



COLLEGE OF PHARMACY  
**PHARMACEUTICAL SCIENCES**  
UNIVERSITY OF MICHIGAN

## **Pharmaceutical Sciences Seminar**

Wednesday, September 9, 2020  
<https://umich-health.zoom.us/j/97402044074>  
4:00-5:00 pm

### **“Vaccine Design using Virus-like Particle Platform-based Technologies”**

Presented by:

**Dr. Bryce Chackerian**  
Professor and Vice-Chair  
Dept. of Mol. Genetics & Microbiology  
University of New Mexico School of Medicine

**Abstract:** Display of antigens on virus-like particles (VLPs) is a valuable technique for enhancing the immunogenicity of targets that are poorly immunogenic in their native context. In this talk, I'll describe how bacteriophage VLPs can be engineered to direct highly targeted antibody responses in order to devise vaccines for both infectious and chronic diseases. For infectious disease, we are interested in targeting highly conserved, but poorly immunogenic, sites of vulnerability on pathogens that have resisted attempts to develop conventional vaccines. As an example, I will discuss our recent efforts to develop a malaria vaccine and our use of a VLP-based affinity selection technology to identify immunogens that can engage the germline precursors of broadly neutralizing antibodies against HIV. We have also exploited the ability of VLP display to induce strong antibody responses against self-molecules in order to develop novel vaccines for chronic diseases, such cardiovascular disease and Alzheimer's. I'll briefly describe some of our efforts to develop vaccines targeting PCSK9, a molecule involved in LDL cholesterol metabolism.

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