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CHEMISTRY

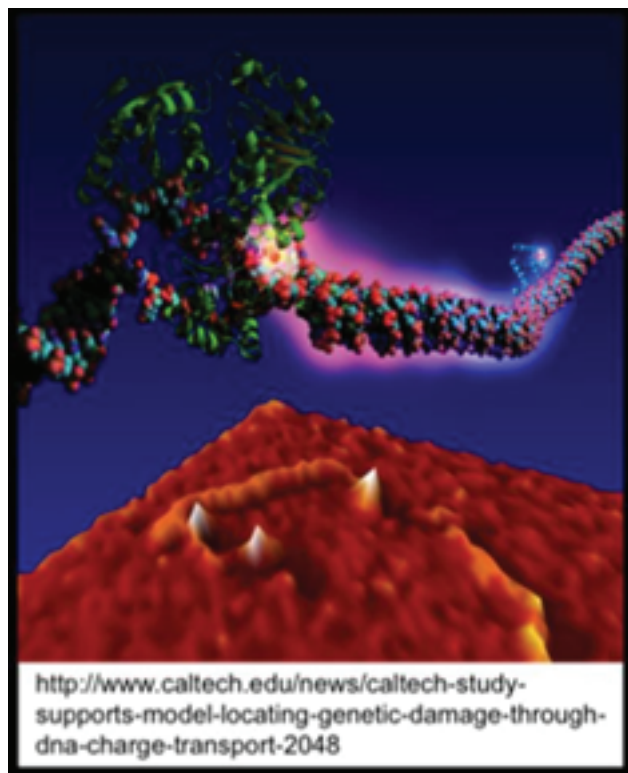
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CHEMISTRY SEMINAR

Pamela Sontz, Ph.D.

Illumina, Inc.

Exploring the Intricacies of DNA: Journey through the Eyes of a Chemist



ABSTRACT: Not only does the DNA sequence encode proteins and drive cellular processes but the base-stack also exhibits a unique and exquisite property: it facilitates charge transport (CT) on ultrafast time scales over long distances. A molecular wire, DNA conducts charge with very shallow distance dependence, yet mismatches and lesions significantly attenuate this process. It is this characteristic that inspired the research I had the opportunity to contribute to during my time as a graduate student in the lab of Professor Jacqueline Barton at Caltech. Understanding the ways in which nature exploits DNA CT and ways in which we can gauge which biological pathways are governed by DNA-mediated CT drove discovery and sparked my desire to continue to pursue a career in chemistry within the field. Upon completing postdoctoral research, I began working at Illumina as a scientist within Product Development. Each day I utilize lessons learned in Professor Barton's lab, be it techniques, ways of thinking critically, or guiding principles instilled by my advisor and colleagues along the way. How does one decide to pursue a career in chemistry? In this seminar, I will share the topics in chemistry that triggered my passion for the field and what the journey has been like from graduate school, a postdoc, and now at Illumina.

Aliso Hall
Room 150

1PM, Friday
November 2,
2018

Free & open
to the public

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