With an impressive boost — more than $5 million worth — by way of early membership support, the new Solid State Lighting & Energy Electronics Center (SSLEEC) at UCSB is poised to make major advancements.

During fiscal year 2014, three corporations, including Mitsubishi Chemical and Everlight Electronics, pledged $1.75 million apiece — $5.25 million altogether — to the collaborative center that partners key industry leaders with UC Santa Barbara researchers. Their aim: to advance solid-state lighting and energy efficient power switching using wide-bandgap semiconductors.

Launched in late 2013, the center’s previous generations were Solid State Lighting & Display Center, and Solid State Lighting & Energy Center. Now, as SSLEEC, the center is focusing on new semiconductor-based technologies for energy efficient lighting, power electronics and bulk growth of Gallium Nitride (GaN).

The objective of the SSLEEC is to provide a forum for its members — key industry partners and the faculty and student researchers at UCSB — to work in collaboration, and across scientific disciplines, to address the most challenging problems in these important and timely areas of research.

“We are so pleased to be working with leading international corporations on next-generation energy efficient materials and devices,” said center co-director Steven DenBaars, who is also a professor of materials and of electrical and computer engineering, as well as the Mitsubishi Chemical Professor in Solid State Lighting & Display. “The applications of SSLEEC-enabled products has grown from energy efficient LED lighting to now include energy efficient power electronics for electric cars, photovoltaics, power supplies and Internet servers. We continue to pioneer novel next-generation technologies such as LED lighting for health and visible light communication, and novel next-generation laser lighting.”

Representatives of SSLEEC member company Mitsubishi Chemical Corporation pictured with professor and center co-director Shuji Nakamura, bottom center, who won the 2014 Nobel Prize for Physics, becoming UCSB’s sixth Nobel laureate.