Abstract:
The magnitude of the solar challenges is so immense that existing electronic and energy approaches – even with improvements from advanced engineering and improved technology based on known concepts – will not be enough to secure our energy future. Therefore, transformational scientific breakthroughs are urgently needed. This lecture will describe recent research on synthesis and fabrication of tailored nanoscale structures where every compound has a specific function. The main objective is to design and to synthesize complex materials that seamlessly control the ebb and flow of charges and energy between chemical bonds, electrons and light using bio-inspired approaches. Novel “out-of-the-box” approaches have been proposed and successfully validated for the applications in nanosolar. This talk will highlight our recent advances in nano-solar field.

About the Speaker:
Mihri Ozkan, is a Professor in the Department of Electrical Engineering at UC Riverside. She has a highly interdisciplinary research focus in nanoengineering. She received her Ph.D. degree from the Department of Electrical and Computer Engineering at UC-San Diego and her M.S. degree from the Department of Materials Science and Engineering at Stanford University. She has over four years of industrial experience in integrated circuits with Applied Materials Inc. and IBM Almaden Research Center. Prof. Ozkan has been honored by many societies based on her exceptional achievements in research and mentoring. Her most recent honors include: 1) “National Medal for Engineering Science Young Investigator Award” from the Society of Engineering Science (2009), 2) “Young Frontier in Engineering” Honor from the National Academy of Engineering (2008), and 3) the Army’s Young Investigator Award (2006). Prof. Ozkan has more than one hundred research publications and forty patent disclosures.