

# BIOCHEMISTRY SEMINAR SERIES



**“De novo design of function in water-soluble and membrane proteins”**

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**Prof. William DeGrado**

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The de novo design of proteins with bespoke structures and functions critically tests our understanding of the underlying chemical processes. Impressive progress has been made in the design of proteins that fold into predetermined three-dimensional structures, and in the design of proteins that engage in protein-protein interactions. By contrast, the classical problem of designing proteins that tightly and specifically bind densely functionalized, flexible small molecules rich in polar atoms has proven very difficult. We are using a fragment-based approach to design ligand-binding proteins. We demonstrate the success of this approach through the design of metallo-organic cofactors and a protein that binds the FDA-approved factor Xa-binding drug, apixaban and other small molecules.

**Friday, February 12, 2021**

**via Zoom**

**3:30 pm**

*Please contact host if you would like to meet with speaker: Kyle Meador, Graduate Student, Yeates Lab, [kylemeador@ucla.edu](mailto:kylemeador@ucla.edu)*

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