

Nicholas Syracuse
NASA Internship Award at Kennedy Space Center - Spring 2021
North Carolina State University
Undergraduate Student (Junior), Biochemistry and Biological Sciences

Title: *Developing a Sustainable, User-Friendly Literature Database to Support the Microgravity Simulation Support Facility (MSSF) at NASA's Kennedy Space Center (KSC) (Poster)*

Abstract:

Established in 2017, the Microgravity Simulation Support Facility (MSSF) at NASA's Kennedy Space Center is the only centralized, dedicated facility supporting ground microgravity research in the United States. The MSSF offers the research community the ability to conduct simulated microgravity research with experimental conditions functionally resembling those aboard the International Space Station (ISS) and in other flight-based experimental environments. Since its inception, the MSSF has supported numerous studies and has since collected an extensive library of relevant and pertinent literature. The goal of our research was to develop and implement a sustainable, user-friendly literature database to better house this literature at the MSSF. To achieve this, our team focused on sorting, optimizing, and analyzing preexisting literature libraries to determine a best suitable and sustainable platform for the MSSF. After establishing initial database platforms, the team worked to develop descriptive and structural metadata categories to best sort the literature, which was followed by rigorous testing and optimization of the database as it was implemented. The MSSF has now been outfitted with a reliable, accessible database that effectively houses literature and provides diverse analysis to the user. Our team is continuing to test and update our platform and parameters as we aim for the formal implementation, expansion, and evolution of our database to better sustain future research ventures at the MSSF and beyond.

Advisors: Anna Maria J. Ruby and Dr. Ye Zhang (NASA Kennedy Space Center)