

Dear Editor,

Enclosed please find a manuscript entitled “**Remote Laboratory Management: Respiratory Virus Diagnostics**”, which we submit for the consideration in the Journal of Visual Experiment.

A number of recent epidemics such as Ebola, Zika, MERS, Influenza outbreaks uncovered the need for rapidly-deployable, laboratory facilities that address a multitude of issues from transportation, access, facilities, equipment, and communication. Off-grid capability is found to be crucial in rural, resource-constrained global settings. Therefore, we designed and built an innovative, off-grid laboratory facility. Here we present a study aimed to demonstrate capabilities of a novel modular and rapidly-deployable laboratory facility and provide a training guide for laboratory personnel working in remote, low-resource environments during an epidemic, natural disaster or other emergency relief situation. In this manuscript, we provide a protocol for a rapid respiratory virus diagnostic test in the proposed innovative, portable laboratory. We strongly believe that this work will be of significant value and interest for a broad audience including specialists in global health care, emergency and epidemics, rapid diagnostic tests in resource-constrained areas. Additionally, our approach and results could provide valuable assistance and reference for researchers with general interests in laboratory diagnostics and clinical methods in global health.

Author contributions: E.P. designed the validation method and study outline for the deployable laboratory facilities; V.A. and K.G. performed the RT-PCR diagnostic test of influenza in the deployable laboratories; S.M. developed the deployable, off-grid laboratory facilities and managed its manufacturing; P.P. designed workflow of respiratory virus PCR diagnostic tests in the deployable laboratories; S.A. conceived the idea, designed and developed portable, rapidly-deployable, off-grid laboratory facilities; E.P., V.A., and S.A. wrote the manuscript.

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Sincerely yours,



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