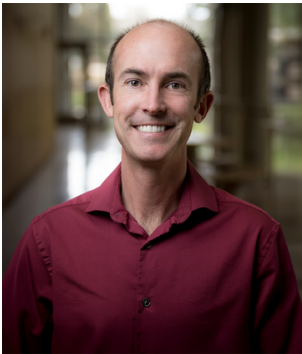


MARCH 27, 2025

# APEX LECTURE SERIES



**RYAN HIBBS**

School of Biological Sciences

University of California, San  
Diego

“Muscle Acetylcholine Receptors in  
Development and Disease”

4:00 p.m. 1220 MRB III

A reception will follow the lecture in the first-floor MRB III atrium. Co-sponsored by the Department of Pharmacology and the Center for Applied AI in Protein Dynamics.

We are broadly interested in how ion channels enable fast signaling across membranes. This signaling underlies diverse physiological processes, from chemical transmission in the brain to muscle contraction and environmental sensation. In the seminar, I will discuss recent work from our lab on how connections between our nervous system and skeletal muscle develop, and how, in cases of autoimmune disease, these junctions are attacked. I will cover how we purified micrograms of muscle receptor protein from kilograms of bovine muscle (beef) to yield high-resolution structures of the acetylcholine receptor, then used electrophysiology to understand development of this synapse. In the second part of the seminar, I will show how we are using structural and functional methods to map epitopes for pathogenic patient antibodies and understand mechanisms underlying the autoimmune disease myasthenia gravis.

**Add to calendar!**

<http://vu.edu/HibbsEvent>



**VANDERBILT**  
School of Medicine Basic Sciences  
*Cultivating curiosity, creating cures*

