CAREERS

TURNING POINT Researcher battles learning disabilities to study HIV **p.391**

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CAREER GAPS

Maternity muddle

The support available for childbirth and rearing varies wildly. New parents come up with creative ways to juggle demands.

BY AMANDA MASCARELLI

Marine scientist Maria Granberg gave birth to her first child in 2006 and took roughly a year off at 80% pay. But in 2010, when she became pregnant with her second child, she was at a more challenging career stage. By then an assistant professor at the University of Gothenburg in Sweden, she was building momentum, planning research activities and establishing collaborations — and had yet to recruit staff for her lab to keep the research moving in her absence.

In addition, her research on marine-sediment bacteria involved work with solvents that are unsafe to handle during pregnancy.

Neither her department nor her granting body, the Swedish Research Council Formas, could offer her funding for a lab assistant. Between a pregnancy that restricted her work and six months of partial maternity leave, she lost a full season of field samples and a year of work. The losses resulted in missed publication opportunities and altered her long-term plans for the project. “That’s a very stressful thing,” she says. “The pregnancy comes along and kind of disturbs your plan.”

Four years on, Granberg says that she is finally regaining traction, but she still views that period as troublesome to her career. “Science is a lot about timing, having momentum, and I think the scientific community could

do a lot about this period when you are pregnant and you cannot be in the lab,” she says. For example, Granberg believes that research councils and granting agencies should establish funding to support female researchers’ programmes during pregnancy and directly after their return from a maternity leave. “Efforts should be aimed at sustaining the research momentum at the same level as that of their colleagues,” she says.

Her experience illustrates the challenges for women who are trying to juggle the obligations of the lab with the demands of motherhood. The decision to start a family often clashes with the time when researchers are launching their careers and working towards tenure. Maternity-leave benefits and experiences vary widely among employers and at institutions across the globe, and even between departments. The amount of time a woman spends working during her leave depends on variables such as personal desires, career phase, the nature of the research and the institution’s policies.

Most researcher parents agree that there is no perfect time in a career for the arrival of a child. Already having tenure might offer job security, but it also comes with the responsibility of overseeing lab members and projects. Having a child during the early days of a career means that there may not be major projects or personnel to oversee — but it can interrupt the momentum of the research.

Early-career researchers who are considering parenthood or who are preparing for a child need to be aware of the challenges that are likely to await them. Depending on their location and employer, some or all of their maternity leave may have to be unpaid, they may need to work from home at times, and they could well need to find ways to keep their research programme afloat.

It is a tough road to navigate, especially for those who are just getting under way. People who have travelled down that road warn that junior researchers who are considering parenthood should find out specifically and well in advance what benefits their employer offers and be ready to negotiate if they do not exist or do not meet their needs.

AVENUES OF SUPPORT

No matter how supportive the work environment, breaking away from research can be fraught with difficult decisions, and there is no universal formula for how to satisfy the twin demands of work and family. Some ►

► institutions and agencies offer support through a mixture of programmes and policies — but with varying levels of success.

The US National Science Foundation in Arlington, Virginia, for example, is starting to incorporate ‘family-friendly practices’ into its framework. Its Career–Life Balance Initiative was launched in 2011 and provides, among other offerings, supplemental funding of three months’ salary — about US\$12,000 — to help principal investigators, postdocs and graduate research fellows to pay for a technician during their maternity leave. And the European Research Council has adapted its rules to allow principal investigators who become parents additional time for each child born to apply for specific grants.

TIME TO NEGOTIATE

Some institutions offer very little in the way of formal support. Gretchen Hansen was finishing her PhD in limnology and marine science at the University of Wisconsin–Madison when she became pregnant with her daughter. She told her adviser about her pregnancy and asked about the maternity policy for graduate students. “Nobody knew,” she says, “and there was no policy.”

She and her adviser then devised a plan that would allow her to drop down to a 33% appointment during her leave, reduce her salary by one-third and keep her health insurance. Hansen spent about five months working from home when she could, and spending one day a week in the lab.

She is now a fisheries research scientist at the Wisconsin Department of Natural Resources in Madison and is expecting her second child next month. She is not eligible

Jenny Briggs occasionally took her daughter with her on fieldwork trips in the early months.

for specific maternity benefits at her new institution, and can only claim the minimum 12 weeks of unpaid leave offered by US law. She plans to use holiday time, sick leave and the ‘disability allowance’ for which employees become eligible when pregnant to cover most of her salary for about nine of those weeks.

