



College of Liberal Arts and Sciences
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Dr. Alena Moon
Assistant Professor of Chemistry
University of Nebraska Lincoln

An exploration of chemistry students' conceptions of light and light-matter interactions in the context of fundamental experiments

Abstract:

Light is used ubiquitously across science and engineering to explore, characterize, and understand matter and catalyze processes. Relative to its utility in science and engineering, very little research has been conducted on how students develop an understanding of light and its interaction with matter, especially at the quantum level, which is necessary to understand many modern applications and technologies. To begin addressing this gap, we present results from a qualitative investigation of postsecondary chemistry students' conceptions of light and light-matter interactions in the context of the photoelectric effect and the double slit experiment—fundamental experiments that offer insight into the nature of light and its interaction with matter.

Bio: Alena Moon attended a tiny liberal arts college, John Brown University, for undergraduate before beginning her Big Ten tour. She completed a PhD at Purdue University in chemistry where she studied discourse in inquiry-oriented physical chemistry courses. She moved to the University of Michigan for her Postdoctoral position where she investigated the use of writing to support learning in introductory STEM. She landed at the University of Nebraska-Lincoln, where her research group investigates students' understanding of light-matter interactions and competency in science practices.