



April 3, 2019

Dr. Nandita Singh
Senior Science Editor
JoVE

RE: *JoVE Technology* manuscript submission

Dear Dr. Nandita Singh, PhD,

Please find enclosed a manuscript titled "Applications for Open Source Microplate-Compatible Illumination Panels" for your consideration for publication in *JoVE*. The enclosed manuscript describes a novel laboratory device which is intended to assist users with a number of common laboratory tasks including benchtop pipetting for sample transfer between microplates, preparing serial dilutions in microplates and identifying artifacts in microplates. It also has utility as an educational tool with a built-in demonstration mode to provide visual indicators when explaining the utility of microplates or how various laboratory processes which use microplates work by visually simulating the process in the microplate. This device is comprised of custom, in-house designed and prototyped LED matrix panels which conform to the SBS footprint for 96 and 384 well microplates, allowing individual wells to be illuminated for user guidance. These custom LED matrix panels have been integrated with Arduino microcontrollers, LCD displays and a custom Python program to process pipetting worklists and translate them into simple to follow commands. This system has been tested by laboratory staff at Scripps and proven to be a valuable tool which saves time and reduces opportunities for error in the lab. The open source nature of this project means that users at other institutions can easily modify the system to meet their specific needs as well.

Thank you for considering our work and we look forward to hearing from you once you have reached a decision on the merit of this manuscript for publication.

Sincerely,

A handwritten signature in black ink, appearing to read "P. Baillargeon", with a long horizontal flourish extending to the right.

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