MetroHealth Medical Center

RESEARCH DAY 2023
Abstract Submission Form

Poster Title: **Cleveland Open Source Modular Implant Innovator's Community (COSMIIC)**

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Location of Laboratory: **OBC-MCRR**

Category: **Physical Medicine and Rehabilitation**

Active implantable devices are an important means of treating disease and disability, in large part due to their ability to achieve direct control of portions of the nervous system, typically via electrical stimulation. However, access to this technology limits research progress. The goal of our project is to establish an open source modular implant system to address this limitation. Our open source system is based on the platform modular implant system developed at Case Western Reserve University (CWRU) and the MetroHealth System (MHS), known as the networked neuroprosthesis (NNP). This system is a full-featured neuro-device that has already achieved use in human studies under an Early Feasibility Investigational Device Exemption. The Cleveland Open Source Modular Implant Innovators Community (COSMIIC) System components consist of existing platform components, including implanted rechargeable power, electrical stimulation, and myoelectric signal recording; as well as novel components under development. We are seeking input from the research community to more effectively focus on areas of greatest need. This feedback includes needs related to the technical features of the system, support for regulatory submissions, and customer support for system use and implementation. The open source community can be found at cosmiic.org. This project is supported by the NIH Stimulating Peripheral Activity to Relieve Conditions (SPARC) Program, U41-NS129436.