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Embryology course in Woods Hole, Massachusetts

I was lucky enough to spend six weeks of the summer at the embryology course at the Marine Biological Laboratories in Woods Hole, Massachusetts. The course presents an opportunity for PhD students and post-docs to come into a Willy Wonka environment in which every type of candy imaginable is replaced by embryos of species you have never seen, techniques that were not possible years or months before, and whole room-sized equipment that performs mammoth tasks and produces gallery-worthy images and videos. The result is the same with an authentic 'kids in the candy store' experience. Students were let loose in the lab to chase whatever inspired them; we were able to recreate classical developmental experiments, attempt to answer unaddressed questions, or perform experiments to answer the age-old question of 'what would happen if…?' All the while we had a host of techniques, equipment, and experts at our fingertips to enhance our learning and help us gain invaluable experience.

The course was divided into various modules to focus on different organisms and systems with each run by some of the leaders in the field. And luckily each Willy Wonka was happy to share his or her secrets, excitement, and often downright love of the organism. Before daily adventures in the lab, we were given a lecture showcasing some of the groundbreaking knowledge gleaned from each organism and some of the exciting questions currently being addressed. Afterward we were given time for discussion with the speaker, allowing us to have open debates not possible at conferences. Speakers then either participated in instruction or led lab sessions and helped design and execute experiments, often indulging in their own developmental whims as well. It's always nice to see Willy Wonka enjoying the candy as much as the kids.

While many of us came with some specific experiments in mind, the main aim was to learn as much as possible about where the field of developmental biology is, where it's going, and how to be a part of the advancement. The course not only exposed us to the range of options available to us in system and technique, but also showed the importance of this time in developmental biology. We are in a time when there is no such thing as non-model organisms, and there is no reason to avoid taking advantage of the arsenal of options to address your question. With modern sequencing techniques and game-changing approaches like CRISPR/Cas9- a constant topic on the course this year – there are a whole host of options for addressing your question of choice. I came away with knowledge, experience, and relationships that will influence me throughout my career.