

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

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Introduction

SPIE has been sponsoring conferences related to photodynamic therapy since 1987. These were initially organized by Thomas Dougherty, but more recently (since 2003) by David H. Kessel, with Tayyaba Hasan added in 2011. We attempt to bring together a cross-section of major workers in the field along with new investigators that periodically appear. Contributions include both basic science and clinical applications.

PDT research was initially directed at finding out what malignant conditions could be treated and attempts at drug development. The early products tended to be somewhat non-specific and could result in persistent skin photosensitization. More recent photosensitizers have improved specificity, sometimes as a result of targeting via nanotechnology or immunologic processes. Light sources and dosimetry determination have also improved.

Several effects have served to limit the impact of PDT on health care. Some pharmaceutical organizations in the United States have not seen sufficient profits in the PDT field. Funding for basic and clinical research has remained flat, resulting in decreased support. It appears that more active programs are occurring in Europe and Asia, for a variety of reasons.

In spite of such difficulties, some of which have affected PDT since early days, the field does continue to progress. Examples of successful therapy for neoplastic disease and other indications continue to be demonstrated. The efficacy of this form of therapy in some cases remains superior to all other options.

David H. Kessel
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