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Department of Medicine
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Channing Microbiome Seminar

December 2 (Friday), 2022, 9AM-10AM (EST)

Zoom: <https://us02web.zoom.us/j/81070959105?pwd=RFJNd3dSZmR6dXJZNjJiYVVzQ3NEQT09>

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Effects of diet on the human microbiota and metabolome

Abstract: Bioavailability affects the nutritional attributes of foods. Factors such as temperature, pH, and processing affect the nutritional content of foods and their availability for human metabolism. Intestinal microorganisms metabolize nutrients that escape digestion, such as dietary fiber. Microbial fermentation of fibers generates short-chain fatty acids. Dietary fat also affects the intestinal microbiota, both directly and indirectly, through bile acid secretion and the microbial conversion of primary bile acids to secondary bile acids. Nuts and avocados, foods rich in fiber and unsaturated fatty acids, affect the human intestinal microbiota and metabolome. Furthermore, the microbiota and metabolome can serve as biomarkers of dietary intake because of the differential effects foods have on the abundances of intestinal microorganisms and metabolites.

Bio: Dr. Hannah Holscher is an Associate Professor of Nutrition in the Department of Food Science and Human Nutrition and a member of the Division of Nutritional Sciences, the Institute of Genomic Biology, and the National Center for Supercomputing Applications at the University of Illinois. She completed postdoctoral training focused on the human microbiome, a Ph.D. in Nutritional Sciences, and a B.S. in Food Science and Human Nutrition at the University of Illinois. She is also a Registered Dietitian. Dr. Holscher's laboratory uses clinical interventions and computational approaches to study the interactions of nutrition, the gastrointestinal microbiome, and health. Her creative use of machine learning approaches to determine microbial biomarkers of food intake and human health status resulted in her recognition as a 2017 New Innovator in Food and Agricultural Research and a 2020 National Academy of Medicine Emerging Leader. She also received the 2021 American Society for Nutrition's Mead Johnson Young Investigator Award for her series of work on nutrition and the human microbiome. She has received grant funding from the United States Department of Agriculture (USDA), the Foundation for Food and Agriculture Research, food commodity boards, and private industry. She has published 68 peer-reviewed manuscripts and given many invited presentations at locations including the National Academy of Medicine, National Institutes of Health, USDA, universities, and national society meetings of nutrition scientists, food scientists, and dietitians. She has served in local and national leadership roles, including Chair of the Nutrition Translation (2017-2020) and Nutritional Microbiological (2020-2023) Research Interest Sections of the American Society for Nutrition. Dr. Holscher serves on *The Journal of Nutrition* editorial board and as an associate editor for *Nutrition Research*.

Hosted by Yang-Yu Liu

