

Spotlight On: EDS Celebrated Member — George Smith

It goes without saying that the field of electron device engineering has revolutionized, and in many ways defines, 21st century life. As a part of EDS, each of us can take pride in our society's members' accomplishments. We should draw from them inspiration to advance our field and to achieve more because it is not only their work, but ours as well, that can help transform the world around us.



EDL Founding Editor and Nobel Laureate, George Smith

It is in this spirit that the EDS Celebrated Member program was created, with the inaugural Celebrated Member Award presented to *Electron Device Letters* founding editor and 2009 Nobel laureate for Physics, George E. Smith. The presentation was made by EDS President, Renuka Jindal at the Photovoltaics Specialists Conference held in Hawaii in June.



The audience in the packed reception hall was treated to George's recounting of how he and his colleague Willard Boyle (a fellow EDS member and with whom George shares the 2009 Nobel Prize for Physics) developed the Charged-Coupled Device (CCD) at the famous Bell Laboratories in New Jersey.

They were tasked with developing a new platform for information storage. The device they initially sketched was an image sensor based on Einstein's photoelectric effect, in which arrays of photocells emit electrons in amounts proportional to the intensity of incoming light. The electron content of each photocell could then be read out, transforming an optical image into a digital one. The charge-coupled device they created gave rise to the first CCD-based video cameras, which appeared in the early 1970s.

"It took about an hour and half to design the CCD," joked George, "but it took 40 years for us to get the Nobel."