

TURNING POINT

Marc Modat

A postdoc in non-linear medical-image registration at University College London, Marc Modat has created imaging software that has helped him to co-author more than 60 publications. In February, the software landed him the university's Young Investigator in Neuroimaging Techniques Award for 2011.

You hadn't planned to do a PhD. How did you end up doing one?

Towards the end of my undergraduate degree in bioengineering at the University of Creteil in Paris, I did a medical-imaging internship at the Commonwealth Scientific and Industrial Research Organisation near Brisbane, Australia, with Sebastien Ourselin, who was working on how to compare the brain scans of patients. I had never considered doing a PhD, but he was moving to University College London and he asked if I wanted to join his group. This turned out to be one of the best career decisions I've made.

Why did you pursue neuroimaging?

I didn't have strong feelings about medical imaging, I just met good people at a good time, and I enjoyed working on the algorithms needed to align and compare the scanned images of patients. This is called medical-image registration and is a crucial piece of the image-processing pipeline. For example, if you want to compare the brain scans of two different patients or the scans of the same patient over time, you need to have a way to quantify any changes.

What was so popular about the software code you designed?

Computation time was a big challenge in image processing when I started. We were working with large cohorts of patients, and it could take hours to process images. I found a way to make the technique up to 200 times faster but without compromising accuracy, and I put the code online for other scientists. I'm not saying that my code is better than the others available online, but it may be faster, which got people's attention. I received a great deal of peer recognition, invitations to be part of collaborations and the young investigator award because of the code.

Were there objections to publishing the code?

Not really. Not everyone's supervisor would let you do that — some would prefer to maintain their competitive advantage — but we decided to publish the code because we knew



that it would increase our visibility. It did. I receive e-mails from people all over the world saying that they are using it or suggesting modifications. We are still working on it daily and adding more features to ensure accuracy and increase its speed.

Are all your publications a result of developing the code?

Most are. As a PhD student, I co-authored publications with other research teams because our code and imaging expertise were used to help with their work. I am part of a large laboratory, so I have been involved in a lot of different clinical studies, but now I'm trying to find a balance between working on my projects and working as a collaborator.

Do you think your career interests will dictate the development of the code?

Going forward, I'm not sure the code will be linked only to me; many people are contributing to it by suggesting changes or additional features. I would like to be involved in everything related to the code, but that depends on how it grows. We are thinking of merging the medical-image registration software, the software that reconstructs images, and the simulation programs and visualization tools into one package, which could have a big effect on the field.

Why is this award important for you?

Supervisors nominate their students every year for this award. Typically, it goes to a clinician or a biologist. When I received the award, it made me think that my work is as valued as that of the clinicians — which is nice because I really enjoy what I do. ■

INTERVIEW BY VIRGINIA GEWIN

INTERVIEWS

Narcissists excel

Job hunters who hope to do well during interviews should talk about themselves in glowing terms, says a study in the press in the *Journal of Applied Social Psychology*. The authors found that behaviours that would be considered narcissistic in other settings were rated highly in simulated job interviews. "This is one setting where humility is not valuable," says study co-author Peter Harms, assistant professor of management at the University of Nebraska-Lincoln. He encourages interviewees to speak a lot. "Don't give short answers," he says. Those who spoke quickly, smiled, gestured and complimented others often, and who spent time on grooming were rated highly.

FUNDING

Global-health research

A fellowship programme will award US\$20.3 million over 5 years to 400 early-career scientists in the United States and in low- and middle-income countries to build the next generation of global-health researchers. Eighteen centres at the US National Institutes of Health (NIH) in Bethesda, Maryland, including the Fogarty International Center are supporting the fellowships. Participants will be selected by their institution to conduct research at one of about 80 sites globally. Trainees will study issues such as HIV/AIDS, tuberculosis, malaria, maternal and child health, cancer, cardiovascular disease and diabetes. Postdocs will make up 80% of new fellows and graduate students the remaining 20%.

INVESTMENT

UK drug development

A £250-million (US\$397-million) investment in venture capital for translational research in the United Kingdom could create jobs. The European Investment Fund in Luxembourg City and Cancer Research Technology (CRT), the commercial arm of the London-based charity Cancer Research UK, are jointly investing £50 million in the development of potential cancer drugs. A separate £200-million initiative by the Wellcome Trust in London will support early-stage biotechnology firms. Keith Blundy, chief executive of CRT, says that experts in drug development should find opportunities as the funding helps to take more drug candidates through to clinical trials.