

GRADUATE JOURNAL

Time bends

I'm not sure how it works, but I think I've experienced time speeding up, slowing down and stopping during these graduate school years.

I now expect time to accelerate, and more computers to crash, as a deadline looms. When I am anticipating an exciting result and have to wait for a colorimetry reaction to develop, an hour feels like half a day. An afternoon of dilutions can feel like an eternity of boredom.

Our lab has no windows. It is easy, especially when one works through lunch, to forget what time it is. The lab sits at 43° N; in the depths of winter one can arrive at work under a starry sky, and leave at the end of the day long after the Sun has set on a cold and snowy Toronto. It is spookily easy to lose track of the days passing.

My favourite time-bending experience usually catches me by surprise. When I dive into a problem, a book or an editing project, hours pass unnoticed. It is usually the rumbling of an unattended stomach that finally yanks me back to the reality that I'm late to meet my friends for dinner. I wish I could explain how my tardiness can stem from time-warping in the lab, yet I simultaneously give thanks that this is one effect that I don't need to explain to pass my thesis defence. ■

Sidney Omelon is a PhD student in bone biomaterials at the Samuel Lunenfeld Research Institute, Mount Sinai Hospital, Toronto, Canada.

San Jose BioScience Incubator and Innovation Center

Conventionally, biotechnology incubators provide space for fledgling companies to grow. But a new generation of facilities is springing up that offers additional services to help nurture budding businesses. One such newcomer is the San Jose BioScience Incubator and Innovation Center, which opened last month and is expecting its first tenant in August. The centre is the latest in a number of government-funded facilities that provide a support structure as well as lab space.

The building's 3,400 square metres should comfortably house about 25 companies, which will be able to use the centre's support staff to help establish and meet their business goals. Melinda Richter, managing director of Global Access to

Innovation Networks (GAIN), the Bay Area company that will manage the facilities at the centre, sees the set-up as an "ecosystem".

The companies that secure space in the incubator must first undergo a business assessment with GAIN. This looks at the nascent firm's strengths and weaknesses — including intellectual property, finances and management — and identifies its three most important needs. These are then used as benchmarks, and the firm must meet with GAIN quarterly to check on its progress.

To help the tenant meet the goals, the centre assigns each firm a 'chief-executive coach' from a non-competing company. In addition, the incubator offers access to a database of potential mentors that can help the company to find people such as intellectual property lawyers or contacts at

potential commercial partners. The centre also plans to house several companies 'virtually', by providing them with its services but not space.

The city of San Jose spent \$6.5 million to renovate, equip and manage the centre in order to attract jobs. An earlier incubator, which opened its doors in 1994, focused on information technology and has already attracted \$475 million in venture capital and created 2,500 jobs.

Richter hopes that the combination of service and space at the biosciences centre will serve as "an international landing pad" for companies from abroad looking to get a toehold in the United States. She is optimistic about the centre's future — after all, the Milken Institute recently listed San Jose as one of the top ten sustainable biotech cities. ■

Paul Smaglik is editor of Naturejobs.
 ▶ www.wtc-sf.org/biosanjose.html

MOVERS

Daniel Carucci, director, Grand Challenges in Global Health, National Institutes of Health



Daniel Carucci joined the US Navy to finance his medical education. But during his service, he found that, rather than an obligation, his military stint opened up opportunities he never would have considered had he not joined.

Carucci learned to fly fighter jets, became interested in tropical medicine and got involved in genomics. "When opportunities presented themselves to

me, I often took them, even if they were not on my critical path," Carucci says. This month, his path hit a critical junction as he retired from the Navy after 20 years — 17 more than were needed to pay for his medical training — to take on a position tackling global health challenges.

His military stint stimulated his interest in infectious diseases. After training as a flight surgeon, Carucci was deployed for months at a time in Asia, Central America and Africa. On breaks from caring for pilots and their families, Carucci would visit local hospitals and clinics, where he encountered tropical medicine in the tropics.

After he won an award for flight surgeon of the year in 1989, the Navy allowed him to take a master's degree at the London School of Hygiene and Tropical Medicine, where he got his first taste of hands-on research. His appetite whetted, he went on to do a PhD.

After Carucci finished this, Steve Hoffman, then director of the malaria programme at the Navy Medical Research Center in Silver Spring, Maryland, recruited Carucci to the Navy's malaria-vaccine programme. Carucci helped lead the malaria sequencing effort and got interested in proteomics and functional genomics. When Hoffman left for the genomics company Celera in 2001, Carucci took over his post, and branched out into immunology and vaccine research. Both positions taught him how to pick up new scientific fields quickly and to lead large teams with skills ranging from basic biology to regulatory affairs.

In his new job, based in Bethesda, Maryland, the remit will be even broader. The National Institutes of Health's Grand Challenges in Global Health programme will extend well beyond malaria. The job will give Carucci plenty of opportunities to follow his curiosity. ■

CV 2001–04: Director, malaria programme, Naval Medical Research Center, Silver Spring, Maryland

1999–2000: Director, genomics and bioinformatics, malaria programme, Naval Medical Research Center, Silver Spring, Maryland

1995–99: Research physician/molecular biologist, malaria programme, Naval Medical Research Center, Silver Spring, Maryland

1995: PhD molecular biology, London School of Hygiene and Tropical Medicine