

Medical Student Research Institute

Xavier student currently conduct a 12 week research elective at the Baruch S. Blumberg Institute in Pennsylvania. This program is designed as a mini-research project by Xavier University School of Medicine (XUSOM) in collaboration with Baruch S Blumberg Institute (BSBI). The BSBI is known as a hub for biotechnology development with high quality research infrastructure and a focus on clinical translation of research discoveries, currently ranked third in the USA for new value creation. This program will consider that the student's research experience is developed with the intention of providing professional research experiences with hypothesis driven research, and, if possible, contribution to a publication or at least abstract and poster that can be given at a national scientific meeting.

The research project will be bench work based, discovery science in a molecular biology laboratory. However, students will have the option to choose a public health research track or component, in which scholarly questions relating to public health are addressed. The training structure and schedule of the public health and lab research track are the same (and can be combined where appropriate), except that lab tracked students spend their practicum time in a life sciences lab, whereas public health students may be in the field, at the desk.

In either track, during the clerkship, the student will participate in lab meetings, where research progress is discussed, critically reviewed, and where problems are solved and new hypotheses are formulated. The student will also attend and participate in journal clubs, scholarly and business seminars, and hear from, and meeting thought leading scientists and entrepreneurs.

The students will also be exposed to startup companies in the life sciences, and get a chance to see entrepreneurship at its earliest stage, where idea launching, business planning and proofs of concept occur.

Field trips to area research facilities at universities and companies and, if time and logistics permit, area hospitals and their labs, are planned.

At the end of the clerkship, students will be expected to make an oral presentation of their research experience to the faculty and other students. Students may also be invited to participate in drafting of scholarly publications and abstracts, should that be appropriate, but this is optional.

Taken together, after successful completion of the clerkship, the student will have also gained experience in:

- Scientific study design, implementation, analysis, interpretation and dissemination of results
- Professional development, scientific writing and oral presentation
- Critical analysis and review of scientific literature
- Scientific entrepreneurship and the interface of science, public health, academia, innovation and business.

Additional programs are currently in development: A Masters in Biotechnology or MD/MS

Biotechnology is currently in development. The Biotechnology Master's Program is a uniquely integrative research program that provides students with hands-on training in state-of-the-art molecular, genomic, proteomic, cellular and imaging techniques combined with a solid basis in the theoretical knowledge of biomedical sciences and laboratory research design. The total length of the program is 2 years.

This rigorous educational program trains future laboratory professionals to undertake biomedical research in academic research laboratories or in the biotechnology and pharmaceutical industries.

This will be a joint program offered by Xavier University School of Medicine in Aruba and the Baruch S. Blumberg Institute in Doylestown, PA. It will offer a unique opportunity of completing the majority of the classroom hours at Xavier University while obtaining hands on research experience at the Blumberg Institute which is the nation's leading nonprofit research organization dedicated to hepatitis B and liver cancer.

For the first 1 year students will attend classes at Xavier University School of Medicine. Classes will be focused on the following 8 topics. 1) Molecular Biology, 2) Advanced Cell Biology, 3) Human Genetics, 4) Principles of Immunology 5) Microbiology, 6) Molecular Pharmacology 7) Biostatistics, and 8) Bioinformatics. These courses are designed to provide the student with an advanced scientific education and prepare them scientifically for careers in biotechnology. Medical Students who wish to obtain a dual MD/MS degree can apply at least 10 appropriate credits of the MD degree to contribute to the 34 credit MSc part of the dual degree. The Bioinformatics/Biostatistics graduate level course will be an extra course medical students will have to take during their medical program to finish the dual degree.