

commercial success even with a modest number of customers. In the early 2000s, David Mann, a marine biologist then at the University of South Florida in Tampa, began selling underwater acoustic recorders, which his team had devised, to colleagues, and he started Loggerhead Instruments in Sarasota, Florida. He left academia in 2013, and his company currently sells about 100 devices per year for about \$3,000–10,000 each.

When pricing products, scientists should consider the instrument's uniqueness. They should also assess the relative value provided by the device. For instance, Loggerhead's recorders can be deployed underwater for up to a year. Gathering the same data manually by sending a researcher on a boat could cost much more than the recorder, Mann says.

If scientists enjoy field-device work but do not want to run a business, they can join an existing company; there, engineers do most of the development, and biologists can work with customers and advise the firm. Kenady Wilson, a wildlife biologist, took a job at Wildlife Computers in Redmond, Washington, which designs and manufactures instruments for marine-animal research. She is analysing data from the devices and will help to determine which algorithms the company's software should include.

Biologists can also find positions in groups such as Xylem Analytics in Charlotte, North Carolina, a division of the water-technology company Xylem. The jobs are well suited to people who have experience with similar instruments and want to address global water challenges, says Rob Ellison, the group's vice-president of strategy and technology in Boston, Massachusetts.

But even a solely academic project can offer big rewards. Troscianko's crow cams caught the birds making hook-shaped tools<sup>2</sup>, and Davis's recorders have revealed seal behaviour ranging from fish-hunting tactics to energy-saving gliding<sup>3</sup>. Measuring something new, says Johnson, brings "phenomenal satisfaction". ■

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3. Davis, R. W., Fuiman, L. A., Williams, T. M. & Le Boeuf, B. J. *Comp. Biochem. Phys. Part A Mol. Integr. Physiol.* **129**, 759–770 (2001).

#### CORRECTION

The Careers Feature 'Candidate science' (*Nature* **544**, 259–261; 2017) erroneously referred to Bob Foster (Republican, Illinois). In fact it should have referred to Bill Foster (Democrat, Illinois).

# TURNING POINT

## An eye to success

*As a postdoc studying marine biology at the University of Bristol, UK, Shelby Temple invented a device that assesses the health of human eyes. He describes his move out of research to commercialize the device.*

#### How did you create this tool?

I was characterizing the ability of animals to see polarized light, and was curious about the human perception of polarization. So, using LCD screens, some customized components and the contents of my recycling bin, I invented a device to examine it. When I used the device to measure the threshold of human perception of polarized light, those measurements corresponded with the density of macular pigment in the eye. A low level correlates with poor vision and is a risk factor for age-related macular degeneration.

#### What did you do next?

With the support of the business incubator at the University of Bristol and programmes including Innovation to Commercialisation of University Research, I conducted market research and developed the device. I believed that my invention had potential for commercialization, so I left the incubator to launch a start-up company. The university owns the intellectual property and they gave me an exclusive global licence in exchange for equity and royalties.

#### How did you transition out of your postdoc?

I was able to ease away from lab commitments with funding that allowed me to take a four-month break while doing market research. I passed on a lot of my projects to colleagues, and although I am trying to finish off a few papers, it's really more of a hobby now.

#### Are you pleased with your present career path?

Yes. I felt like I was stagnating and was frustrated by the lack of opportunities in my home nation of Canada. Commercializing the device seemed like a great opportunity and could allow me to return to Canada in the future.

#### How does your company run with no revenue?

I won a Biotechnology and Biological Sciences Research Council Enterprise Fellowship, which has paid my salary for the past year. We have a start-up grant from Innovate UK and just completed our first round of investments.

#### What did your market research find?

Most people, including optometrists, don't know what macular pigments are, so we'll need



to educate them. I also learnt how the device would fit into optometrists' business models.

#### Has it been difficult to move from research?

The learning curve was sharp: I took numerous courses to learn about business planning and modelling, accounting, sales and marketing. It has taken me a long time to shift my thinking to making money — there is a lot of pressure to get the device to the point of sale as soon as possible. It's a fantastic amount of work, but I have also been having a great deal of fun.

#### What are you doing now?

We are conducting a more focused, large-scale study to compare our tool's results with results from the existing method for measuring macular-pigment density, so there is a big push to get the next prototype ready for trial. As technical officer, I am working on the manufacturing process and am currently operating out of my house. We hope that by late 2017, a more developed version of the device will be ready before we invest in large-scale manufacturing. My dream is for the device to be used in every optometrist's office, and maybe in the future by primary-care doctors. I envision it as a standard part of eye-health checks, a bit like a blood-pressure monitor.

#### What is the best aspect of starting a business?

Building a great team with key skills to complement my own. For instance, the chief operating officer has taken over some of the business planning, which allows me to focus on the science. And it's my company, so I run it with my own ethos. Why not have board meetings that start off with nipping to Devon to surf? ■

#### INTERVIEW BY LOUISA COCKBILL

This interview has been edited for length and clarity.