Work

Your story

Send your careers story to: naturecareerseditor@nature.com

NICK GRAHAM

Christina Hicks interviews a fisher in Kenya during her PhD.

WHAT I LEARNT FROM BEING A LEAD AUTHOR

Scientists reveal key lessons from the publishing process. **By Chris Woolston**

With a new year approaching, researchers everywhere are taking stock of their work and their future. Even for those who had successes this year, 2020 holds uncertainty as well as promise. We asked scientists who were first-time lead authors on a paper published in *Nature* or a Nature journal in 2019 to talk about their careers and lessons they have learnt.

CHRISTINA HICKS
MAKE YOUR STORY A COMPELLING ONE

I had the idea for the paper four years ago when I was on maternity leave. I didn't know where I wanted to go with my career. I wanted to do something that would have a real-world impact. As I thought about it, I realized that I could link fisheries to food insecurity. You have to be passionate about your idea to get past the stumbling blocks. Passion gives you stamina.

It's important to be with people you like and trust. Two of my co-authors on the *Nature* paper are my best friends from my PhD programme at James Cook University in Townsville, Australia (*Nature* **574**, 95–98; 2019). My husband and one of his best friends are also co-authors.

It's not an accident. I spend so much time

thinking about work that my colleagues are also my friends.

Collaboration changes the way you think about your work. One of my co-authors is a nutritionist who specializes in child and maternal health. Nutritionists use a level of precision in their work that you don't usually see in fisheries science or ecology. When he raised an issue, I would think, 'That's ridiculous; why can't he just move on?'.

But six months down the line, I realize how significant it really was.

We considered breaking this research into three papers. In the end, we decided to combine the three parts into one paper, and I'm glad we did. If you want to hit a big journal, you need to tell a compelling story, and that often means putting multiple pieces of a puzzle together.

I also wanted the work to reach the broadest possible audience. If your work is published in a high-impact journal, it's a lot easier to talk to policy- and decision-makers in government.

What happened next?

The paper hasn't been out very long, but I can tell it's resonating through diverse disciplines. I've heard from chemists, fishery biologists and people who study chemical stoichiometry. That's exactly what I hoped would happen.

What's your career goal for 2020?

I won a grant from the European Research Council last year, so actively hiring postdocs and PhD students. I want to build a group that's ambitious and productive but also recognizes the importance of work–life balance. For my research, I want to learn why so many people in East Africa and elsewhere are unable to access the nutrients from fisheries.

What is your biggest lesson?

I need to focus on myself for me. It's easy to become really busy. I run up and down the mountains in the UK Lake District for fun. My brain gets cluttered and overworked if I don't take a break. Running helps me to slow down.

Christina Hicks is an environmental social scientist at Lancaster University, UK.

JORIS SCHAAP

Johan van den Hoogen takes a sample of soil.

JOHAN VAN DEN HOOGEN
KNOW THE VALUE OF OUTSOURCING

I was pretty cynical about science and my career when I was doing my PhD at Wageningen University in the Netherlands. I was convinced that I would never even be a co-author on a paper in a top-tier journal. Until the third year of my PhD programme, which I completed last year, I didn't have a single manuscript that was ready to submit for publication. I finally published a paper at the end of my fourth year, and that made a big difference to my career and my confidence. You have to show yourself that you can finish something.

I came to an important realization that year: I don't really care too much about having my own group. Since I've been at the Swiss Federal Institute of Technology (ETH) Zurich, people have been asking when I'm going to become a professor. But it's funny. I have a friend who works at a pharmaceutical company, and I never ask him when he's going to become the chief executive or the head of his department.

My title is senior scientist, but I'm a jack of all trades. I help other people with data collection and cleaning, and with writing codes and papers, but I still have enough time for my own research. I see that some principal investigators spend only 10–20% of their time doing research. I wouldn't be happy with that.

This year, I managed to be first author on a *Nature* paper (*Nature* **572**, 194–198; 2019). The nematode project that inspired it had been running for a year before I joined. I knew little about nematodes at the time. In this particular case, knowing a little bit less about the topic might have actually helped – we were creating a global map, so I needed a big-picture view. If you know a lot about what happens in your backyard, you can get lost in the details. I didn't even know the details.

What happened next?

Getting that paper published didn't set off the massive celebration that you might expect. That's partly because we had a lot of small celebrations every step of the way. It's great to have a first-author paper in *Nature*. It makes people aware of my work. But as far as my career goes, it wouldn't have made much difference if it had been published in a lower-impact journal. I'm not chasing publications.

What is your career goal for 2020?

I'm perfectly happy where I am at ETH Zurich. I can do the work that I want to do without having to stress about getting funding or moving to another laboratory or another country in a year and a half. Maybe I'll do something completely different in 5 or 10 or 15 years, but I don't have to worry about that now.

