



Focused Ultrasound and Cancer Immunotherapy Grant Program

Request for Proposals

The Cancer Research Institute (CRI) and the Focused Ultrasound Foundation (FUSF) established a partnership in 2017 with the goal of advancing the development of new focused ultrasound (FUS) and cancer immunotherapy treatments. As a key component of the partnership, CRI and FUSF will jointly fund research through a new grant program, guided by a panel of advisors with expertise in FUS and cancer immunology/immunotherapy. The aim of the grant program is to support projects that address critical unanswered research questions that will help move the field towards new device/drug combination therapies.

This first request for proposals seeks preclinical projects to answer the following research question:

How do different “modes” of focused ultrasound (i.e. ablative vs. non-ablative, thermal vs. mechanical) compare in terms of the immune response generated, and how does this immune response correlate with biological, acoustic and imaging metrics?

The intent is to provide a detailed assessment of the FUS-induced immune response corresponding to specific sets of acoustic parameters, and also to identify biological and/or imaging metrics (e.g. MR, ultrasound) that could be more readily used in a clinical setting to signify an effective treatment. With the wide range of preclinical and clinical FUS devices being used today, it is also important that the acoustic parameters are fully described so they are translatable between systems.

For consideration, proposed projects must meet the following requirements:

- Projects must be collaborative and should include a team of at least one FUS researcher and one cancer immunologist
- Include justification of preclinical tumor model – i.e. clinical significance, potential for translation
- The following metrics must be captured (these are only minimum requirements and additional metrics are encouraged):
 - Immunological: measurements of acute and long-term innate and adaptive immune response to FUS at the tumor site (e.g., number of activated CD4+ T cells, NK cells, MDSCs, etc). Include assessment of the molecular/signaling drivers of these responses (DAMPs, alarmins, IFN γ , etc.) as well as metrics that may inform combination (drug+device) therapies (e.g. PD-L1 and CTLA-4 expression)
 - Biological: e.g. analysis of tumor tissue and blood samples pre and post FUS
 - Acoustic: intensity/pressure (derated and non-derated), voltage/power/energy or whichever parameter used on FUS device, pulsing parameters, sonication duration, frequency, transducer characteristics (diameter, focal depth, etc.)
 - Imaging: ultrasound or MR protocols (MR thermometry, ARFI, shear wave imaging, elastography) used for treatment monitoring



Funding: \$200,000 over two years

Eligibility: Applicants must hold a faculty appointment as a tenure-track assistant professor (or higher rank) at award activation.

Instructions for Submission: Those interested in applying for this funding opportunity must first submit a letter of intent. Letters of Intent describing the research plan are due January 15, 2018. Selected applicants will be invited to submit a full research proposal with a submission deadline of March 1, 2018. After review and assessment, FUSF and CRI will share the costs of funding and CRI will administer the grants.

[APPLY NOW](#)