in Durham, North Carolina. He points to Family Planning 2020, an ambitious initiative to roll out contraceptive services to 120 million girls and women in developing countries by 2020. Donors including the Bill & Melinda Gates Foundation and governments of both developed and developing nations have pledged $2.6 billion to the programme, which was launched last July at a meeting in London spearheaded by Melinda Gates. "This will define the future for public-health jobs in the reproductive sciences," says Cates.

He adds that the initiative will create jobs, mostly in the developing world, for researchers who know how to cost-effectively implement such services and for scientists who can evaluate their impact — by, for instance, assessing the uptake of contraception and its effects on population growth and women's and children's health. The effort will require researchers with backgrounds in areas such as demography, sociology, economics and public health.

Cates says that researchers with a basic-science background in reproductive sciences and extra training in fields such as epidemiology often have a leg up when competing for jobs in areas including clinical-trial design, because of their understanding of biology.

Patricia Sadate-Ngatchou earned a PhD studying sperm development at WSU. But a visit home to Cameroon during a major cholera outbreak in 2010 changed the course of her career. "How do you help people on the ground?" she asked herself.

Sadate-Ngatchou is now studying for a master's degree in epidemiology at the University of Washington in Seattle. Her ultimate goal is to move into a decision-making position in government or a foundation involved in reproductive health; a suitable post might be as a programme officer overseeing grants. However, Sadate-Ngatchou thinks that she may first have to do entry-level work as an epidemiologist, for instance in disease surveillance.

The variety of questions and opportunities in reproductive biology keeps some researchers hooked on the field, despite the tough market. Some end up in niches they never expected, such as facilitating panda or reptile reproduction in zoos, or assessing toxicants for their effects on embryonic and pubertal development at government institutions such as the US Environmental Protection Agency. Clement is open to a variety of possibilities. "If you are a reproductive biologist," she says, "you have to prepare for option one — but have option two and three in the wings." ■

Charlotte Schubert *is a freelance writer based in Seattle, Washington.*

TURNING POINT
Bruno Reversade

*A molecular biologist at the Agency for Science, Technology and Research (A*STAR) Institute of Medical Biology in Singapore, Bruno Reversade is the first scientist based outside Europe to win the European Molecular Biology Organization Young Investigatorship Award, which he collected last November for his work on genetics and twinning.*

Do you thrive in a competitive environment?
Yes. I realized that university would be competitive when one of my first professors said that 60% of the class would not make it to the second year. After that, I sat in the front and worked hard.

What led to your fascination with embryonic development?
I went to the University of Western Ontario in London, Canada, in my fourth year as an undergraduate and worked on early zebrafish development. The developing embryo was so beautiful and fundamental to life that I realized it was a special area. At the time, medicine and biology were all about identifying and treating disease, but I found a resonance with birth and development. I went to the Pasteur Institute in Paris for a year to work on early head development after seeing a knockout mouse with no head on the cover of *Nature* (W. Shawlot and R. R. Behringer *Nature* **374,** 425–430; 1994).

What was the biggest challenge of your PhD?
I did most of my research at the University of California, Los Angeles, where I spent the first half of my programme chasing chordin, a protein that my adviser, Eddy De Robertis, and I thought was circulating in the blood. After three years we found we were mistaken. I persevered, however, and we detailed how multiple proteins help embryos that are cut in two to self-regulate consistently. Eddy and I published the work in *Cell* (B. Reversade and E. M. De Robertis *Cell* **123,** 1147–1160; 2005).

What led you to focus on genetics in twinning?
Sitting in the lab cutting frog embryos day after day led me to a defining realization. Identical twins occur once in every 300 births, more frequently than most genetic diseases. The dogma at the time was that twinning just happens, but I started to look for evidence of a genetic trigger. Then Hanan Hamamy, a genetic clinician who at the time was at the Jordanian National Center for Diabetes, Endocrinology and Genetics in Amman, identified 13 pairs of identical twins across multiple generations of a single family — hinting at a genetic link. She kindly invited me to work with her.

How were you able to rush out to Jordan?
I wanted to test my ideas as quickly as possible, and I didn't want to do a postdoc. Perhaps that was arrogant or unrealistic, but I wanted to be independent. Fortunately, Swiss philanthropist Branco Weiss was seeking young scientists who were pursuing a biological problem with societal impact for the Society in Science fellowship. I met Branco and explained that identical twins can develop through several mechanisms, including embryonic bisection and possibly genetics, which for me calls into question the moral uproar over cloning. I convinced him that the idea was worth pursuing and he gave me the money.

Have you published this work?
Not yet. I'm now working with samples from other families with multiple sets of twins. We found a gene that is overexpressed in identical twins and encodes a protein. We are making sure it is well protected by patents.

What is your most important career move so far?
In 2008, I was the first A*STAR investigator recruited as an assistant professor at the Institute of Medical Biology. They offered me carte blanche: I have no teaching or grant-writing responsibilities. Everything was new and the country was investing so much in science. I have blossomed here because I got that freedom just as the revolution in human genetics began.

What do you plan to do next?
I want to work on rare diseases ranging from developmental anomalies to inherited cancers. If you want to understand a trait in the general population, you need to look at the outliers. ■

INTERVIEW BY VIRGINIA GEWIN