

## *Chemistry In Emerging Technologies Lectures*

Peckham Hall, Rm. 12 - Nazareth College, 4245 East Ave., Pittsford, NY

Monday, December 8, 2014

### *Black Silicon and Patterning Technologies to Streamline Solar Cell Manufacture*

**7:00 p.m.:** David H. Levy, Ph.D., Director of Research and Technology, Natcore Technology, Inc. ([www.natcoresolar.com](http://www.natcoresolar.com))

**Abstract:** The Rochester laboratory of Natcore has two major research programs: a low cost process for producing black silicon, and laser based doping of silicon to produce solar cells. Black silicon refers generally to a surface etch of silicon that produces very low reflection. Our black silicon process uses a metal assisted chemical etch that creates fine pores on the silicon, all at atmospheric conditions. The morphology of the resulting surface as well as full area cell performance will be discussed. The laser doping technology we are developing will enable lower temperature processing of silicon than is used in current solar cell production, and has good synergy with the black silicon antireflection technology. The concept and progress on laser processing will also be discussed.

**David Levy** earned a B.S. degree in Chemical Engineering from the University of Pennsylvania before obtaining a Ph.D. degree from MIT. He joined the Eastman Kodak Research Labs in 1992, where he was a Senior Research Scientist. During his time with Kodak, he worked with nanoparticle dispersions, solution-processable inorganic semiconductors, and was the inventor of Kodak's Spatial Atomic Layer Deposition process (SALD) process. In 2012 Dr. Levy joined Natcore Technology as the Director of Research and Technology, with a focus on crystalline silicon solar cells. Dr. Levy has been granted 86 US patents and has been an invited presenter at meetings of the Materials Research Society and the American Vacuum Society.

**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)