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[Direct Link to this Page](#)

Rajeev J. Ram has worked in the areas of physical optics and electronics for much of his career. In the early 1990th s, he developed the II-V wafer bonding technology that led to record brightness light emitting devices at Hewlett-Packard Laboratory in Palo Alto. While at HP Labs, he worked on the first commercial deployment of surface emitting lasers. In the early 1990th s, he developed the first semiconductor laser without population inversion, semiconductor lasers that employ condensation of massive particles, and threshold-less lasers.

Since 1997, Ram has been on the Electrical Engineering faculty at the Massachusetts Institute of Technology (MIT) and a member of the Research Laboratory of Electronics. He has served on the Defense Sciences Research Council advising DARPA on new areas for investment and served as a Program Director at the newly founded Advanced Research Project Agency-Energy. At ARPA-e, he managed a research portfolio exceeding \$100M and consulted with the Office of Science and Technology Policy and the White House.

His group at MIT has developed record energy-efficient photonics for microprocessor systems, microfluidic systems for the control of cellular metabolism, and the first light-source with greater than 100% electrical-to-optical conversion efficiency. His group['] s work on small-scale solar thermoelectric generation is being deployed for rural electrification in the developing world as SolSource and was recognized with the St. Andrews Prize for Energy and the Environment.

Ram holds degrees in Applied Physics from California Institute of Technology and Electrical Engineering from the University of California, Santa Barbara.

Keywords

integrated photonics, microfluidic devices, semiconductor devices, biopharmaceuticals, light-emitting diodes

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