

## FIRST PERSON

# First person – Minna Piipponen

First Person is a series of interviews with the first authors of a selection of papers published in Biology Open, helping early-career researchers promote themselves alongside their papers. Minna Piipponen is first author on 'Long non-coding RNA PICSAR decreases adhesion and promotes migration of squamous carcinoma cells by downregulating  $\alpha 2\beta 1$  and  $\alpha 5\beta 1$  integrin expression', published in *BiO*. Minna is a PhD student in the lab of Veli-Matti Kähäri at University of Turku, Finland, investigating the role of long non-coding RNAs in the progression of cutaneous squamous cell carcinoma.

### What is your scientific background and the general focus of your lab?

I am a biochemist by training and I have always been interested in cell biology. Currently, I am finalizing my PhD thesis about long non-coding RNAs (lncRNAs) in cutaneous squamous cell carcinoma (cSCC). Even though it is pre-translational research, I find the clinical aspect very fascinating. The general focus of our lab is to investigate the molecular mechanisms involved in cSCC progression in order to find and characterize new biomarkers for evaluating the risk of cSCC progression and metastasis. They may also serve as novel therapeutic targets for cSCC treatment.

### How would you explain the main findings of your paper to non-scientific family and friends?

It is always tricky to explain this kind of work to a non-scientific audience. To be honest, I think that even my parents do not exactly know what I am doing for work. However, people know cancer, and especially among older people someone always knows someone who has struggled with the disease. Briefly, I try to explain that the work I am doing in the lab, although at very experimental level, is aimed to improve the diagnosis of patients and hopefully bring meaningful knowledge to the scientific community, especially when designing novel cancer therapies. The main finding of the current paper was that the tumorigenic molecule that we were looking at is involved in cancer cell migration and attachment to the surrounding matrix, and this way it may regulate cancer spreading. This kind of basic research is fundamental for translating new discoveries into clinical use.

### What are the potential implications of these results for your field of research?

I hope that these results bring more functional knowledge to the lncRNA research field. The field itself is relatively young and the number of new publications is growing fast. However, I feel that more detailed characterization of the molecules is needed, especially about their cellular mechanisms. When it comes to cSCC, I really think that lncRNAs (and also other non-coding RNAs) will be useful in the future as prognostic biomarkers in the clinic. Moreover, they could be potential targets for cancer therapy. Due to the heterogeneity of the tumors, it would be valuable to examine

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Minna Piipponen

multiple markers simultaneously in a sample with the help of novel techniques, such as mass cytometry. It would be beneficial to include non-coding RNAs within these biomarker panels.

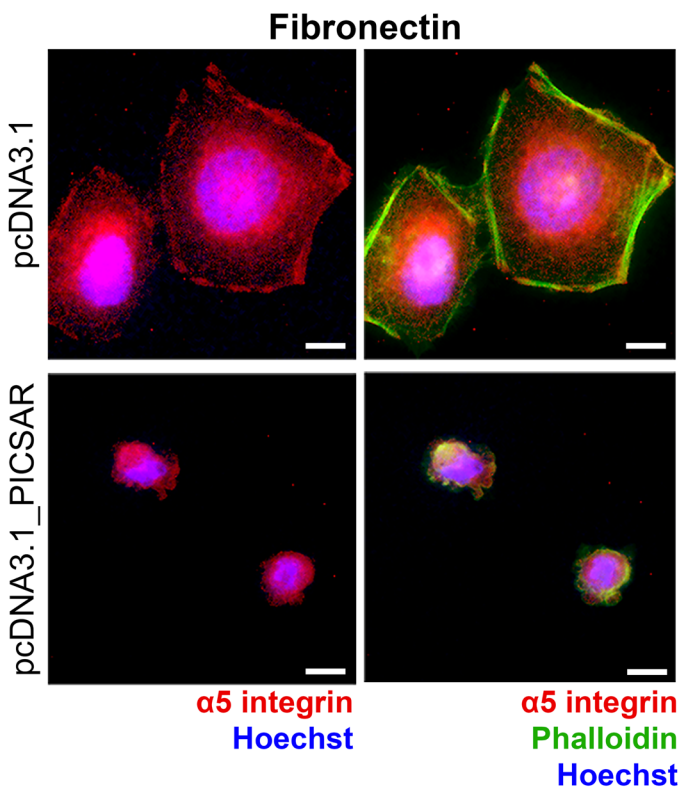
### What has surprised you the most while conducting your research?

Quite early on, in the beginning of my project, it became clear to me how time consuming it is to do research. It is not just doing lab work and writing the results. It has been the most surprising to realize what it actually takes to be a researcher, a multitasking specialist in diverse fields. One is a professional lab technician, writer, translator, graphic designer, teacher, presenter, project manager, public relations person, etc., in a somewhat coordinated manner. I do not consider this as a burden, but more as a challenge and a great way to improve your skills on many levels. The longer I have been doing the research, the more confidence I have gained and realized what I am capable of. You know, as a Finn it is very hard to compliment yourself.

**“It has been the most surprising to realize what it actually takes to be a researcher; a multitasking specialist in diverse fields.”**

### What, in your opinion, are some of your greatest achievements in your field and how has this influenced your research?

As a researcher I am still at the very early stage on my career, so in that sense I do not have much to choose from. However, I would say



PICSAR overexpression in cSCC cells (lower panel) leads to significant decrease in cell adhesion and spreading.

that the greatest achievement in my field has been our first published article about a tumorigenic lncRNA that based on our results we named PICSAR. It is the first lncRNA characterized in cSCC, thus it has definitely brought new insight about lncRNA regulation in

cSCC progression. To me it has given courage to continue with the research, as there are many more lncRNAs to be discovered and investigated.

#### What changes do you think could improve the professional lives of early-career scientists?

I feel that increasingly people are giving credit to scientific research, and in order to continue high quality research and making new discoveries we need new scientists with fresh ideas and open minds. Briefly, I think there are a couple of things that could help the professional lives of early career scientists. First, it is not that straightforward to get financial support in the early stage of the career. This is of course something that every scientist is struggling with, however, I would wish for easier access to early career funding. Primarily, this is an issue to be solved at the governmental level. Second, I would wish for better visibility for young scientists. What bothers me the most when reading the news, especially when targeted to the public, is how only the group leader is mentioned in the context of a new discovery. Quite often the identity of the first author, who has most likely contributed the most to the research, remains unknown. I would wish for more credit to the people 'behind the scenes'.

#### What's next for you?

This is something I do not quite know the answer to yet. Right now I am finalizing my PhD studies and trying to plan for the mysterious life after the PhD. Preferably, I will pursue a post-doctoral position in academia. Nevertheless, I am keeping all doors open.

#### Reference

Piipponen, M., Heino, J., Kähäri, V. M., Nissinen, L. (2018). Long non-coding RNA PICSAR decreases adhesion and promotes migration of squamous carcinoma cells by downregulating  $\alpha 2\beta 1$  and  $\alpha 5\beta 1$  integrin expression. *Biol. Open* 7, bio037044.