

Prof. Bob Hutkins is the Khem Shahani Professor of Food Microbiology in the Food Science and Technology Department at the University of Nebraska-Lincoln. The Hutkins Lab studies bacteria important in human health and in fermented foods. We are particularly interested in understanding: (1) factors affecting persistence and colonization of probiotic bacteria in the gastrointestinal tract; (2) how prebiotics shift the intestinal microbiota and metabolic activities in humans and animals; (3) how these shifts affect host health; and (4) how a combination of pro- and prebiotics (synbiotics) can enhance health outcomes. We address these questions using next generation sequencing, metagenomics, and other molecular techniques. Both clinical in vivo, as well as in vitro approaches are used. We are also interested in the specific molecular mechanisms and pathways used by probiotic lactic acid bacteria and bifidobacteria metabolize prebiotic oligosaccharides. Finally, our group has begun to develop application strategies for incorporating prebiotics into foods.

