

Indian origin scientist to get Russia's highest tech award (Lead)

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St Petersburg : B. Jayant Baliga, a US-based Indian-origin scientist, is being awarded Russia's top technology award in recognition of his work in energy management which brought about huge increase in efficiency and major savings.

The award will be presented to Professor Baliga and Shuji Nakamura on Friday by Russian President Vladimir Putin at a ceremony here.

Nakamura, a Nobel Laureate, is being recognised for his work on blue light emitting diodes (LEDs). In Russia, the Global Energy Prize is known as the electronics equivalent of the Nobel Prize.

Professor Baliga invented the digital switch or the insulated gate bipolar transistor (IGBT) while working at General Electrical research & development centre in New York state in the US in 1983. The IGBT switches energy hundreds of thousands of times a second, raising the efficiency of any equipment manifold.

"Every equipment from your refrigerator to lights to motor vehicles has the need to use energy efficiently. If you take away the IGBT today, almost everything will come to a standstill," Baliga told a visiting IANS correspondent on the eve of receiving the award.

Scientific American magazine called him among the 'eight heroes of the semiconductor revolution', and President Barack Obama awarded him the highest American technology prize last year and he is the 2014 recipient of the IEEE Medal of Honour, a rare distinction.

Professor Baliga, who now teaches at the North Carolina university as 'distinguished university professor', said that the IGBT that his invention combines two streams of electronics and electrical engineering and has possibly saved the world around \$24 trillion dollars by raising efficiency, according to one detailed calculation.

"I got zero out of it. But then I did it all for humanity."

Of course, says Prof Baliga, that he did make some money when he started three companies, but these were financed by venture capitalists who exited with enormous profits at the right time.

He says every motor today is at least 40 percent more efficient, the light bulb like the CFL better by almost 75 percent and a motor vehicle saves over 10 percent fuel because of his invention. He has written 19 books and over 500 papers in peer-reviewed journals.

Baliga passed out of IIT Madras before going to the US for his MS and PhD after electrical engineering after which he joined GE where he spent over 15 years.

After his 'switch' was invented, several of his colleagues told him that it would not work, and many scientists said he would fall "flat on his face". But he said it stood the test of time.

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