CAREERS

COLUMN There could be good reasons for saying no to career moves **p.125**

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PUBLIC RELATIONS

For your information

Scientific public-information officers need a gift for writing and a wide interest in all areas of science.

BY CHRIS WOOLSTON

Kurt Riesselmann remembers with delight the day that CERN researchers officially announced that they had finally detected what seemed to be the Higgs boson. He looked on as cheering scientists at Fermilab in Batavia, Illinois, watched a live stream of the announcement from CERN, the European particle-physics laboratory near Geneva, Switzerland. That moment, in the early morning of 4 July 2012, was especially meaningful for Riesselmann, who had earned his doctorate at the University of Wisconsin–Madison calculating theoretical Higgs interactions. But he wasn't just a highly interested spectator at the Fermilab viewing party. He had put the event together — and he had made sure to invite a *New York Times* photographer and a few key reporters. He wanted the US media to understand the significance of the particle, and he particularly wanted the world to know that Fermilab had played a large part in its discovery.

Riesselmann, head of the office of public information at Fermilab, is one of a growing number of scientists who have left research to become public-relations (PR) professionals, or, to use the term favoured by universities and national labs, public-information officers (PIOs). "We hesitate to use the word PR," he says. "We are not selling our science." As the Higgs news broke, he connected journalists with Fermilab scientists, wrote press releases and spread the word about the discovery and its significance in any way he could. "Even my neighbours were asking me about the Higgs particle," he says.

Government labs, universities and corporations around the world are eager to win publicity for their scientific endeavours, creating new job opportunities for scientists with a knack for communication. "It's definitely a growth industry," says Matt Shipman, a PIO at North Carolina State University in Raleigh. "Any university with a meaningful research programme is going to need people who can communicate science."

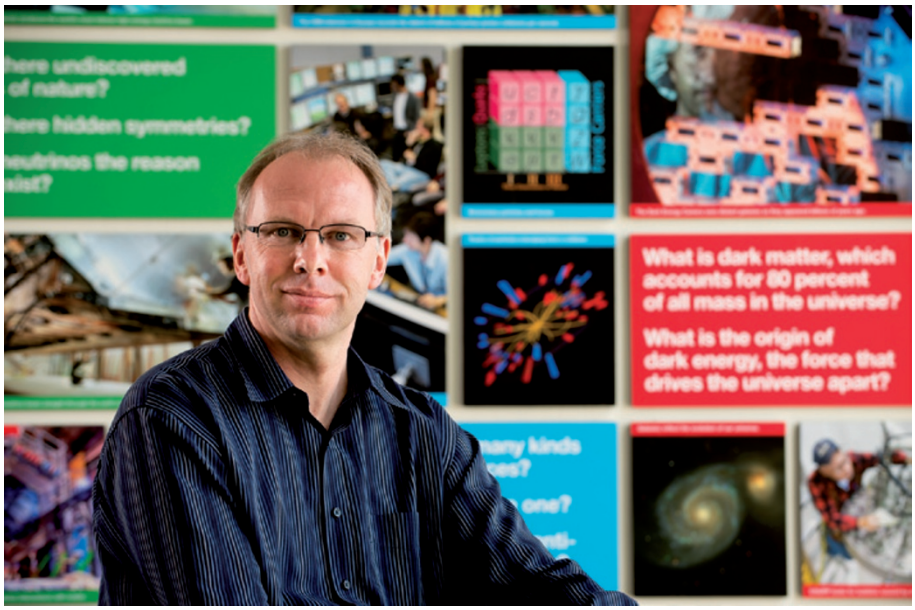
Opportunities for PIOs are global. In a 2013 survey, 642 members of the US National Association of Science Writers, based in Berkeley, California, said that they were staff writers for academic institutions, hospitals, private companies, government agencies or non-profit institutions, a nearly 20% increase from 2011. The European Geosciences Union, based in Munich, Germany, recently advertised for a communications officer with an advanced degree in either geosciences or journalism. The European Molecular Biology Laboratory in Heidelberg, Germany; a biotech company in Sydney, Australia; and King Abdullah University of Science and Technology in Saudi Arabia have all put out calls for PIOs or PR professionals with a solid scientific background.

Just about every form of communication can be part of the job. Videos, social media, blogs, press releases, conversations over the phone with scientists, investors and journalists — it's all in a day's work. "It's a rich, engaging environment," says Frank Orrico, a former molecular biochemist who is currently recruiting scientists to Element Scientific Communications, a Chicago, Illinois-based arm of the global PR firm Weber Shandwick. "I'm looking for people with a love of story-telling that goes beyond the academic stuff. If you want to get very deep into the science itself, this job may not be for you." His team currently includes 14 PhDs and two MDs based in the United States, London, Hong Kong and the Philippines. The list of clients is diverse, ranging from big pharma ▶

(including Roche and Eli Lilly) and biomedical-research groups (the Gladstone Institutes in San Francisco, California, and the multi-institution collaboration Orion Bionetworks) to the University of Iowa in Iowa City.

