

IITGN's 3rd Roddam Narasimha Distinguished Lecture focused on efficiency of solar PV cells

Bilkulonline.com, Ahmedabad, April 14: Eminent researcher in the field of solar PV, Prof Sang IL Seok spoke on ways of improving efficiency of solar cell at Indian Institute of Technology Gandhinagar (IITGN) on Monday (April 13, 2015). Prof Seok's talk on "Architecture, Process and Materials for Efficient Inorganic-Organic Hybrid Solar Cells" was the third edition of IITGN's "Roddam Narasimha Distinguished Lecture" series.



Prof Seok said that efficiency of solar PV cells could be improved either by choosing the best semiconductor material or by engineering the chemical property of existing materials.

During the talk, Prof Seok who leads the Global Research Laboratory at Korea Research Institute of Chemical Technology (KRICT) as Research Fellow in the Division of Advanced Materials shared details about his research to improve the efficiency of solar PV cells. Prof Seok said "Of the various available materials and methodologies aimed at producing low-cost, efficient photovoltaic cells for utilizing solar energy, semiconductor nanocrystals and inorganic-organic hybrid perovskites offer promise of breakthrough for next-generation solar devices. This is mainly due to the combination of superior optical properties with suitability for solution-based processing."

Stimulated by ambitions for fabricating stable, high-efficiency, and cost-effective solar cells, Prof Seok and his group have been studying inorganic-organic heterojunction solar cells by employing inorganic semiconductor nanoparticles or inorganic-organic hybrid perovskite materials as light absorber and organic hole conductors.

Prof Seok said that, "In the perovskite solar cells, process and chemical engineering has enabled the production of extremely uniform and dense layers, with remarkably improved performance of the cells with certified power conversion efficiency (PCE) of 20.1% in the laboratory conditions."

"Roddam Narasimha Distinguished Lecture", which was set up in 2012, aims at bringing young distinguished professionals to the institute to present their works in areas of national importance. The Lecture series was instituted with the support from professors from Vanderbilt University, Prof Amrutur Anilkumar.