

Optoelectronics based on colloidal quantum dot solids

Edward Sargent

Solution-processed optoelectronic materials, including colloidal quantum dots, offer a cost-effective and integrable path to sense light for imaging; and to harvest the sun's energy in both the visible and the infrared. I will summarize advances in the materials chemistry, fabrication, physical understanding, device physics, and performance-oriented engineering of colloidal quantum dot solar cells and light sensors.

Biography: Ted Sargent holds the Canada Research Chair in Nanotechnology at the University of Toronto, where he also serves as Vice Dean for Research for the Faculty of Applied Science and Engineering. He is Fellow of the AAAS "...for distinguished contributions to the development of solar cells and light sensors based on solution-processed semiconductors" and is Fellow of the IEEE "... for contributions to colloidal quantum dot optoelectronic devices." He is a KAUST Investigator; is CTO of InVisage Technologies of Menlo Park, CA; and is a co-founder of Xagenic Inc.