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NEWS RELEASE

For Immediate Release

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Sanjay Krishna Receives the 2008 SPIE Early Career Achievement Award

SPIE — The SPIE Early Career Achievement Award is given—in this its inaugural year—to an early career professional in recognition of significant and innovative technical contributions to any of the engineering or scientific fields of interests to SPIE.

Sanjay Krishna, Associate Professor, University of New Mexico, USA, is the 2008 SPIE Early Career Achievement Award recipient in recognition of his tremendous contributions to the development of mid-infrared focal plane arrays using self-assembled quantum dots in a well (DWELL) design.

Krishna's pioneering work with quantum dots in infrared sensing has led to many advances in areas such as space-based atmospheric sensing and remote sensing of biological agents. Of particular note is his development of a novel class of midwave infrared detectors based on self-assembled quantum dots using a DWELL structure, which resulted in a revolutionary midwave/longwave detector with bias-dependent responsivity leading to a new paradigm in spectral sensing.

In collaboration with NASA's Jet Propulsion Laboratory, Krishna's DWELL design led to the demonstration of the first 640 x 512 quantum-dot based camera, a device designed for the high sensitivities required of spaceborne applications, such as monitoring atmospheric temperature profiles, relative humidity profiles, and cloud characteristics. This is just one of an impressive list of firsts demonstrated by Krishna, including the first two-color quantum dot-based camera, the first longwave infrared quantum dot-based camera, the first quantum dot laser grown on a silicon substrate, and the first intersubband emission from quantum dots.

For his research, Krishna has received a number of honors including the Defense Intelligence Agency Chief Scientist Award for Excellence, the Oak Ridge Associated Universities Ralph E. Powe Junior Faculty Enhancement Award, and the ECE Outstanding Researcher Award.

His work in the optics and educational communities is also influential. He is active at the University of New Mexico serving on multiple educational committees, spearheading internship programs, organizing public seminars, and working with area high school students. As a member of SPIE, Krishna initiated the SPIE student chapter at the University of New Mexico, currently serves as the group's faculty advisor, and has served on several SPIE conference program committees. In addition, he was the conference co-chair of the 2007 North American Molecular Beam Epitaxy Conference, publications chair of the IEEE Conference on Nanotechnology in 2006, and has served as reviewer for a variety of peer-reviewed journals.

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