

Abstract Submitted  
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**Design of a laboratory platform for atmospheric pressure biomedical plasma experiments**<sup>1</sup> SARAH LEE, SARA RUTZ, NATHANIEL HICKS, BRANDON BRIGGS, University of Alaska Anchorage — The design of a laboratory set up for atmospheric pressure plasma (APP) experiments with biomedical applications is described. A comparison between various types of cold APP discharges (DC, RF, microwave) is presented, as well as various configurations of electrodes, dielectric materials, and gas feed conditions. Particular attention is paid to designs comprising floating electrode dielectric barrier discharges (FE-DBD) (for example as described in [1]), but atmospheric pressure plasma jets are considered as well. A plan is discussed for initial experiments on the response of bacterial populations of *E. coli* and *Deinococcus radiodurans* to APP treatment as well as to media activated by APP. [1] Dobrynin, D., Fridman, G., Friedman, G., & Fridman, A., *New Journal of Physics*, **11** 115020 (2009) DOI: 10.1088/1367-2630/11/11/115020

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