

Lily Capeci

Sarah Eby-Ebersole Award

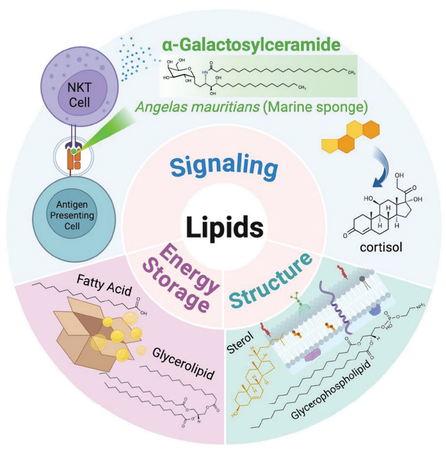
Ph.D. Student, Chemistry and Biochemistry

Second Year ARCS Scholar

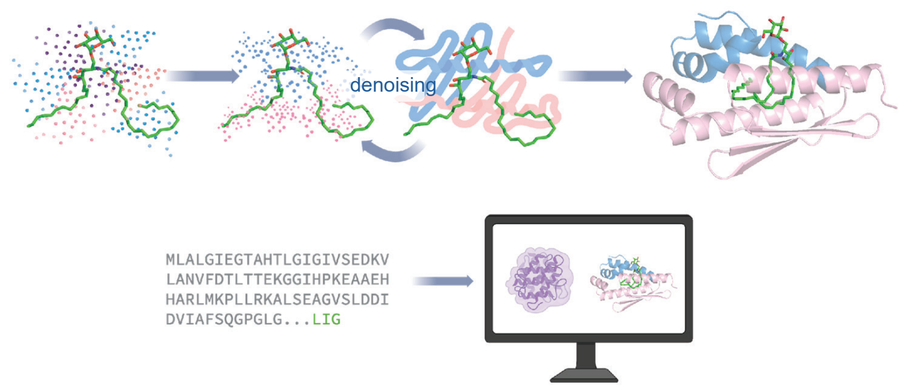
Georgia Tech

De novo design of lipid-binding proteins for immune modulation and diagnostics

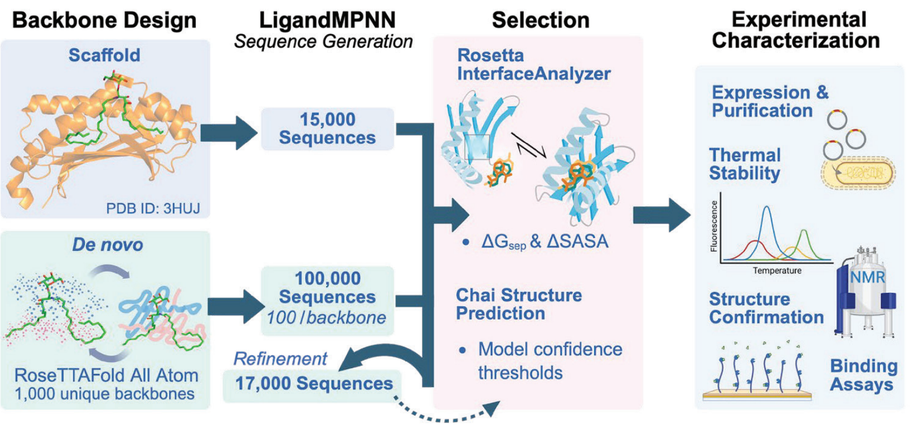
My research aims to build a streamlined, scalable platform for designing, filtering, and validating lipid-binding proteins with immunomodulatory and diagnostic potential.