What is your biggest lesson?

Working on that nematode paper helped me to appreciate the value of outsourcing – I didn't develop the models in it. You should let other

people do the things that they're good at. I understand the models in the paper, but it would have taken me a year and half to create them on my own.

My biggest realization is that you don't need to move up the academic career ladder to have a satisfying career in science. The moment I stopped worrying about advancing in academia marked a change for me.

Johan van den Hoogen is a soil ecologist at ETH Zurich, Switzerland.

STEPHANIE ELLIS
ACADEMIA OR BUST

I did my PhD on fruit flies in a small, relatively new laboratory at the University of British Columbia in Vancouver, Canada. Now I'm in a large, high-powered lab where I have a lot of flexibility to do what I want. To really stand out, I needed to shift my perspective. I realized that technologies recently developed in the lab would allow me to study cell competition – a sort of survival of the fittest – in mouse skin cells, something that no one else in the lab was working on.

My supervisor, Elaine Fuchs, has been extremely supportive, but I had to get her excited about the project and convince her that this was an important problem. Then I had to develop fresh angles to the story to get other people in the lab excited. I have colleagues from a lot of different backgrounds, so I needed to explain it in a way that resonated with everyone. If you are having trouble getting people excited about your work, you need to change your thinking.

The cell-competition paper had three authors when we first submitted it, and it ended up with six (*Nature* **569**, 497–502; 2019). One reviewer suggested that we do a single-cell RNA experiment that I really didn't want to do. I had to start a new collaboration, and after four or five months of back and forth, we came up with another idea. I never would have done that experiment on my own. It pushed me out of my comfort zone.

What happened next?
When you publish in a high-impact journal, you have to be prepared for the aftermath. A lot of people are reading and talking about that paper. Some commenters on Twitter tried to minimize it by pointing out that cell competition is already well documented in fruit flies. There will always be naysayers, but I'm proud of the work.

What is your career goal for 2020?
I'm at the end of a six-year postdoctoral position and am now applying for faculty jobs. I've had a good application season so far, and it's because of the paper. My only goal is to have my own lab. Since I did my first fruit-fly experiment in graduate school, I've been hooked. For me, it's academia or bust.

What is your biggest lesson?
You have to have people around you who can point out the weaknesses in anything you do.

Stephanie Ellis is a cell biologist at the Howard Hughes Medical Institute, Rockefeller University, New York City, New York.

OSCAR SERRANO
CHOOSE COLLABORATORS CAREFULLY

My paper had 45 authors, so it was a very collaborative effort (*Nature Commun.* **10**, 4313; 2019). We needed to collect all of the available data on blue carbon – carbon that is sequestered by coastal communities of mangroves, sea grasses and tidal marshes – from around Australia. Scientists aren't always willing to share unpublished data, but in this case there wasn't much hesitation. The other researchers were aware that blue carbon is a hot topic and saw the value of the project. We offered co-authorship as an incentive to everyone who contributed data.

We had a clear goal for the paper, but there were still a lot of opinions, comments and strong wills. After the first round of suggestions, I encouraged co-authors to focus on the big things because it's not possible to incorporate every wish and every little change from every author. But not all of them followed that advice. It was funny to see how many co-authors would try to improve the manuscript even though it was already in good shape. It was an exhausting process.

But in the end, improving it is what it's all about. When someone really got into the paper, I knew that I could collaborate with that person in the future.

What happened next?
Because of that paper, companies are contacting me for more information and advice about investing in carbon credits. I also got some media attention on television and the radio and in the newspapers. I was able to talk about the importance of these ecosystems for carbon sequestration and climate change. When speaking to the media, you learn to get straight to the point and avoid a lot of jargon. You also have to be friendly, like you're talking to your neighbour.

What is your career goal for 2020?
I'm still trying to secure a position for next year. Among other things, I'm looking for opportunities to return to my home country – Spain – where I still have friends and family. I want to remain in academia but continue to interact with industry to help preserve these ecosystems. It's a difficult career. I'm 38 and I still don't have a stable, long-term position.

What is your biggest lesson?
Some relationships are more mutually beneficial than others. You can collaborate for years with someone and then realize it's been a one-way street. You're sharing ideas and resources with them but getting little in return. But other people really do give back as much as they get and really help you grow your career. I want to be the person that people want to collaborate with because it's reciprocal.

Oscar Serrano is a marine ecologist at Edith Cowan University in Joondalup, Australia.

JOAN COSTA

Oscar Serrano works on carbon sequestration.

Interviews by Chris Woolston.
These interviews have been edited for length and clarity.