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# CURRENT TRENDS IN MASS SPECTROMETRY AND CHROMATOGRAPHY

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### Mass spectrometry-based novel chemical and enzymatic methods to globally and site-specific analysis of glycoproteins

Protein glycosylation is ubiquitous in biological systems and essential for cell survival. Aberrant protein glycosylation is directly related to human disease, including cancer and infectious diseases and glycoproteins contain a wealth of valuable information related to the developmental and diseased statuses of cells. However, due to the low abundance of many glycoproteins and heterogeneity of glycans, it is extraordinarily challenging to comprehensively analyze glycoproteins in complex biological samples. Based on the common features of glycans, we have developed chemical and enzymatic methods to comprehensively analyze protein glycosylation by mass spectrometry. Glycoproteins located on the cell surface are especially interesting because they frequently regulate extracellular events. In our lab, we specifically tagged surface glycoproteins for global and site-specific analysis. In combination with multiplexed proteomics, we quantified the dynamics of surface glycoproteins and measured their half-lives. Global analysis of protein glycosylation will aid in a better understanding of glycoprotein functions and lead to the identification of glycoproteins as disease biomarkers and drug targets.

### Biography

Dr Ronghu Wu completed his M. S., Chemistry; Ph. D., Analytical Chemistry, University of Science and Technology of China and Postdoc fellow from Harvard Medical School, 2009-2012. His Research work mainly focuses on Analytical Chemistry Mass Spectrometry molecular Biophysics and Chemical Biology. He is currently Assistant Professor in Georgia Institute of Technology, USA.

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