

8th International Conference and Exhibition on

LASERS, OPTICS & PHOTONICS

November 15-17, 2017 | Las Vegas, USA



Michelle R Stem

Complete Consulting Services, USA

Quantum laser interactions with select silicate specimens

This presentation will show never-before-seen colorful micrographic images of select natural silicate specimens interacting with various laser sources. These micrographs will reveal a closely magnified view of materials with rare properties, such as anti-Stokes upconversions and negative index metamaterials. In contrast to currently available manufactured materials, the natural materials to be presented display these rare properties under conditions in which the currently available manufactured materials cannot function, e.g. ambient temperatures, ambient pressures, no radioactive elements, no heavy metals, no added photons, no electricity and ambient air environment. A goal is to develop materials with the photonic control displayed by these natural materials for applications that include: solar power, space exploration, energy efficiency, stealth technologies, photonic waveguides and data storage/transmission.

Biography

Michelle R Stem has a PhD in Materials Science Engineering, MBA in Management and BS in Chemistry. She has done Post-doc Research and continued work as Senior Materials Researcher at Complete Consulting Services, LLC. She applies interdisciplinary expertise through multi-scale analysis, computational modeling and laboratory synthesis to study extremely rare inorganic, complex and semi-conductor (ICS) materials. She researches ICS structural and property variations to discover and ultimately engineer new methods, applications, models, materials and metamaterials with the goal of controlling photonic, phononic, optoelectronic, band gap and other properties. In addition, her research develops materials that save energy (e.g. power differentials for photonic band gap versus electronic materials) and finds alternatives to using up rare resources.

MRSTEM@completeconsultingservices.com

Notes: