

## Chemistry In Emerging Technologies Lectures

Nazareth College - Peckham Hall, Room 10, 4245 East Ave., Pittsford, NY

Monday, March 5, 2018

### *Nanotechnology and Entrepreneurism: A Potent Reaction Mixture*

**Dr. Kenneth Reed, Co-founder & CTO**  
ZeroValent NanoMetals ([www.zv-nm.com](http://www.zv-nm.com))

#### **7 pm: Lecture**

The Rochester region is rich in materials science technology, in large part due to its Big Three (now smaller) legacy companies and its world-class educational institutions. An additional legacy from these companies is a trove of available human capital that has become (perhaps out of necessity) entrepreneurial in nature. This presentation will address the historical origins of the “ancient art” of nanotechnology, its evolution through the ages, what makes nanotech so neat and how the author and other members of the “lost tribe” of Eastman Kodak have attempted to address some rather large and imposing societal challenges by bringing to bear their technical passions and fledgling experiences via small business creation.

**Dr. Kenneth Reed** received his B.Sc. in Chemistry at RIT and his Ph.D. in Physical Chemistry at Stanford Univ. in 1976. He then returned to Rochester to begin his industrial career in the Kodak Research Laboratories where his work centered on materials chemistry for use in silver halide photographic products, including synthesis and characterization of dispersions of nanophase materials, an area that would be central to his future as an entrepreneur. This work resulted in 22 patents and induction into the Kodak Distinguished Inventors Gallery. After a very successful 30-year career at Kodak, Ken began the next phase of his technical career - applying his expertise in nanophase materials for new applications and new business development. Initially working in a lab at RIT with his team of scientists, a process for the synthesis of ceria with particle sizes in the 2-5 nm size range was developed. In 2007 he co-founded his first company, Cerion Energy, to commercialize this material and its versions doped with other metal oxides as an additive for diesel fuel that provides improved fuel efficiency and decreased harmful emissions from diesel engines. Ken’s most recent company, ZeroValent NanoMetals (ZVNM), formed in 2016, is a material science company with expertise in the development, customization and manufacture of high-performance metal nanoparticles and unique alloys in the 2-5 nm size regime. The focus for these materials is the application of their nanosize-dependent properties for the development of transformative new products for a wide range of industries including high performance thin layer (non-vacuum) coatings, flexible printed electronics, and 3D metal printing (additive manufacturing).

#### **8:15 – 9:30 p.m.: Reception – Peckham Hall Lobby**

Further information on these lectures and other Rochester ACS Section events is available at [www.Rochester.sites.ACS.org](http://www.Rochester.sites.ACS.org)