

10th International conference on

OPHTHALMOLOGY AND OPTOMETRY

August 10-11, 2017 Beijing, China



Jui-Teng Lin

New Vision Inc., Taiwan

The 30 year progress of vision laser technology

This overview presentation consists of a historical review of the 30 years progress of laser vision corrections (1987 to 2016), summary of eye lasers and their applications, recent developments and new trends, the principles and formulas of laser and non-laser vision corrections and UV-light-initiated corneal collagen crosslinking. The first human trial of PRK was conducted by Dr. Trokel in 1987, based upon the IBM patent and the animal study in 1983. FDA approved PRK in 1995. The flying-spot scanning technology was invented by Dr. J.T. Lin in 1992 (US patent) who also introduced the customized procedure in 1996. The waveguide device was commercialized in 1999. FDA approved LASIK in 2002. During 1995-1999, various laser systems/procedures were developed including LTK (using Ho:YAG); DTK (using diode laser), RF and CK designed for hyperopia corrections; slide state lasers (YAG-213 nm for PRK), YAG pico-second-PRK, Mini-Excimer for PRK, etc. Technologies developed in the 2000's include eye-tracking device, microkeratome, elevation map, topography-guided LASIK, wavefront for customized LASIK, presbyopia treatment using SEB and laser scleral-ablation for presbyopia; accommodative IOL. More recently, femto-second lasers are developed for flat cutting and stroma ablation and cataract. UV-light and Riboflavin activated corneal cross linking (CXL) has been developed for clinical use for various corneal deceases such as corneal keratoconus, corneal keratitis, corneal ectasia, corneal ulcers and thin corneas prior to LASIK vision corrections. Combined technology of CXL-PRK, CXL-intra stroma-femto-laser pocket, CXL-phakic-IOL and CXL-IC-ring.

Biography

Jui-Teng Lin has completed his PhD in Physics from the University of Rochester in USA. He is currently the Chairman and CEO of New Vision Inc., and the Visiting Professor at HE Medical University in China. He is the Editor in Chief of the Medical Device Diagnosis and Engineer. He has served as a Visiting Professor at National Chao Tung University and an Associate Professor at the University of Central Florida. He holds over 45 patents and is the Inventor of flying spot LASIK procedure. He has published over 55 book chapters and over 150 peer review journal papers including 75 SCI-impacted papers.

jtin55@gmail.com

Notes: