Sandia National Laboratories
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Sandian Selected for Outstanding Young Engineer Award

The Albuquerque Section of the Institute of Electrical and Electronics Engineers (IEEE) has selected Dr. Jose Luis Cruz-Campa as the recipient of the 2014 Outstanding Young Engineer Award for his outstanding contributions to the electrical engineering profession. A key aspect of Jose Luis' research program is the use of microfabrication techniques, more commonly used in micro electro-mechanical systems (MEMs) or integrated circuit technology, to advance the state-of-the-art in photovoltaics (PV). Jose's broad background in mechanical engineering, physics, and electrical engineering has allowed him to participate in multidisciplinary projects involving solar energy, devices, material science, mechanics, and optics.

Jose Luis Cruz-Campa (right) along with fellow Sandia researchers Murat OKandan (left) and Greg Nielson (center) hold samples containing arrays of microsystems-enabled photovoltaic (MEPV) cells. (Photo by Randy Montoya)

Jose Luis is the principal investigator for a recently funded DOE SunShot bridge proposal focused on improving the performance of thin-film cadmium-telluride (CdTe) technology. He and his team are using microfabrication techniques to selectively grow CdTe nano- and micro-sized islands using cadmium sulfide/indium tin oxide patterned with silicon dioxide.

His work in microsystems-enabled PV (MEPV) has received numerous awards, including a 2012 "R&D 100 Award" from *R&D Magazine*. His direct contributions led to the optimization of ultra-thin and micro-scaled PV and enhanced the efficiency of these devices from < 1% to almost 15%. These cells use 10–20 times *less* material, are flexible, and keep the same levels of efficiency as their conventional counterparts.

Throughout Jose Luis' career, he has exhibited strong leadership and a passion for promoting solar energy and materials science. He has been a presenter of hands-on solar energy and materials science activities in local middle schools, summer science camps, and at career days for K-12 students. In 2013, he worked with teachers from the Albuquerque Public Schools system to promote a MEMs education program. The award was presented to Dr. Cruz Campa at the Annual Joint Sigma-Xi IEEE Banquet on May 19th at the University of New Mexico Continuing Education Building.

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