**Faculty Name:**
Allie Obermeyer

**Faculty Email:**
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**Lab:**
Obermeyer Lab

**Project Title:**
Sustainable biocomposite materials of proteins and polysaccharides

**Description:**
Proteins have evolved to have an incredible range of functions – from superb catalysts to resilient materials. For these reasons, protein biopolymers have the potential to serve as sustainable, biodegradable materials that could potentially displace petroleum-derived plastics that currently dominate the marketplace. However, protein-based materials typically lack the performance materials properties found in traditional plastic materials. This research project seeks to develop biocompatible processes to improve the strength and ductility of protein-containing materials. To accomplish these goals, a panel of protein biopolymers based on natively evolved protein sequences will be engineered with varying assembly and crosslinking domains. The engineered proteins will be produced in a heterologous host and isolated prior to testing. Critically, these proteins will be used to create composite biomaterials that interact with and strengthen polysaccharide based materials.

**Location of Research:**
On Site

**# of hrs/week:**
40

**Department/Program:**
Chemical Engineering

**Eligibility:**
BS, First Year, BS, Second Year

**To apply, please contact:**
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