



Dick Zech Consultant and Expert Witness

Dr. Zech has nearly 40 years of photonics and computer storage experience. His academic focus was on modern optics, electromagnetic theory, communications theory, advanced mathematics, and the chemistry/physics of optical materials. Starting in 1965 at the University of Michigan, he began a lifetime of research and development in the highly specialized area of optical data storage, processing/computing and communications. He studied under E. N. Leith, A. Kozma, A. Vander Lugt, and Dennis Gabor (1971 Nobel laureate in physics), leading modern optics pioneers. He is a well-known expert in the field of optical data storage, holography, recording media, and optical disc replication processes and technology. His main interests are lasers, materials physics, chemistry and processes, control and positioning of light beams, and photonic components (including MEMS and MOEMS) and their integration into fully functional information processing system. Much of Dr. Zech's early work (1965-1979) was for the US Department of Defense and various intelligence agencies. The primary goal of this work was to use photonics technology for the rapid acquisition, processing, storage and communication of data vital to national defense. From 1979 to the present, Dr. Zech has focused on high-performance photonic systems, particularly for optical data storage and processing. In 1989 he recognized the many analogies between the requirements for optical data storage and optical communications, and studied the adaptation and integration of photonic components for the design of very high-performance optical data storage systems until 2001. Starting in 1995, Dr. Zech shifted his main research focus to (1) consumer electronics applications of photonics (CD, DVD, digital cameras, flat panel displays, LEDs and HDTV); (2) replication of CD and DVD media (technology, materials, processes and systems); and (3) the impact of MEMS/Nanotech on data storage, processing and communication design and performance.

Dr. Zech also has significant engineering, product and business development, and sales & marketing management experience, which he has used as a consultant for the past 16 years. Since 1990 he has also worked as an expert witness in numerous patent infringement litigations (and a few involving breach of contract and theft of trade secrets) and evaluated over 200 patents for technical and economic merit.