Those who make a successful career in scientific PR are often keener to talk about science than to do it. A PIO career was a good fit for Jonathan Wood, a media-relations manager at the University of Oxford, UK. He covers the university's vast medical-sciences division, which means he can be writing a blog post about the connections between smells and memories one day and a press release about cancer therapies the next.

Damage control can be less palatable; PR jobs often go beyond merely touting an institution's great work. Wood recently helped to craft the university's statement regarding an alleged case of scientific misconduct by a former DPhil student that led to the retraction of an article from the journal *Cell Metabolism*.



REIDAR HAHN/FERMILAB

Kurt Riesselmann left high-energy physics to handle public relations at Fermilab in Batavia, Illinois.

WRITING YOUR WAY IN

Wood has an undergraduate degree in physics from the University of Cambridge, UK, and a PhD in biology from the University of Leeds, UK, but his heart was never completely in the lab. "I realized that what I really enjoyed was journal club and presenting at meetings," he says. In 2006, he won FameLab, a prestigious communication competition in which scientists give live presentations in front of a panel of judges. "I get to work with some of the best researchers in the world, who really have a chance to improve health care," he says.

Not every scientist is cut out to be a PR professional, says science communicator and consultant Dennis Meredith, a biochemist by training and a former PIO at the California Institute of Technology in Pasadena, among other places. Meredith says that he asks potential PIOs a simple question: "Is writing a part of your basic personality? If not, this field isn't going to be very satisfying." Scientists also have to be able to think outside of their narrow topic of interest, he says, a talent that comes more easily to some than to others. "I personally always had intellectual attention-deficit disorder," he says. "You have to be prepared to have expertise that's a mile wide and an inch deep."

In the past, many scientists with a flair for writing and a promiscuous sense of curiosity ditched the lab for a job at a newspaper or magazine. But that particular escape hatch is narrowing fast as newspapers and magazines shed staff (see *Nature* **494,** 271–273; 2013). "The opportunity for a scientist to become a PIO is much better than for becoming a journalist, because that field has withered," Meredith says. Then again, he adds, a lot of seasoned journalists are looking to get out of the business, which means that scientists end up competing for PIO jobs against professionals with journalism degrees and stacks of bylines.

Meredith believes that scientists often deserve to have the upper hand in that matchup. Although many journalists go on to become highly successful and effective PIOs, they do have some limitations. Most obviously, Meredith says, scientists have much more experience of wading through academic papers to find the most interesting nuggets, even when they are working outside their particular area of research. Journalists may also have a dim understanding of the politics of a university research department, an area with which scientists generally are all too familiar.

"When a journalist becomes a PIO, it can be a little like a foodie becoming a chef," Meredith says. "They don't necessarily understand the internal institutional process." Unfortunately, he says, the university administrators who do the actual hiring do not always place much weight on scientific expertise. "A lot of vice-presidents say that they need to get a journalist in their PIO offices," he says. "It's up to the scientists to make the argument."

Meredith advises graduate students or postdocs who are interested in PIO work to offer their services to the public-affairs office at their university or their discipline's main organization. A few press releases or online stories could help a scientist to get a feel for the job while building a portfolio of writing samples. Orrico at Element Scientific says that he recently hired two PhDs largely on the strength of their science blogs.

Riesselmann got his start in communications in Germany, his native country, by doing

TRAINING THE COMMUNICATORS

Some courses on offer

- Imperial College London's one-year MSc in science communication prepares students for careers in public relations, journalism and similar careers.
  go.nature.com/suspq8
- Bonn-Rhein-Sieg University of Applied Sciences offers an MSc in technology and innovation communications at its campus in Sankt Augustin, Germany.
  go.nature.com/t1otva
- The two-year MSciComm course at the University of Otago in Dunedin, New Zealand, covers all forms of science journalism.
  go.nature.com/xcddjl
- The master's degree in science and health communications at the University of Florida in Gainesville caters to scientists who want training in communication and journalists looking to specialize in science.
  go.nature.com/dezv5d
- The Massachusetts Institute of Technology in Cambridge offers a one-year master's degree in science writing.
  sciwrite.mit.edu
- The MA programme in science and health journalism at the University of Indiana in Bloomington includes a course in public-affairs reporting.
  go.nature.com/artucl
- The one-year science-communication programme at the University of California, Santa Cruz, is open only to those with science degrees and at least some research experience. **C.W.**
  scicom.ucsc.edu

occasional outreach work at a science museum during a postdoc at DESY, Germany's high-energy physics laboratory in Hamburg. "It's probably getting more and more difficult to get into the field the way I did," he says. Increasingly, he says, institutions looking to hire scientists for PIO positions will require candidates to have at least some formal writing training.

Many universities offer science-writing or communication programmes, giving scientists a chance to hone their writing skills and upgrade their résumés. Some programmes focus on journalism, but others offer specific instruction for PR and PIO work (see 'Training the communicators').

