Applicant’s Name: Yu Li  Degree: BA 

Applicant’s Division: 

Faculty Preceptor: Dr. Jonathan Schneck (Must hold a primary appointment in Pathology)

Appointment Category: _____ House Staff _____ Clin Fellow _____ Research Fellow  

_____ Medical Student  X Graduate Student (Program: Immunology) 

Register for: _____ Clinical Research  X Translational Research _____ Basic Research 

Full Poster Title * Profiling the Mammalian Cell Surface Glycome 

Where has the work been presented? 

Meeting Name 

Meeting Date 

Not Previously Presented  X 

Where is this work being published? 

Journal Name, Volume, Page, Date 

In Preparation  X 

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Glycosylation is one of the most complex posttranslational modifications with an extremely high level of diversity that has made it refractory to detailed analysis. To facilitate studies in glycosylation, we have developed a comprehensive lectin microarray for use as a high-throughput analysis of investigating cell surface glycosylation in mammalian cells. Using this approach, we have established a "GlycoCode" and hierarchical organization of 23 mammalian cell lines based on the profile of their surface glycan structures. We also show the potential use of this approach as a sensitive analysis of cell development and differentiation by probing immune system cells. Lectin microarrays represent a novel approach to high-throughput analysis of cell heterogeneity; the results of which can be used to studying diverse cell processes including cell development and differentiation, cell-cell communication, pathogen-host recognition, cell surface biomarker identification, and to aid in development of novel therapeutics.