RESEARCH OVERVIEW
Research in the Marth laboratory is centered upon protein glycosylation in the cell biology of disease. The laboratory develops and applies biomedical nanotechnologies in discovering how protein glycosylation participates in the metabolic origins and mechanisms of syndromes including diabetes, autoimmunity, inflammation, cancer, and sepsis.

The Marth group has found that alterations in protein glycosylation caused by environmental and metabolic stimuli substantially contribute to the origin and severity of diseases and syndromes including obesity-associated diabetes, sepsis, and chronic inflammatory states that develop into more severe disorders including tissue degeneration and autoimmunity. Highly expressed cell surface tumor antigens that combine glycan and protein sequences in unique combinations may enable more selective drug delivery at high efficiency to further improve upon cancer treatment by nano-medicine. These discoveries allow for leveraging our understanding of metabolic components and environmental factors to more effectively intervene in the onset and progression of disease.

Group Website: cnm.ucsb.edu/people/marth
Selected Publications