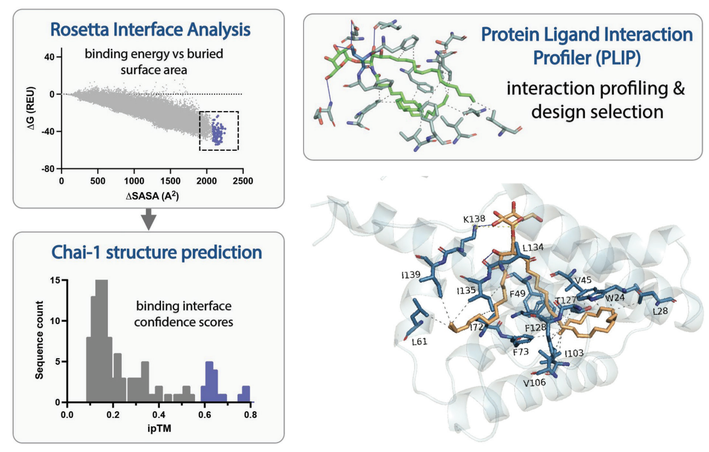
★ **Lipids are a diverse class of biomolecules involved in a variety of biochemical processes.**



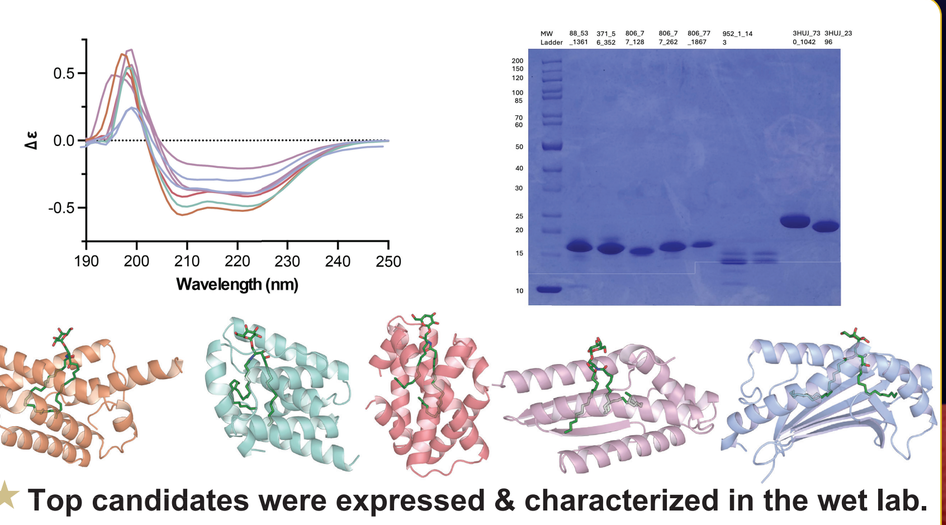
★ **AI-Guided software can be harnessed to design lipid binding proteins.**



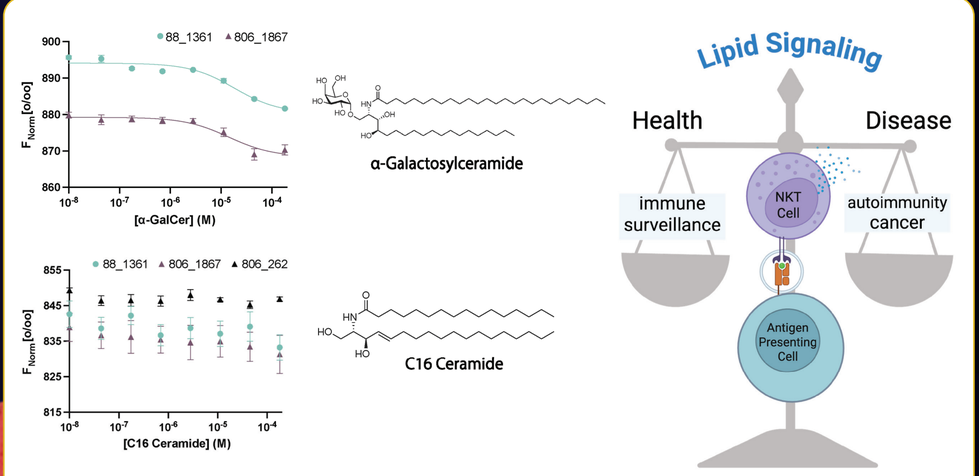
★ **Pipeline to develop proteins that bind diverse lipid molecules.**



★ **100,000+ design candidates filtered using a suite of physics-based and ML metrics.**



★ **Top candidates were expressed & characterized in the wet lab.**



★ **Enable tunable immune modulation & protein-based diagnostics.**

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