

FIRST PERSON

First person – Jinhang Hu

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. Jinhang Hu is the first author on 'CCR2 3'UTR functions as a competing endogenous RNA to inhibit breast cancer metastasis', published in Journal of Cell Science. Jinhang conducted the work in this article in Tao Xi's lab at China Pharmaceutical University, Nanjing, China. She is now a research associate with Zhishu Tang at the Shaanxi University of Chinese Medicine in Xian Yang, China, investigating the bioactive constituents and anti-tumour mechanisms of the active ingredients in traditional Chinese medicine.

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

Our work is built on RNA–RNA crosstalk, which is a new post-transcriptional layer of endogenous competitive gene regulation. mRNAs, transcribed pseudogenes and long noncoding RNAs 'talk' to each other using microRNA response elements (MREs) as a new language; this language has exciting implications for research into biological systems and pathophysiological conditions. Describing the non-coding function of protein-coding transcripts could uncover regulatory networks that have been overlooked by conventional studies on the protein-coding gene regions. The non-coding function of CCR2 mRNA was investigated in our paper and the results demonstrated that the mRNA of CCR2 acts as a metastasis suppressor by increasing the expression of STARD13 (a metastatic suppressor) through RNA–RNA crosstalk.

“Prof. Xi taught me that the details determine success or failure and never to lose the enthusiasm to explore.”

Were there any specific challenges associated with this project? If so, how did you overcome them?

The main challenge of this project was getting small proteins to successfully separate into bands on western blots because the small proteins tended to form polymers. Another challenge was that nonspecific bands interfered with results when we looked at the phosphorylated bands of the proteins. Through experimenting with different conditions, we learned a lot and developed a successful protocol that avoids protein polymerization, reduces nonspecific bands and prevents the degradation of phosphorylated proteins.

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Jinhang Hu

Have you had any significant mentors, and how have they helped you?

My principal investigator Prof. Xi always respected my choices in the lab and fully supported me. He steered me in the right direction when I had difficulties in obtaining results and encouraged me to find an experimental solution. Prof. Xi taught me that the details determine success or failure and never to lose the enthusiasm to explore.

What's the most important piece of advice you would give first-year PhD students?

Those who embark on a PhD should focus on a goal-oriented question to successfully complete their project. With a clearly defined objective, it is easy to figure out what to do next and such a planned project will fill you with enthusiasm that will help you overcome the inevitable obstacles and set-backs. In addition, managing your time is very important since studying for a doctorate usually takes time to pay off, and you have to ensure you spend enough time in the lab.

“With a clearly defined objective, it is easy to figure out what to do next”

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

In my view, early-career scientists should find a research area that suits them so that they can devote themselves fully to it. In addition,

a good team can substantially increase progress. Colleagues from multiple fields can bring inspiration, and enlightenment and feedback from the lab will also help early-career scientists look at their own work with a fresh eye.

What's next for you?

I am interested in studying the active ingredients of traditional Chinese medicine and I have been given the opportunity to work at the Shaanxi University of Chinese Medicine.

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

My hometown is the ancient capital Xi'an, where there are a large number of treasured cultural relics and sites. I am particularly interested in historic preservation.

Reference

Hu, J., Li, W., Guo, X., Guo, Q., Xiang, C., Zhang, Z., Xing, Y., Xi, T. and Zheng, L. (2017). CCR2 3'UTR functions as a competing endogenous RNA to inhibit breast cancer metastasis. *J. Cell Sci.* **130**, 3399-3413.