



CHEMISTRY

SEMINAR SERIES

Spring 2023



11 AM - 12 PM

March 3rd

In-person

NC 1130

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CLC “Chloride Channels”: dissecting unusual mechanisms of transport

Ion transport across cell membrane sets up and exploits ion gradients, providing energy stores and electrical signaling that are foundational to life. Ion transport is catalyzed by two classes of membrane proteins: ion channels and active transporters. Ion channels form pores that allow ions to move across membranes passively, along their electrochemical gradients; active transporters, on the other hand, can move ions across membranes against their electrochemical gradients. The CLC “Chloride Channel” family is distinctive in that it contains both passive chloride channels and active chloride/proton exchange transporters. The existence of both types of transport proteins within one gene family challenges the long-held assumption that they must operate by radically different mechanisms and suggests instead that their mechanisms may be subtle variations on a single central theme. By studying ion-transport mechanisms in both types of CLC proteins, my lab aims to discover how these proteins have evolved to carry out these ostensibly different functions. In this talk, I will describe my lab’s recent work in uncovering the details of the CLC chloride/proton exchange mechanism.

For more information see: <https://clas.ucdenver.edu/chemistry/seminars-and-events>