Samantha Joye, an oceanographer at the University of Georgia in Athens, slogged her way through a similarly knotty maternity experience. A tenured professor, she gave birth to her now-6-year-old daughter and worked mainly from home for about 8 months, writing several papers and submitting two grant proposals before her daughter

was 6 months old. Because the university did not provide any paid maternity leave, she used sick leave to get partial pay during that time. In 2012, when her twins were born, she did much the same thing. She and her husband, Christof Meile, a biogeochemical modeller at the same university, juggled their parenting around each other’s tenure demands.

In the early days, most parents have not yet organized formal child-care services, which presents demands when trying to keep a research programme running. When Joye started venturing back onto campus three months after the birth of her daughter, she brought her child with her when meeting students, attending seminars and joining lab or faculty meetings. Most of her colleagues and university staff were supportive of the presence of her child, she says.

Mara Dierssen, a neuroscientist at the Center for Genomic Regulation in Barcelona, Spain, took about four months of leave after each of her four children were born, but found creative ways to stay in touch with lab members, including walks through the park with her PhD students, with her child in a pushchair.

Hopi Hoekstra, an evolutionary geneticist at Harvard University in Cambridge, Massachusetts, took three months off after her son was born in 2012. But about a month in, she began bringing the baby into the lab, entertaining him in a baby seat and sometimes rocking him to sleep during lab meetings. Her husband, also an evolutionary geneticist at Harvard, took their son into his office as well, where he kept baby gear. In retrospect, she adds, “I wish I had been more off-line. The team did just fine on its own.”

Trying to include lab time and face time with graduate students and other lab members during parental leave is difficult enough, but many researchers also have to contend with the demands of fieldwork. Managing that schedule takes some nimble and creative planning, they say (see ‘Coping tips’). Jenny Briggs, an ecologist at the US Geological Survey in Denver, Colorado, was working on a project in the Rocky Mountains when her second child was due in 2010. “In my work, biological changes happen season by season,” she says. “You can’t put annual studies on hold for a year.” So she arranged with her boss to funnel the money that she would have been earning had she not taken unpaid leave to a graduate student who could take over the study. She returned to fieldwork just weeks after her daughter was born, sometimes bringing her infant to breastfeed and her mother to assist. Usually, she left the baby at home with a carer and took breaks behind trees or in the field truck to pump breast milk.

TOP NOTCH

Some universities offer exceptional maternity and paternity benefits. Many academic institutions in Scandinavia offer both parents up to

COPING TIPS

How to maximize maternity benefits

Researcher parents have come up with a host of ideas that have helped them to juggle the demands of work and family. Here are a few:

- If possible, hire an assistant or technician to help run lab or field duties during maternity leave.
- Sit down with your department head or chair several months in advance to discuss goals, identify possible support and plan out the return from maternity leave.
- Form a support network of other scientist mums and dads. Facebook groups are one way to build up this type of community. “It’s incredibly important,” says Jenny Briggs, an ecologist at the US Geological Survey in Denver, Colorado. “Other mothers who do this have been my greatest allies.”
- When trying to juggle work and parenting, figure out when you are most productive.

“You want to be strategic and realistic about what time of day you’re going to work on what,” says Natalie Boelman, an Earth scientist at Columbia University in New York. During the early days after her daughter’s birth, Boelman found that she needed to sleep during her daughter’s morning nap but could write efficiently when her daughter slept in the afternoon.

- As much as possible, share parenting responsibilities 50–50 from day one, says Susana Martinez-Conde, a neuroscientist at the Barrow Neurological Institute in Phoenix, Arizona. She and her husband, Stephen Macknik, also a neuroscientist at Barrow, have shared parenting equally for all three of their children. When necessary, says Martinez-Conde, “we take turns, where one person may be writing a paper or grant and the other takes the kids to the park”. **A.M.**

a year of paid leave, for example, and under UK national policy, institutions must provide statutory maternity pay — a percentage of average weekly earnings — for up to 39 weeks and leave of up to a year. The United States has a few standout examples. At Northwestern University in Evanston, Illinois, many departments offer mothers three months of full pay for childbearing and adoption leave and another three months for child rearing. “I never felt pressure to be in the office during maternity leave,” says Yarrow Axford, a geologist who had a son last year. “Of course, I had

“The scientific community could do a lot about this period when you are pregnant and you cannot be in the lab.”

