Lab Spotlight: Ding Lab

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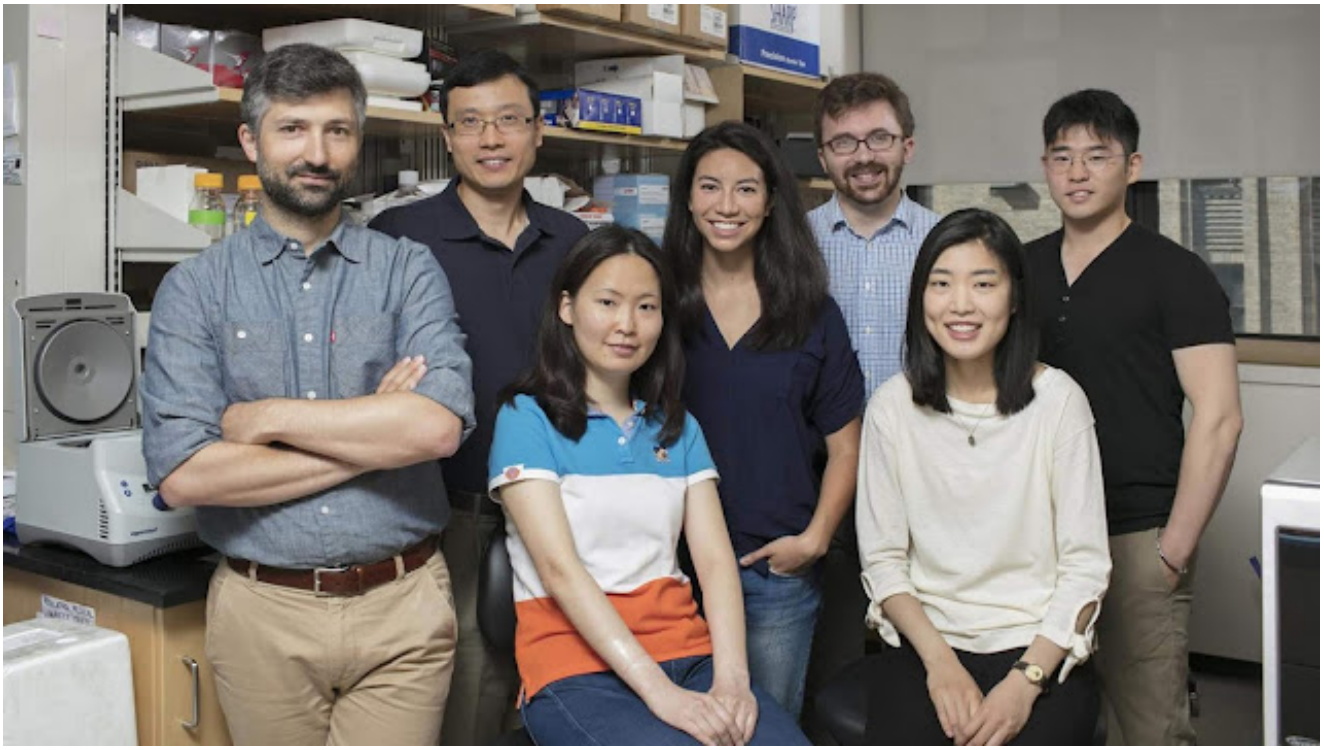

How long have you had your lab?
I started in February 2013. So a little over 5 years.

How many members make up your lab? Students/postdocs?
There are four graduate students and one postdoc in the lab currently. I would like to have another postdoc or two. That will be the ideal composition of my ‘dream’ lab.

What is the major research theme of your lab?
We investigate the molecular and cellular mechanisms, particular extrinsic mechanisms, that regulate hematopoietic stem cell function. We also study how these mechanisms contribute to hematological diseases.

What's your best approach to mentoring students in the lab?
Everyone is different. I try to tailor my mentoring style to each student. The goal is to help everyone to realize their scientific potential. I gradually let the students gain their independence overtime: starting from doing experiments together with me or another senior member in the lab, to shadowing people, to performing independent experiments. We discuss a lot on technical details at the beginning to make sure that the student has a sound technical foundation. As their knowledge and experience grow, the discussion is largely about research directions rather than detailed techniques. My hope is that by the end of their

training, everyone can think on their own feet, ask important questions, come up with creative solutions, execute the experiments, interpret the results and present the data in a compiling way. This will prepare them for their next stage of scientific career.

What's the biggest accomplishment your lab has had recently?
We had our first couple of papers recently. A few exciting projects are in the pipeline. Working with a group of talented people and finding something exciting in the field of hematopoietic stem cells is the biggest accomplishment of the lab. I feel that all of my trainees are trained well. Everytime they did a good job (obtaining a fellowship, giving a great presentation, winning an award etc), I felt I achieved something great. At the end of the day, training good people is the foundation of a good lab since good science will only come off well-trained people.

What is the key to running a successful lab?
Not sure my lab is a successful one yet. But I figure that the key to running a successful lab is to get the right people into the lab and train them to do some of the best science. People are the key.

What facilities or equipment does your lab absolutely depend on?
We depend heavily on flow cytometry. We use flow cytometers on a daily basis. I am glad that we have outstanding support at the flow cytometry facilities at Columbia. We study the functional mechanisms of hematopoietic stem cell regulation by characterizing genetic modified mouse models. Thus, we also depend on good transgenic service. Columbia has an outstanding transgenic core, where we have successfully generated several novel mouse models.

What has been your greatest challenge in managing your lab?
As a PI, you are responsible for the whole team. It takes a lot of energy to follow up all of the things in the lab. On top of the administrative duties, I need to carve out time for developing projects, writing grants and mentoring my trainees. I also like to do risky exploratory experiments myself with the hope to find new exciting research directions for the lab. Sometime I found myself exhausted among these tasks. Setting up a clear goal with a deadline helped me focus and get things done.

What advice do you have for new investigators just opening their lab?
The most important thing is to get your projects off the ground. Everything else will come naturally. At the beginning, you need to be patient and spend all of the time training your people to perform proper experiments and gain essential skills. It may seem slow at the beginning. But productivity will catch up.

What was the most exciting part about starting your new lab?
You get the freedom to do the research that is the most exciting to you! You also get the opportunity to train the next generation of scientists and have an impact over someone’s

scientific career.

Does your lab attend the ISEH annual meeting?
So far, it is only me who has been to ISEH annual meetings. When lab members have a relative complete story to present, we will attend the ISEH meeting on a more regular basis.

What is the most beneficial aspect of ISEH membership for your lab?
Being able to know everyone in the field and the cutting-edge research. It always stimulates our own research in the lab.

How do members of your lab celebrate accomplishments?
We go out to a restaurant or bar to celebrate everyone's accomplishments (publishing a great paper, passing a qualifying exam, getting a grant or award). It makes everyone feel that they belong to a big family.

Does your lab have any fun traditions?
We go out once a while as a group to explore NYC. We have been to the Met museum. That was a blast. We have been to a bowling place for a couple of times. We are going to a fishing trip this summer. That will be fun!

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Each month, Simply Blood spotlights a lab focused on the research of basic hematology, immunology, stem cell research, cell and gene therapy, and other related aspects. Get to know these different labs around the world! This month, we are featuring the **Ding Lab at Columbia University.**