

SUMMER IMMERSION TERM CONNECTS STUDENTS WITH CLINICAL MEDICINE



The 2016 Ph.D. Summer Immersion Group at Weill Cornell Medicine's campus in New York City.

While much can be learned from focused time in the academic classroom and research lab, for biomedical researchers nothing is quite like the knowledge that can be gained from exposure to the real-world challenges of the clinic. Such is the purpose of the Meinig School's summer immersion term for first-year Ph.D. students. Now in its 11th year and supported by an NIH T35 training grant just renewed this summer for another five years, the program gives students the ultimate insider's look at the successes and challenges of human medicine and an opportunity to integrate that information into their thesis research and careers.

"The clinical summer immersion is designed to connect BME to healthcare and society and to steer and enhance students' research interests towards medicine," says Yi Wang, director of the program and faculty distinguished professor in radiology. "It impacts their Ph.D. thesis research by adding a medical conscience and influencing their

long term career towards improving healthcare."

Located at the Weill Cornell Medicine campus and associated institutions in New York City, the program brings Ph.D. students from the Ithaca campus for seven weeks of dedicated and intensive exposure to clinical practice. They are paired with expert clinical faculty mentors, whom they shadow in various settings

from the operating room and outpatient clinic to participating in clinical research. The experience is further enhanced by coursework on organ anatomy, diseases, and diagnosis directly related to a specific clinical practice, as well as lectures in bioethics and regulatory affairs bioethics. Through this close interaction and focused study, students become familiar with clinical issues and clinical thought processes, and chronicle their experience weekly on an immersion term blog, the most recent of which can be found at: <http://bmeimmersion2016.blogspot.com/>. The summer immersion term culminates back on campus in Ithaca with a poster session, in which the student participants present an aspect of what they learned to their peers and professors.

Students are not the only ones who benefit from the program. "As clinicians we face many unsolved medical problems in our practice and do not have the technical expertise or time to develop needed technology," says Dr. Martin Prince, professor of radiology

and a multiple principal investigator on the NIH T35 grant. "When students discover technical needs during their visit, their basic science training may start to cross-pollinate with clinical science, leading to synergistic productivity in their biomedical research pursuits."

"It's a great way to connect a student's laboratory work with healthcare," agrees professor Peter Doerschuk, interim director of graduate studies. "They develop a perspective on what kinds of technology solutions can be clinically workable. They begin to learn the language of clinical medicine and how to interact with clinicians in a meaningful way. They come to appreciate the impact of medical technology. It gives their discoveries the best chance to benefit clinical medicine."

In his 2016 immersion term blog, Matthew Zanotelli confirmed: "The immersion experience brought me important insight into how medical devices, biomaterials, or tissue engineered constructs are actually used in the operating room and/or clinic. This knowledge will surely impact how I approach my own research back in Ithaca."

From seeing patients' struggles to understanding the physicians' challenges and opportunities, students in the Ph.D. summer immersion term are exposed to knowledge that cannot be obtained in classrooms or the basic research laboratory. They come to appreciate the urgency and importance of developing medical technology solutions as well as the utility of medical technology in medicine. In this manner, the clinical summer immersion both provides perspective and enhances enthusiasm for improving healthcare through medical research.