

## Microsymposium

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### *Deciphering ligand induced conformational changes in the sodium galactose transporter*

Jeff Abramson<sup>1</sup>

<sup>1</sup>*Ucla, Los Angeles, United States*  
E-mail: jabramson@mednet.ucla.edu

Secondary active transporters use ionic gradients to pump specific molecules across the otherwise impermeable membrane bilayer that surrounds all cells and organelles. These proteins are essential components for cell communication, function and survival and are important targets for drug development. The transport of substrates against a transmembrane concentration gradient proceeds through a series of discrete conformational transitions, during which the protein's substrate-binding site is accessible only to one side of the membrane at any given moment. In this work, we engineered a large number of double cysteine mutants—based on our crystal structures—and performed double electron-electron resonance (DEER) to gain insights into the dynamics of ligand-induced motions in SGLT.

**Keywords:** [SGLT](#), [Membrane Transport](#)