February 5, 2019

Proceedings of the National Academy of Sciences

Dear editors,

As an NAS member, I would like to submit the manuscript “Predicting microbial growth in a mixed culture from growth curve data,” to *PNAS* as a “Contributed submission”. Microbial fitness is best inferred from pairwise competition experiments, but these experiments require distinct genotypic or phenotypic markers. In this paper we present a new computational approach, with experimental validation and application, for predicting results of competition experiments. Our approach only uses data from growth curve experiments, which do not require any markers. Therefore, it requires less expertise, is more cost-effective, and can be used with non-model organisms.

I have confirmed two reviewers who are willing to review this manuscript. They are Professor Benjamin Kerr ([kerrb@u.washington.edu](mailto:kerrb@u.washington.edu)) and Professor XXX (XXX). Their confirmations are attached.

Four of Prof. Kerr’s publications that demonstrate his expertise in this field are:

1. Majeed H, Gillor O, Kerr B, Riley MA (2011) Competitive interactions in Escherichia coli populations: The role of bacteriocins. ISME J 5(1):71–81.
2. Estrela S, Morris JJ, Kerr B (2016) Private benefits and metabolic conflicts shape the emergence of microbial interdependencies. Environ Microbiol 18(5):1415–1427.
3. Hammerschmidt K, Rose CJ, Kerr B, Rainey PB (2014) Life cycles, fitness decoupling and the evolution of multicellularity. Nature 515(7525):75–79.
4. Lindsey HA, Gallie J, Taylor S, Kerr B (2013) Evolutionary rescue from extinction is contingent on a lower rate of environmental change. Nature 494(7438):463–467.

And here are three publications by Prof. XXX that show his qualifications:

Sincerely,

Marcus W. Feldman

Professor of Biology