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

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Introduction

SPIE has been holding conferences related to photodynamic therapy since 1987, and the topic now appears in conferences other than this one. While reports relating to technology and applications are not ruled out, contributions mainly relate to mechanism of action, pathways to photokilling and similar topics.

In the early days, PDT research was often concerned with identifying the components of the mysterious compound 'HPD', development of new and better light sources, working out exactly what happened when photosensitized tumors were irradiated and identifying clinical indications for PDT. More recently, research is being directed toward 'third generation' problems, e.g., what PDT can tell us about cell biology, and what effects photodamage can have far downstream from the initial interactions. Procedures involving 3D cell cultures and orthotopic tumor implants are bringing experimental techniques closer to accurate predictions for clinical outcomes.

Two concerns are currently limiting the impact PDT is having on health care. Pharmaceutical organizations in the PDT field have not been uniformly successful and have often made significant errors in marketing decisions. Research grants now depend on the perception of 'impact', and this can be affected by this perception. In this environment, it is perhaps remarkable that research into PDT and its applications still persists.

David H. Kessel
Tayyaba Hasan