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Department of Electrical and Computer Engineering

Distinguished Lecture Series
2009-2010

Wednesday, November 11, 2009
11:00 a.m. ~ CoRE Building Lecture Hall

THE HENRY R. AND GLADYS V. IRONS ENDOWED LECTURE

Making LED Lighting a Part of Green Living

Dr. M. NISA KHAN
President, LED Lighting Technologies

Abstract

Solid-state lighting (SSL), with light-emitting diodes (LEDs) as the light source, is a growing and essential field, particularly in regard to the heightened need for global energy efficiency. In recent years, SSL has experienced remarkable advances in efficiency, light output magnitude and quality. It allows scaling and different color combinations for various architectural and decorative lighting used in both residential and commercial buildings – indoor and outdoor. Further, it has gained solid acceptance in such diverse applications as signage and displays. While these capabilities are promising, the LED lighting industry yet evolves because technologies, and deeper understanding, continue to unfurl. In this lecture, some fundamental LED efficiency limits, and lighting engineering challenges and solutions will be discussed; such solutions will be needed to make LED lights more efficient, pleasant in appearance, longer-lasting, and thus suitable for green living.

Biography

Dr. Nisa Khan is currently President of LED Lighting Technologies in Red Bank, NJ. She has 25 years of experience in theory, design, and manufacturing in the optoelectronics and lighting industries. She has a bachelor's degree in physics and mathematics from Macalester College, St. Paul, Minnesota, and master's and Ph.D. degrees in electrical engineering from the University of Minnesota, Minneapolis. Dr. Khan is best recognized for pioneering work on 40-Gb/s opto-electronic components at AT&T/Lucent Bell Labs in Holmdel, New Jersey, which she further advanced at JDSU and her startup companies. She serves on the Underwriter Laboratories (UL) LED panel, which develops safety standards for LED lighting products. Dr. Khan has 8 issued patents in the optoelectronics field and 3 pending in LED lighting. She has over 40 publications in peer-reviewed technical journals, spoke at various international conferences, and is now a columnist for *SIGNS OF THE TIMES (founded in 1906)* magazine writing about LED lighting and displays. She also writes for LED Professional Review Journal based in Austria.

This lecture is part of the Department of Electrical and Computer Engineering Distinguished Lecture Series. Information about upcoming lectures can be seen at http://www.ece.rutgers.edu/lecture/.

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Light refreshments will be served at 10:30 a.m.