COVERING THE FIELD

Immediately after obtaining her doctorate in 2005 in materials science from the University of California, Santa Barbara, Aditi Risbud started the one-year science-communication course at the University of California, Santa Cruz. "I couldn't see myself loving research enough to make it my career," she says. "I knew I wanted to get into the PR field."

As part of her time at Santa Cruz, Risbud interned at the communications office of Stanford Medical Center in California, where she wrote press releases and stories about all sorts of medical research. After graduation, she was hired by Orrico at Weber Shandwick. Among other things, she was soon writing 15-page primers on tumour angiogenesis and treatments for multiple sclerosis. "I had to give myself an education in the medical field," she says. "I bought textbooks."

Risbud, who now works as a PIO in the College of Engineering at the University of Utah in Salt Lake City, recently wrote about electrical engineers who used an inexpensive inkjet printer to create microscopic 'plasmonic' structures that make it possible to use light beams to transmit data over metal surfaces. In an interview with Ajay Nahata, a professor of engineering and computer engineering at the university, Risbud got the type of quote that was guaranteed to get a reporter's attention. Plasmonic devices, Nahata told her, "have the potential to make wireless devices such as Bluetooth 1,000 times faster than they are today".

From medicine to engineering — that sort of versatility is the hallmark of a good PIO. "I was always intimidated interviewing scientists," says Meredith, "but then a very prominent astronomer told me that she was in awe of PIOs because we have so many areas of expertise. That was gratifying." ■

Chris Woolston *is a freelance writer based in Billings, Montana, and a graduate of the science-communication programme at the University of California, Santa Cruz.*

COLUMN

Choosing to stay

Saying no to a move is not easy, but there could be some very good reasons to stay put, says **Yoshimi Rii**.

As a graduate student contemplating a possible postdoc position, I have a constraint that I don't like to admit: I'd prefer not to move. Some may say that declining to be mobile is a cardinal career sin for young scientists. But I have my reasons.

By the end of their doctoral programme, many students acquire not only research experience but also personal achievements: long-term partners, a set of great friends, perhaps a mortgage and maybe children. Yet many move — to another state, another nation, another continent — to pursue fellowships and research labs in the hope of positioning themselves for a future faculty job (see *Nature* **490,** 326–329, 2012). There's often more to their motivation than a sense of adventure — many universities shy away from hiring graduates from their own departments for new faculty positions. I have sat on faculty candidate-search committees and witnessed many qualified local candidates outcompeted by those who had ventured to labs far and wide.

If I were willing to be mobile, exotic and exciting opportunities would abound. At the Ocean Sciences Meeting in Hawaii in February, a researcher at the poster session invited me to do a postdoc in Chile. Although I entertained the idea for a few days, I knew that Chile wasn't going to happen. I have a husband who was recently made a supervisor in his job, and a great group of friends. But the real deal-breaker is that my mother and sister live here in Honolulu.

My mother is the healthiest 78-year-old I know, and yet, when I consider going away for even a year, I am paralysed by the fear of lost time. I hope to start a family in the next couple of years, and I want to maximize every moment my future family and I will have with my mum.

By choosing to prioritize geographical location for family reasons, I feel as if I am closing the door on academia. When I started to consider alternative career paths, I feared that my search for local career choices would severely narrow the scope, especially if I wanted to continue doing research. But I'm noticing that there are plenty of options if I think creatively about how to use my degree (see *Nature* **494,** 393; 2013).

With uncanny timing, I recently saw an announcement for a teaching chair at my old high school, a prestigious school with bright students. My former biology teacher is retiring after 52 years, and the school wants someone

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to implement a research programme in its new laboratory facility. I would be able to educate young students and instil in them a love for the ocean. I would get to stay 'at the bench' and stay at home — seems like a win–win. Still, I hesitated to apply.

First, my lack of exposure to alternative careers in graduate school makes them seem less worthwhile than a gloried professorship. I still hear people say, 'Oh, so-and-so won't make it in academia.' Such language perpetuates the unrealistic expectation that every PhD graduate should become a professor.

Second, part of me feels as if I'm making this decision for my family, and deliberately surrendering my future identity as an oceanographer or a scientist. I find myself fantasizing about an international postdoc or months at Palmer Station in Antarctica. Occasionally I wish I could become my adviser's mini-me.

In the end, choosing an alternative career is less about sacrifice and more about finally being in the position to take care of people other than myself. I'd like to give my mother some freedom to finally live her life, after she has heroically taken care of my special-needs sister for the past 40 years (not to mention a 34-year-old still in graduate school). I guess my feelings as a daughter supersede my drive as a young academic.

I decided to apply for the teaching chair. Nervous but excited, I hope for good news. Saying no to moving may close some doors, but it will open others, both personal and professional. ■

Yoshimi Rii *is a fifth-year PhD candidate in the School of Ocean and Earth Science and Technology, University of Hawaii at Mānoa.*