

Materials Chemistry for Optoelectronics and for Decarbonization

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Abstract

Emerging materials – such as quantum dots, perovskites, and metal and metal oxide nanoparticles – are urgently needed to advance both consumer electronics and large-scale decarbonization of electricity, fuels, and chemicals. I will discuss recent advances in light sensors, solar photovoltaics, and in CO₂ reduction electrocatalysts, enabled by progress in the synthesis and physicochemical understanding of such materials.

Short Biography

Ted Sargent is Executive Director of Trienens – the Institute for Sustainability and Energy at Northwestern University. Within his own research group at Northwestern, he leads a team of fifty researchers in Chemistry and in Engineering working on next-generation solar, optical sensing, and CO₂ direct air capture and CO₂ upgrade science and technology. His works have been cited 110,000 times; 170 of his works have been cited 170 times or more [all Scopus].

