

Research Internship Opportunity at the FDA EM/MRI/Wireless Lab

The Electromagnetics, Magnetic Resonance Imaging, and Wireless (EMW) Lab at the U.S. Food and Drug Administration in the Division of Biomedical Physics, contributes to protecting and promoting the public health through cutting-edge research on regulatory science to facilitate medical device innovation. Through the continuous collaboration between EMW scientists, academic institutions, and industry partners, the lab has achieved prominent research outcomes in the areas of medical device electromagnetic compatibility¹, Magnetic Resonance Imaging (MRI) safety and performance², electromagnetic computational modeling³, and medical device wireless communication and coexistence⁴. The EMW Lab wishes to host a group of 3 to 5 five outstanding engineering or physics students at the undergraduate and graduate levels. The students would undertake a limited-term internship to perform research contributing to their capstone or thesis goals that must be aligned with the broad mission of the EMW Lab. The selected students will have access to the EMW Lab state-of-the-art facility in Silver Spring, MD, which houses a full set of electronics measurement and development tools, anechoic chambers, shielded rooms, large-scale robotic measurement system, and wireless communications development tools for Bluetooth, Wi-Fi, and LTE. Additionally, the students will receive guidance and supervision from EMW scientists. Limited funding might be available for select projects. Both individual and group projects will be considered. The students would be required to be present in the labs of the FDA at least 10 hours per week.

Senior undergraduate or graduate students with a solid background in biomedical instrumentation, electrical engineering, or computer engineering are invited to apply for this opportunity by submitting the following:

- A letter of interest that includes the title and a short description of the capstone project or thesis, and a discussion on its relevance to the EMW Lab research areas identified above. The letter should be no more than 2 pages in length.
- A letter of recommendation from the student's academic advisor that highlights the advisor's concurrence for performing the corresponding work at the EMW Lab.
- A Curriculum Vitae.

Students who are interested, should submit their application to Howard Bassen (Howard.Bassen@fda.hhs.gov) and Dr. Omar Al-Kalaa (Omar.Al-Kalaa@fda.hhs.gov). Applications will be reviewed on a rolling basis until May 1, 2019.

¹ <https://www.fda.gov/MedicalDevices/ScienceandResearch/ResearchPrograms/ucm477377.htm>

² <https://www.fda.gov/MedicalDevices/ScienceandResearch/ResearchPrograms/ucm477387.htm>

³ <https://www.fda.gov/MedicalDevices/ScienceandResearch/ResearchPrograms/ucm477379.htm>

⁴ <https://www.fda.gov/MedicalDevices/ScienceandResearch/ResearchPrograms/ucm477421.htm>