


Lab Spotlight: Liu Lab

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Deconstructing Blood Cell Research
Building the Hematology Community

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 Liu Lab at the Institute of Zoology, Chinese Academy of Sciences in Beijing, China.



1. How long have you had your lab?

11 years. I set up my lab in Institute of Zoology, Chinese Academy of Sciences in 2009.

2. How many members make up your lab? Students/postdocs?

Currently, there are 17 members in my lab, including myself, 2 staff scientists and 14 graduate students.

3. What is the major research theme of your lab?

Our lab is focused on developmental hematopoiesis, primarily using zebrafish and mouse as animal models in addition to human cell cultures.

4. What is the most exciting project in your lab right now?

There are many exciting projects ongoing in my lab. The most fascinating project is to dissect the complex hematopoietic tissues using technologies for single-cell resolution. In addition, we are also developing various lineage tracing tools to fate-map the ontogeny of cells of interest.

5. What's your best approach to mentoring students in the lab?

I believe that all students have their unique characteristics, therefore I treat and train them differentially and individually, helping them to identify their goals.

6. What's the biggest accomplishment your lab has had recently?

RNA modification has been studied extensively recently, however its role in developmental hematopoiesis is relatively unknown. I feel fortunate that we are one of the first to report that RNA methylation plays an essential role in HSC emergence in both zebrafish and mouse embryos. Subsequently, other labs further show that RNA modification is also required in adult hematopoiesis, such as in the bone marrow.

7. What is the key to running a successful lab?

I would say that many factors count in running a lab successfully. Among them, team work, creativity and motivation are extremely important for both running a lab and the trainees. It is also important that every member enjoys doing science.

8. Does your lab attend the ISEH annual meeting?

Yes, I attend the ISEH annual meeting, usually together with several students, not just listen to great talks, but also get to know people in the field and/or try to set up new collaborations with our colleagues.

9. What is the most beneficial aspect of ISEH membership for your lab?

I have been an ISEH regular member for many years and lately I am also involved in some society activities, such as serving on the scientific program committee (SPC). ISEH is the right place to communicate with the peers, not too big and not too small; members are friendly and collaborative.

10. How do members of your lab celebrate accomplishments?

When we get new papers accepted or a student win an award or pass his or her defense, we go out together for a group dinner or having drinks. Sometimes, we also go for Karaoke if it is not too late.

11. Does your lab have any fun traditions?

We usually go skiing or hiking, or go to the beach once a year. Lab members can not only take a short break and relax, but also develop strong teamwork spirit. In 2019, to celebrate the 10-year anniversary of the lab, the members designed shirts with lab logo and made a video, which means a lot to the lab and myself. The lab is like a big family.