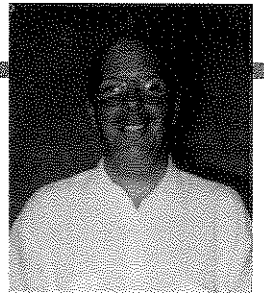
1997 APS PRIZES AND AWARDS

Awards

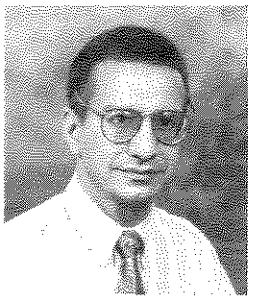
1996 AWARD FOR EXCELLENCE IN PLASMA PHYSICS RESEARCH



Christopher E. Clayton
University of California at Los Angeles

For their pioneering experiments in Plasma Based Accelerator Concepts; particularly for their unambiguous experimental demonstration that electrons can be accelerated to relativistic energies by the beating of two laser beams in a plasma with their frequency difference equal to the plasma frequency.

Dr. Clayton received his undergraduate degree in nuclear engineering from the University of Michigan in 1976 and his PhD in engineering from UCLA in 1984. He has designed and implemented the state-of-the-art Mars Laser Laboratory at UCLA. He was involved as one of the chief scientists on the experimental beatwave acceleration programs which uses the high power of Mars laser to accelerate electrons at unprecedented rates in the laboratory. He is currently the project manager for the Neptune Laboratory at UCLA which endeavors to produce a high quality 100 MeV electron beam from beatwave acceleration. He has contributed to the understanding of stimulated Brillouin scattering, collinear optical mixing, and most recently, to the wavebreaking of relativistic plasma waves excited by forward Raman scattering. Dr. Clayton is a Fellow of the American Physical Society and a Senior Member of the IEEE.



Chandrashekhar Joshi
University of California at Los Angeles

Dr. Joshi received his BS degree in nuclear engineering from London University in 1974 and his PhD in applied physics in 1978 from Hull University, England. He held a postdoctoral position at the National Research Council in Ottawa, Canada for two years. Since 1980, he has been with the electrical engineering department at UCLA; first as a member of the research staff and since 1988 as a full professor. He is currently the director of the Center for High Frequency Electronics at UCLA. Dr.

Joshi has made many fundamental contributions to the understanding of extremely nonlinear optical effects in plasmas. The most notable include the first experimental demonstration of four-wave mixing, stimulated raman forward instability, resonant self-focusing, frequency upshifting by ionization fronts and nonlinear coupling between electron-plasma waves. Dr. Joshi is a Fellow of the American Physical Society and of the IEEE.

Purpose: To recognize a particular recent outstanding achievement in plasma physics research.

Nature: The award consists of $5,000 to be divided equally in the case of multiple recipients, and includes a certificate citing the contributions made by the recipient or recipients, to be presented at an award ceremony at the Division of Plasma Physics Annual Meeting Banquet. It will be awarded annually.

Establishment and Support: This award was established in 1981 with support from Friends of the Division of Plasma Physics.