NCCR CHEMICAL BIOLOGY

NCCR LECTURE SERIES

Invited speaker

STEVEN BOXER

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Electric fields and enzyme catalysis

March 20th 2018

16:15

EPFL - SV1717

About the talk

S. Boxer's lab has developed the *vibrational Stark effect* to probe electrostatics in proteins where they can report on functionally important electric fields. In a model enzyme, their work correlates the field sensed at the bond involved in enzymatic catalysis with the activation energy of the reaction it catalyzes, including variations in a series of mutants and variants using non-canonical amino acids. This provides the first direct connection between electric fields and function and can be used to re-interpret results already in the literature and provide a framework for parsing the electrostatic contribution to catalysis.

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