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Optical Methods for Tumor Treatment and Detection: Mechanisms and Techniques in Photodynamic Therapy XXV

David H. Kessel
Tayyaba Hasan
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Introduction

SPIE has been sponsoring conferences related to topics in photodynamic therapy since 1987. The first symposium was organized by Douglas Neckers, with Michael Detty, Tayyaba Hasan and Angelo Russo as co-chairs. Thomas Dougherty then organized a continuing series of these symposia beginning in 1989 with the assistance of Dr. Hasan. A special symposium on ‘New Directions’ was organized by Charles J. Gomer in 1990. Since 2003, the annual PDT conferences were organized by David Kessel, with Tayyaba Hasan becoming co-chair in 2011. These meetings are designed to bring together workers involved in synthesis, characterization and development of photodynamic processes. A diverse group of people participate including chemists, biologists, clinical personnel, and engineers.

Research was initially directed at assessing the role of PDT in the treatment of cancer. More recently, effects on microbial infections and other indications have been explored. A series of newer agents for better cancer control are being developed, along with light sources and dosimetry decides to simplify the calculations involved and light delivery procedures. The role of immunologic processes are also being evaluated.

The impact of PDT on cancer control has been demonstrated, but major clinical utilization appears to be in Asia and Europe. Part of the slow acceptance in the US may be related to regulatory requirements along with decisions by pharmaceutical groups to aim their resources in other directions. Examples of successful treatment of pathologic conditions by PDT continue to be reported. As evidence continues to accrue, perhaps the efficacy of this form of therapy will eventually prove persuasive.

David H. Kessel
Tayyaba Hasan