

TITLE

Metastat: The Great Reset of Metabolism

ABSTRACT

Metabolism drives all biological processes, and its dysregulation fuels a plethora of human diseases, including diabetes, obesity, fatty liver disease, cancer, cardiovascular disease, and neurodegenerative disorders. Our research program aims to elucidate the mechanisms underlying the spatial and temporal regulation of metabolism, with the ultimate goal of resetting metabolic setpoints (*Metastat*) to treat these diseases. Protein O-GlcNAc modification has emerged as a nutrient and stress sensor regulating fundamental cellular processes. Drawing on two decades of research, I will present the concept that O-GlcNAc signaling serves as a conserved determinant of body weight and blood glucose setpoints.

BIOGRAPHY

Dr. Xiaoyong Yang is Professor of Comparative Medicine and of Cellular and Molecular Physiology at Yale University School of Medicine. He holds an adjunct professorship at Johns Hopkins University School of Medicine. Working at the intersection of diabetes, obesity, and cancer, he has made pioneering contributions to deciphering biological information encoded in protein modifications. His publications have garnered more than 29,000 citations and include articles in *Cell*, *Cell Metabolism*, *Nature*, *Nature Medicine*, and *Science Advances*. His research has been featured in *TIME*, *Daily Mail*, NPR, and *Scientific American*.

Dr. Yang serves as senior editor of *Journal of Endocrinology* and *Journal of Molecular Endocrinology* and on the editorial board of *Life Metabolism*. He has served on review panels for the NIH, NASA, UK Medical Research Council, Wellcome Trust, and other agencies worldwide. He previously served as president of the Chinese American Diabetes Association and vice president of the Sino-American Pharmaceutical Professionals Association, receiving the CADA Achievement Award and SAPA Presidential Service Excellence Award. His research contributions have been recognized with awards from the American Diabetes Association, American Cancer Society, Ellison Medical Foundation, and Connecticut Department of Public Health. He is an elected member of the Connecticut Academy of Science and Engineering.

