

“Professor Nakamura has achieved the ‘holy grail’ of semiconductor research by developing blue, green and white light-emitting diodes and the blue laser.”

Pekka Tarjanne, Chairman of the International Selection Committee

“Professor Shuji Nakamura is without a doubt one of the world-leading innovators and most prolific inventors in the field of semiconductor materials and devices.”

Leo Esaki, Nobel Prize Winner in Physics in 1973



The 2006 Millennium Technology Prize is awarded to Professor Shuji Nakamura for the invention of new revolutionary light sources: blue, green and white LEDs and the blue laser diode.

Shuji Nakamura

– the man who began a new era in lighting

Professor Nakamura is known for his technological wizardry with semiconducting gallium nitrides and is widely recognized as the world pioneer in light emitters based on the wide-bandgap semiconductor gallium nitride (GaN). His breakthrough year was 1993, when he stunned the optoelectronic community with the announcement of very bright blue GaN-based light emitting diodes, LEDs.

Nakamura's inventions in both GaN materials and associated devices are having an extensive impact in many areas that improve human quality of life and promote sustainable development. In the areas of energy and the environment the applications enable energy-efficient solid-state lighting and power-switching technology. In health care and life sciences the sterilization of

drinking water becomes both cheaper and more effective through ultraviolet LEDs. In communication and information, Nakamura's inventions enhance optical data storage and transfer.

Professor Nakamura's innovation was something other researchers had only dreamed about. His GaN-based LEDs are believed in the course of time to revolutionize our illumination systems as they replace the conventional light sources.

Nakamura's current research interests are the growing of novel optoelectronic materials and the fabrication of advanced semiconductor devices.

Shuji Nakamura was born in Japan and currently he works in the USA at the University of California, Santa Barbara.