Name(s)

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Project Number

S2109

Project Title

The Effects of UV Radiation on C. elegans Growth Rate as a Model for the Impacts of Interstellar Travel

Abstract

Objectives

My goal was to determine the impacts of UV radiation on C elegans growth rate, as a model for its impacts on C elegans overall genetic health.

Methods

I used C elegans on E coli and agar plates that were exposed to radiation provided by a lamp designed for reptiles. I then time synchronized the worms, and imaged them using a microscope.

Results

The lengths of the worms showed a statistically significant change when comparing the UV exposed populations and the control populations.

Conclusions

This shows that more study is needing into the suitability of C elegans as an interstellar passenger, as well as the effects that such travel could have on these organisms.

Summary Statement

I found that as the radiation dose increased there was a statistically significant impact on the growth rate of C elegans nematodes.

Help Received

I received safety training and information on common laboratory procedures from Dr, Pradeep Joshi in the Neuroscience Research Rnstitute of University of California Santa Barbara. I was also allowed access into Rothman Labs, also at UCSB.