



Summer Student Research Program

Maine Medical Center Research Institute (MMCRI), the research arm of Maine Medical Center, offers a Summer Student Research Program in which 14 college and high school students are provided the opportunity to participate in an intensive biomedical research internship under the mentorship of some of the top scientists in the state. This program provides our most promising young science students with an in-depth look into the life of a professional researcher working on the front lines of healthcare discovery, while also promoting the benefits of a career in science.

Encouraging Science Education

A primary purpose of the Summer Student Research Program (SSRP) is to encourage science students to pursue a rigorous science curriculum in school and consider a career in biomedical research. The SSRP offers a unique opportunity for hands-on experience in a real, state of the art laboratory setting working on actual biomedical research projects.

I would not have received an opportunity like this at school. I got to learn first hand (about) science and research, all the ups and downs too. I think this opportunity was amazing... and will help shape my future.

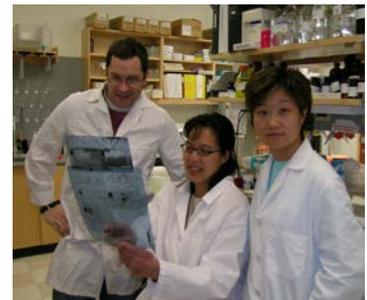
-Former SSRP Intern

A related benefit is to raise awareness among science students that Maine offers opportunities for a career in research. At MMCRI, our interns meet and work alongside scientists conducting world class research, who were able to fulfill their dreams of building a career in science right here in Maine.

Program Description: Hands-on Research Education

For 10 weeks, our SSRP students participate in mentored, independent research projects in the MMCRI facility in Scarborough, or with physicians practicing throughout Maine Medical Center and its affiliates. Potential areas of exploration include cancer research, cardiovascular research, stem cell biology, bone and mineral disease, obesity prevention, and osteoporosis, to name but a few. {See below for a list of projects pursued by our students in 2011.}

Through educational research in diverse biomedical science fields, students have the opportunity to apply “book knowledge” to scientific method, reinforcing their studies with active hands-on learning. At the end of the ten week program, students present the results of their research project for critical review in a seminar consisting of their peers, mentors, other MMCRI investigators, and program sponsors.



My experience at MMCRI has been both academically and personally enhancing. It has increased my knowledge (and) helped me with future decisions. It is hard, however, to leave in the middle of a research project when you become so engulfed in it!

- Former SSRP Intern

The program is academically rigorous. In addition to their individual mentored research project, students take part in a comprehensive course covering topics such as bioethics, animal use in biomedical science and presentation skills. They attend weekly seminars presented by guest scientists and faculty members from top research institutions around the world. At journal club meetings they learn to critically read and evaluate scientific papers. In weekly data reviews they hear graduate students, doctoral candidates and postdoctoral fellows present the results of their research and provide feedback.

Of course it's not all work: MMCRI also provides social opportunities such as the MMCRI International Potluck Luncheon, Lunch with the Labs, the annual MMCRI Summer Party, and several exciting events sponsored by the Libra Future Fund's Summer in Maine program, an effort to encourage talented Maine students to consider a professional career here in Maine. All of these activities allow students to mingle with their peers, mentors and lab colleagues and truly experience the life of a biomedical scientist.

Benefits to Students and Mentors

Feedback from alumni consistently confirms that participation in the MMCRI Summer Student Research Program broadens their understanding of research, and generates excitement about science and scientific careers. By all accounts the results have been extremely positive. Many previous SSRP interns are now pursuing scientific studies and scientific and medical careers. One student returned to MMCRI to participate in our PhD program. Another former intern relocated her biotechnology company's research and development department to Maine because of her positive experience at MMCRI.

Participation in the SSRP brings benefits to mentors and their labs as well, by strengthening the overall research environment at MMCRI. Nurturing the next generation of scientists is understood to be an important aspect of great research. Mentors confirm that working with students requires them to see their research from a different perspective, and prompts fresh and innovative ideas. Many MMCRI senior scientists and several clinician-researchers participate in the SSRP year after year.

Highly Competitive Application Process

Each year interest in the program grows. This year we received over 260 applications for our 14 slots. This is testament to the strength of the program and the high quality of the experience for the students involved. For logistical reasons we have maintained the size of the program at 14 interns. This has resulted in a highly competitive program with a very high caliber of students every summer. An SSRP applicant must be a full-time undergraduate student or a junior or senior in high school. All applicants are competitively selected, and show excellence in the study of science, along with a well-rounded set of other interests and skills.



Institutional and Community Support

MMCRI offers significant in-kind and institutional support to maintain this program. In an effort to eliminate barriers and ensure that the program is an option for all eligible students, we are committed to the provision of a stipend of \$3,500 for each participant. All other costs of the program, including the time invested by our senior scientists to serve as mentors, are covered by the Maine Medical Center Research Institute.

Community sponsorship plays a critical role in providing the stipend support for each summer student. Supporting these bright, motivated young people is an investment in research, science education, and the youth of Maine. For only \$3,500 you can name a scholar in the program. You will have a chance to meet your student and learn about their research pursuits. And hopefully through this investment you will help encourage a talented student to pursue a career in science and open their eyes to the fact that they can follow such a career path right here in Maine.

For More Information

For additional information on the Summer Student Research Program, please go to www.mmcri.org and click on the SSRP link under “Education.” There you will find application information and a list of alumni of the program and their hometowns.

If you are interested in making a philanthropic contribution in support of the Summer Student Research Program or creating a scholarship for an SSRP student, please contact the MMC Development Department at (207) 662-2669.

Thank you for your interest in the MMC Summer Student Research Program!



2011 SSRP Projects:

- Characterization of TGF- β Signaling That Regulates Expansion of hESC-Derived Endothelial Cells (Basic Science, Wang Lab)
- Cytokine Induced JAK2-STAT5 Regulated Novel microRNAs in Acute Myeloid Leukemia (Basic Science, Sathyanarayana Lab)
- Investigating the R-spondin Protein as an Anti-Adipogenic Factor (Basic Science, Yoon Lab)
- Understanding Non-Classical Protein Secretion (Basic Science, Prudovsky Lab)
- Characterization of Vascular Endothelial Cadherin Antibodies (Basic Science, Lindner Lab)
- Cytoprotective Effects of Spi2a in Progenitor B Lymphocytes (Basic Science, Wojchowski Lab)
- Establishing a Model by which Bone Marrow Progenitor Cells Differentiate into a Vascular Smooth Muscle Lineage (Basic Science, Liaw Lab)
- Role of Receptor Tyrosine Kinase Signaling in the Cortical Interstitium of the Developing Kidney (Basic Science, Oxburgh Lab)
- α 2 Agonist Therapy in the ICU: Clonidine and Dexmedetomidine - The A2A Study (Clinical Research, Richard Riker MD, FCCM)
- Teaching Massive Transfusion Protocol: The Efficacy of Didactic Versus Simulation- Based Learning (Clinical Research, Hannaford Center for Safety, Innovation and Simulation)
- Host Feeding Patterns of Vector Mosquitoes in Maine (Vector Borne Disease Lab)
- The Maine Tobacco HelpLine: Impact of Insurance Status on Quit Outcomes and Utilization of Services (Health Service Research, Center for Tobacco Independence)
- From N=1000s to N=1: A Potential Barrier in the Communication of Individualized Risk Information to Prostate Cancer Patients (Health Service Research, Center for Outcomes Research and Evaluation)
- Prostate Cancer Patient Perceptions of the Potential Value of Clinical Prediction Models (Health Service Research, Center for Outcomes Research and Evaluation)