

of years to come to fruition.”

She knew that she had found the right lab when, during an interview, a potential supervisor tilted his computer screen towards her. “He showed me four or five e-mails he’d got that day from families — not from other scientists,” says Ivancevic. One asked about his research on the genetics of severe epilepsy in women and whether there had been any recent advances. “It didn’t matter if he published a paper that year or not,” she says. “He still would have answered those e-mails. That’s real-life impact right there.”

Ivancevic thinks that luck, as well as design, might play a part in determining the impact of scientists’ work. “Maybe they just haven’t found out how it is applicable yet.” Blower also believes in scientific serendipity, and therefore advocates for research that doesn’t always set out to solve a specific problem or address a specific issue. “You turn over loads of stones and, with most of them, there’s nothing underneath, but occasionally there’s something. If you don’t turn over the stone,” he says, “you don’t find the thing.”

One such stone revealed the gene-editing technology CRISPR. Rachel Haurwitz did her PhD and worked as a postdoc in Jennifer Doudna’s lab at the University of California, Berkeley — one of the birthplaces of CRISPR. Haurwitz, now chief executive of Caribou Biosciences in Berkeley, which aims to commercialize the technology,

“When I talk to postdocs and PhD students, they often feel like cogs in a massive machine.”

sees the rise of CRISPR as evidence to support the continued funding of basic research, alongside more translational work. “I think this story further cements the tremendous value and need for investing in basic research,” she says. “To pretend that we know exactly where to go to discover or invent the next big thing is incredibly naive.”

She suggests that scientists who want to see the impact of their work should seek out labs and companies that do translational research. “Actively find a way to put yourself there,” she says. “There are some labs in academia that are closer to that boundary, and there are lots of companies in industry who use life science and technologies to try to solve a problem.”

REAL-WORLD MOTIVATION

For some researchers, launching their own business can provide the meaning that they seek. In 2000, Paul Harkin, a molecular oncologist at Queen’s University Belfast, began to realize that to extend his work on the gene *BRCA1*, which is implicated in hereditary breast cancer, he had to move away from academia.

Harkin had recognized that preserved samples of tumours stored at labs and

hospitals worldwide would be an invaluable source of data that links genetic information with patients’ outcomes, if clinicians had the tools to reliably extract partially degraded RNA from the tissue. But he was unable to launch the project from his lab at Queen’s. “I needed to bring in substantial funding and additional expertise to get to commercial application,” explains Harkin.

So, in 2004, he co-launched a company — now known as Almac Diagnostics and based in Craigavon in Northern Ireland, UK — to take his work to market. “I’ve never been disillusioned,” he says, “but I was very pragmatic about what could be achieved in an academic environment.”

The company’s focus has since pivoted to providing clinical-trials support to the pharmaceutical industry. And Harkin notes that at least one of the drugs that it has worked on has been marketed in the United States.

Although he draws satisfaction from knowing that the company he built is directly involved in getting medicines to patients, Harkin highlights the positive effect that Almac Diagnostics has had on the scientific-employment landscape of Northern Ireland. He estimates that around 50% of Almac Diagnostics’ employees hold PhDs; and its parent company, the Almac Group, employs more than 3,000 people in the province. “There are now alternatives in the scientific arena in Northern Ireland — it’s not just jobs in academia,” he says.

Harkin thinks that early-career researchers who want to make an impact should seriously consider accepting a position in industry. “Young scientists coming through don’t understand the potential in industry,” he says. “You may not own a project in its entirety, but you’re part of that team that gets something into the clinic.”

Yet many scientists maintain that curiosity is enough to justify investigating a research question. Baas’s interest in sea-floor deposits is driven by a wonder at how the world works. “What motivates me is discovering things, really,” he says. “I have questions in my head all the time; I want to find answers to those questions. Research is the ideal vehicle to do that. My work is my hobby.”

Ivancevic is set to begin another postdoc in August. She says that even if she had left academia, she would have stayed up to date with research in her field, and understands the drive of curiosity. “I can see how it can consume you,” she says. “You just want to find out why.”

Craig also expects to keep track of her academic field. “It’s almost like a hobby — it’s so cool and significant to the geoscience community,” she says. “But I’m still drawn to other pursuits that apply my science.” ■

Jack Leeming is the editor of *Naturejobs*.

INTERNATIONAL STUDENTS

A shift in interest

A report that gauges the preferred destinations of prospective students from around the world suggests that the United States and the United Kingdom are losing their appeal for students from some regions. ‘Applicant Survey 2018: What Drives an International Student Today?’ — conducted by London-based educational-marketing group Quacquarelli Symonds during the 2016–17 academic year — finds that more students than before are aiming for Canada, Australia or elsewhere. Overall, 48% of the 16,560 students surveyed listed the United States as one of their preferred destinations. The United Kingdom came in second at 42%, followed by Canada at 34%, and Australia and Germany at 28% each. The survey found that Canada had risen in popularity with prospective students from all regions, and had replaced the United Kingdom as the second most popular destination for respondents from Latin America and the Middle East and Africa. The United States had declined in popularity in some countries in Africa and the Middle East. The report speculates that the election of Donald Trump as US president and the UK Brexit vote might have influenced respondents’ indications of interest.

UNIVERSITIES

Fewer women at the top

Female leadership at 200 of the top-ranked universities worldwide fell this year to 17%, according to a report. Just 34 of the universities named in the 2018 *Times Higher Education* World University Rankings have female presidents, compared with 36 last year. Among the listing’s highest-ranked institutions across 27 nations are the University of Oxford, UK; Harvard University in Cambridge, Massachusetts; Imperial College London; the University of Pennsylvania in Philadelphia; and the University of California, Berkeley. The rankings consider research, teaching and international outlook among other factors. In Sweden, 4 of the 6 institutions that made the list are led by women. The United States has 11 female-led universities in the rankings, the report’s highest number. Janet Metcalfe, head of Vitae, a UK-based advocacy group for researchers, expressed concern at the figures. “More women in leadership positions provides positive role models for female academics,” says Metcalfe, “and can encourage better gender balance and diversity at all levels.”