 2008, says economist Richard Freeman, who directs the National Bureau of Economic Research in Cambridge, Massachusetts.