

chunks if I were to do this again for a science-based campaign,” she says. “It makes for smaller, more achievable goals, and it helps you to keep your story developing and evolving.”

Ranganathan agrees with this approach. “Don’t ask for more than \$3,000–5,000 if you’re just starting,” he says. “People always look at the percentage you’ve raised as a sign of social acceptance — they’ll go to a crowded store first because there must be something going on there. If you’re only raising 2% or 3% of your goal, it will look terrible — for you and for the site.” Later campaigns can ask for more.

LEGAL HURDLES

There are other potential sticking points. Telling the world about a research project leaves ideas open to theft. And there are legal pitfalls. No specific laws govern donor-based crowd-funding, at least in the United States, but campaigners need to tread carefully with their pitch — or they risk a lawsuit for misrepresentation, warns Bryan Sullivan, business-law attorney at Early Sullivan Wright Gizer & McRae in Los Angeles. He says that campaigners should remain vague about how the appeal will allocate funds, so that they can use them for administration or other project expenses. And researchers should never imply that a result will be achieved. “You need to say, ‘We believe that our results could show ...’ or ‘In our opinion, our results may ...’” says Sullivan. “You cannot speak recklessly.”

Campaigners should also be aware that income from crowd-funding is generally taxable. Seasoned campaigners recommend that researchers who work at a university or research institute should set up donations to go through the institution, as a grant would. And US donors will not receive a tax deduction for their contributions unless the campaign is set up as a charitable organization.

For those able to build an audience, however, crowd-funding has great potential. Site executives say that it offers a glimpse into what the public wants to support — which could help to persuade funding agencies to sponsor certain studies. “The role of the researcher has been to write grant applications and get funding agencies to accept them. Now researchers can launch crowd-funding campaigns, which helps them evaluate their research,” says Ringelmann. “With that validation, researchers have more power to track their support and negotiate with large funding agencies.”

That can mean a significant impact on morale and enthusiasm. Researchers often feel as if they have more control of their funding destiny with crowd-funding than with a grant application, says Ringelmann. “If you run a successful campaign, you can show that traction,” she says. “This puts the decision-making back in the hands of the people, and that’s incredibly empowering.” ■

Karen Kaplan is associate editor of *Nature Careers*.

TURNING POINT

Lucy Collinson

Lucy Collinson knew little about the machinery of cells when she started working in electron microscopy. But since 2006 she has been head of the Electron Microscopy Unit at Cancer Research UK’s London Research Institute, in charge of helping 40 research groups to see cells of all sorts with clarity. In February, her team and the University of York, UK, won a £2-million (US\$3-million) grant from funders including the UK Medical Research Council (MRC) to buy a state-of-the-art machine that can do both light and electron microscopy, enabling new sample preparation techniques.

How did you get into electron microscopy?

Towards the end of my PhD in microbiology at Queen Mary, University of London, I gave my bacteria (*Porphyromonas gingivalis*, involved in gum disease) to the electron-microscopy facility to assess their virulence. For three years I had been looking at bands of bacterial proteins on gels. Suddenly I was looking at the bacteria. It was amazing.

I later applied for five postdocs, and three involved electron microscopy. I wasn’t particularly looking for that, but it must have been on my mind. I went to work with Colin Hopkins at University College London, doing cell biology and immunology. He did not mind that I didn’t know how cells behaved and had never used an electron microscope. He offered to teach me.

Was it daunting changing direction?

No; I had been considering a shift. During my PhD, I went to a careers lecture where the speaker said that after his doctorate, he had changed direction. He said that what you learn in one field can usually be applied to another, and that interdisciplinary work is where the exciting advances are often made. I had assumed that I would have to stay with microbiology. Once I realized that I didn’t have to, I started looking at other disciplines.

Why did you decide to run a facility instead of focusing on your own research?

During my postdoc I got bored being tied to one line of research. There were not many electron microscopists in our faculty, so we got many requests to help on projects. I liked working on multiple research tasks.

How did you adjust to a management role?

I have four senior scientific officers under me, all experts in electron microscopy, so I



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had to learn management skills. I had good support from my boss and advice from friends in human resources, who told me that I should listen closely to those I manage. Because I had been working on my own, I was used to making decisions and following through myself. It took two or three years to get a handle on managing people and learning to listen. Management is definitely something that you have to learn.

Is your current role much different from that of an academic at a university?

Yes. I have a good overview of lots of topics, but I am not focused on one area. I see myself as an academic, but that is not how people from outside the facility look at you. They don’t always realize that you have done a PhD and a postdoc; they see you as a pure technician. Once we start projects, people realize that we understand what we are talking about. We help them to design their experiments.

What difficulties have you faced in applying for grants such as the MRC award?

Before we got this one, we had just applied for a big virtual-microscopy grant through the Wellcome Trust. It was denied, which was upsetting; so much work went into putting the grant together over a year, and there were many people involved. The MRC grant was completely the other way round. I met with a couple of colleagues last year who invited me to join them. We had four weeks to put the grant together, and we got it. Sometimes you can spend months and months putting stuff together and you don’t get anywhere, and sometimes you get lucky and it all falls into place. ■

INTERVIEW BY KATHARINE SANDERSON