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Tomas Gedeon* (gedeon@math.montana.edu), Department of Mathematical Sciences, Bozeman, MT 59715, and **Emily Harvey, Jeffrey Heys** and **Ross Carlsson**. *Modeling emergent properties of synthetic bacterial consortia.*

Microbiology research is currently undergoing a revolutionary transition from study of mono- cultures to study of natural and synthetic microbial communities. Microbial consortia play a key role in chronic medical infections, and there is a growing appreciation of the role the human micro- biome plays in shaping immune system response to pathogens. In this contribution we model a synthetic consortium that exhibits increased biomass in the experiments, compared to a single microbe community. We show that the adaptation of the members of the community to new conditions is responsible for the observed biomass increase. (Received February 06, 2013)