



Nate Lewis

Nate Lewis is Professor of Chemistry at the California Institute of Technology since 1991. Since 2010, he is the Scientific Director and Principle Investigator of the Joint Center for Artificial Photosynthesis, the DOE's Energy Innovation Hub in Fuels from Sunlight. Professor Lewis is Principal Investigator of the Beckman Institute Molecular Materials Resource Center. His research interests include artificial photosynthesis and electronic noses. Nate continues to study ways to harness sunlight and generate chemical fuel by splitting water to generate hydrogen. He is developing the electronic nose, which consists of chemically sensitive conducting polymer film capable of detecting and quantifying a broad variety of analytes. Technical details focus on light-induced electron transfer reactions, both at surfaces and in transition metal complexes, surface chemistry and photochemistry of semiconductor/liquid interfaces, novel uses of conducting organic polymers and polymer/conductor composites, and development of sensor arrays that use pattern recognition algorithms to identify odorants, mimicking the mammalian olfaction process.