

## FIRST PERSON

# First person – Lorna Young

First Person is a series of interviews with the first authors of a selection of papers published in Journal of Cell Science, helping early-career researchers promote themselves alongside their papers. Lorna Young is the first author on 'Roles for Ena/VASP proteins in FMNL3-mediated filopodial assembly', published in Journal of Cell Science. Lorna is a postdoctoral researcher in the lab of Henry Higgs at Dartmouth College, Hanover, USA, investigating actin dynamics related to cell adhesion and migration.

### How would you explain the main findings of your paper in lay terms?

We have looked at how certain cells make structures called filopodia. These structures look like fingers that poke out from the cell. Filopodia help the cell move, as well as sense the cell's environment; they are sometimes called cellular antennae. Filopodia are found on healthy cells, but they are also known to help cells migrate and invade during cancer.

In this work, we found two different groups of proteins that are important to make filopodia. Therefore, the cell is using these proteins as tools to make these structures. What is interesting is that although both sets of proteins are required to make filopodia, we see them at different locations. This suggests that these cellular tools are playing different roles in making filopodia. We see that one set of these proteins is consistently found at the growing end of the filopodia, suggesting that they could be helping filopodia grow from there. The other set of proteins is mostly found at structures called focal adhesions, which we often see at the base of the filopodia.

Ultimately, if we can understand what roles specific proteins play in making filopodia in healthy cells, we can understand what they may be doing in diseased cells (for example, during cancer spread).

### “...talking to others is essential!”

### When doing the research, did you have a particular result or 'eureka' moment that has stuck with you?

Kind of. We were a bit puzzled about seeing little ENA/VASP at the tips of filopodia in U2OS cells, when many people have referenced their localisation there. I was talking with Guillaume Jacquemet (Ivaska Lab, Turku University) at an ASCB conference; he did see ENA/VASP at filopodial tips, but he was using a different cell line, as well as transfecting in myosin-X. I predicted that U2OS cells may contain less myosin-X, therefore transfecting it in could induce ENA/VASP localisation to filopodial tips, and what do you know, it did!

### Why did you choose Journal of Cell Science for your paper?

JCS always publishes interesting and thorough science articles that are relevant to a broad cell biology audience.



Lorna Young

### Have you had any significant mentors who have helped you beyond supervision in the lab?

Harry has been a great mentor both in and out the lab. He has an active and busy life outside the lab, which I like, yet he always gives 110% in the lab. Also, Phil Aldridge from Newcastle University has helped me throughout my scientific career, offering great advice and support. I think it is good to have older mentors who have been through a similar career path, to help keep you focussed, as well as remind you to look after yourself (as well as your science).

### “I am very passionate about encouraging younger people to get into science research...”

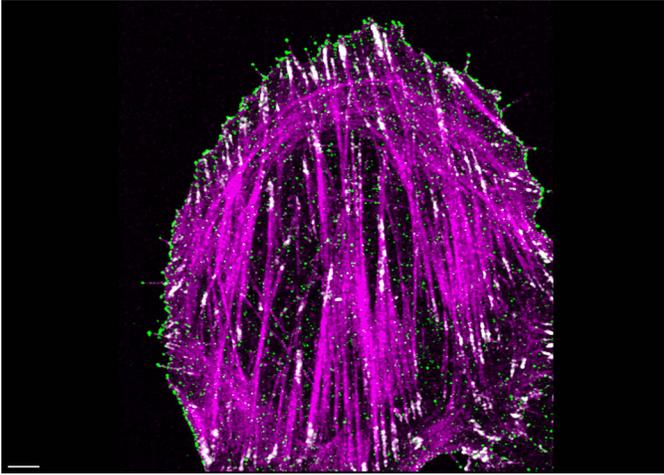
### Who are your role models in science? Why?

I don't really have any famous role models, but I always enjoy talking to fellow scientists who are at a similar stage in their career, particularly females (Sarah Kateznel, Djuna Lize Croon, Sophie Evison, to name a few). I feel being a postdoc can be quite lonely and it is hard to compare your path to anyone else's. I find it is also difficult for people who are not in science research to relate to it, and to understand what we do. So, I have learnt that talking to others is essential!

### What's next for you?

I am not sure right now. I am taking a little time out after my postdoc in America to suss things out. I would love to have my own lab one

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A U2OS cell stained with actin (magenta), FMNL3 (green) and VASP (white).

day; however, I also have a lot of other loves in life, and I don't want to feel like I am always stretched for time. I am very passionate about encouraging younger people to get into science research and think my alternative career would be high-school teaching.

**Tell us something interesting about yourself that wouldn't be on your CV**

I am a competitive runner; my mental health would not be in a good state if it were not for running. I am also very passionate about inspiring others to lead an active lifestyle. I am currently doing a personal training course, and I hope to start my own company called LeanWithLorna soon... watch this space! I also love organising parties, and I am slightly obsessed with Bruce Springsteen.

**Reference**

Young, L. E., Latario, C. J. and Higgs, H. N. (2018). Roles for Ena/VASP proteins in FMNL3-mediated filopodial assembly. *J. Cell Sci.* **131**, jcs220814.