Maria Granberg

to keep up with what was happening in my lab and with students conducting independent research. But that is just part of doing the business of science.” Northwestern also grants a one-year extension on the tenure clock to mothers after the birth of their child and to both parents following an adoption. Furthermore, it offers three months of paternity leave — so Axford’s husband, Christopher Kuzawa, a biological anthropologist at Northwestern, also stayed home for three months after their son’s birth. “Those early months are so formative,” says Axford. “If more dads could take substantial time away from work to be home with their children in the early months, I suspect there would be more dads out there who are 100% comfortable being left alone with their kids, and moms comfortable leaving them.”

Kuzawa notes that the time at home allowed him and Axford to jointly figure out the intricacies of caring for their son. “We established all the patterns together,” says Kuzawa. “So it never felt like one of us was the primary caregiver and the other was kind of in the passenger seat.” Axford heads out to Greenland this summer for three weeks of fieldwork, but she and her husband feel somewhat less anxious about her impending absence. “We were faced with everything that comes with being a parent — all that middle-of-the-night stuff, weird naps, crying for no reason, won’t eat,” Kuzawa says. “We had to come up with solutions to all of that. And we did.” ■

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TURNING POINT

Collin Diedrich

Collin Diedrich has overcome learning disabilities to carve out a promising career researching HIV and tuberculosis (TB) co-infection. He talks about what prompted his move from the United States to the University of Cape Town in South Africa.

What challenges did your disabilities present?

I was diagnosed with reading and learning disabilities in primary school in St Louis, Missouri. But my parents got me private tutors right away, who helped me develop strategies to improve my reading comprehension and organizational and memory skills. Given the stigma and feelings of inadequacy that can come with a learning disability, I have struggled with impostor complex, cycling through phases where I feel completely out of place and inadequate, as if it is only a matter of time until I am ‘found out’. Luckily, I am driven and have an amazing support network in my advisers, colleagues, my wife and my family, who have all been helpful and patient when my mind is racing.

What drew you to a career in science?

I didn’t really think of science as a career option until I took a biology course at university and realized how much I liked the idea of becoming a researcher. The more I learned about HIV, the more fascinated I was by this virus that can attack your immune system. I read books about it, but what intrigued me most were the first-hand accounts of people with HIV. Before I read them, I couldn’t understand why anyone would engage in the risky behaviours that could lead to HIV infection, but I came to understand that the threat of death a decade or more later was not often an immediate concern, especially among those with already-risky lifestyles.

Did you discuss your disabilities with any potential advisers?

When I started my PhD at the University of Pittsburgh, I didn’t want to tell people about my learning disorder — I was nervous and intimidated about mentioning it. Then I met JoAnne Flynn, who was head of the molecular virology and microbiology department, and working on simian immunodeficiency virus (SIV) and TB co-infection. Our conversation went so well, I felt comfortable telling her. Without missing a beat, she directed me to the university’s learning-disabilities centre. After spending time in her lab, I decided to do my dissertation with her, focusing on the cascade of immunological responses that follows SIV infection. She expected as much from me as

from anyone else, and was approachable and helpful — which helped me both scientifically and emotionally.

Why go to South Africa?

I wanted to work on co-infection in human samples, which are in greater supply in South Africa than in the United States. I knew that Robert Wilkinson was working on co-infection at the University of Cape Town, so I secured funding to do my postdoc there.

What did you find hardest about the move?

When you start a postdoc in a new lab, you have to learn where things are and new techniques. I had cultural differences and practical concerns to figure out, and I also had to determine how to get access to the samples necessary to research how HIV alters the granuloma, the inflamed tissue.

How did it change your perspective?

Seeing the effects of these devastating diseases first-hand has been a powerful experience, even though I am doing basic research. I have also learned that just because US scientists do something one way doesn’t mean it is the only way. I’ve replaced my US-centric views with a broader appreciation of research approaches.

What do you plan to do now?

I hope to continue working here throughout my career, at least half-time. I have funding until the end of 2015, and have developed strong collaborations. I would also like to be an advocate for students with learning disabilities and help university admissions officers find ways to look beyond examination scores to include candidates, such as myself, with research aspirations. ■

INTERVIEW BY VIRGINIA GEWIN