

**MING WANG, M.D., PH.D**

[www.WangCataractLASIK.com](http://www.WangCataractLASIK.com)  
[drwang@wangvisioninstitute.com](mailto:drwang@wangvisioninstitute.com)

**SUMMARY:**

Director of Wang Vision Cataract and LASIK Center in Nashville, TN, Clinical Associate Professor of University of Tennessee and International President of Shanghai Aier Eye Hospital, Shanghai, China. He is an editorial board member of *Cataract and Refractive Surgery Today* and *Refractive EyeCare*. Graduated from Harvard & MIT (MD, *magna cum laude*), he also holds a doctorate degree in laser spectroscopy. He completed his residency at Wills Eye Hospital in Philadelphia, PA and corneal and refractive surgery fellowship at Bascom Palmer Eye Institute, Miami, FL. A founding director of Vanderbilt Laser Sight Center, and former panel consultant to the US FDA Ophthalmic Device Panel, he published a paper in the journal "*Nature*" and four ophthalmic textbooks (Corneal Topography in the Wavefront Era, Irregular Astigmatism - Diagnosis and Treatment, Corneal Dystrophy and Degeneration - a Molecular Genetic Approach and Keratoconus and Keratoectasia - Prevention, Diagnosis and Treatment). He holds or co-holds several US patents including amniotic membrane contact lens, adaptive infrared retinoscopic device for detecting ocular aberrations, and digital eye bank for virtual clinical trials and was a recipient of Academy of Ophthalmology Honor Award in 2004. Currently he is an investigator of a US FDA clinical trial to treat age-related loss of near vision. A founding president of the Tennessee Chinese Chamber of Commerce, he is a co-owner and international president of Aier Eye Hospitals, which is the largest private eye hospital group in China today. He specializes in keratorefractive surgery, refractive cataract surgery, corneal and external disease including keratoconus and anterior segment reconstructive surgeries with amniotic membrane, stem cell and keratoprosthesis. He founded a 501c(3) non-profit sight restoration charity foundation which has helped patients from around US and the world with all sight restoration surgeries performed free of charge.

**POSITION:**

Director, Wang Vision Cataract and LASIK Center  
1801 West End Ave, Ste 1150, Nashville, TN, 37203, USA  
615-321-8881(O), 615-321-8874(fax)

Attending surgeon, Saint Thomas Hospital

Clinical Professor of Ophthalmology  
University of Tennessee

International President, Shanghai Aier Eye Hospital  
Shanghai, China

**DEGREES:**

M.D. (*Magna cum laude*)  
Harvard Medical School and  
Massachusetts Institute of Technology  
Division of Health Science and Technology

Cambridge, MA  
June, 1991

Postdoctoral  
MIT/Harvard, 1987-1988;

Ph.D. (Physical Chemistry)  
Laser spectroscopy and collision dynamics  
University of Maryland at  
College Park, College Park, MD, 20742  
December, 1986

***INVENTIONS AND PATENTS:***

Biochemical contact lens  
With Chris Adams  
US Patent Serial No, 6,143,315  
Issued in 1999

Adaptive infrared retinoscopic device for detecting ocular  
aberrations, with YL Chen  
U.S. Utility Patent Application Serial No. 11/642,226  
Filed December 20, 2006

Digital eye bank for virtual clinical trials, with YL Chen  
U.S. Utility Patent Application Serial No. 11/585,522  
Filed on October 24, 2006

Pulsed electromagnetic treatment for recalcitrant corneal  
ulcers  
US patent (in preparation)

***EDITORIAL BOARD/ REVIEWER***

**Editor-in-chief:** Refractive Eyecare (China edition), Cataract  
& Refractive Surgery Today (Chinese cover version);  
**Editorial board member:** Cataract & Refractive Surgery  
Today, Refractive Eyecare  
**Co-editor:** Aier Refractive Surgery Journal  
**Reviewer:** American Journal of Ophthalmology, Genomics,  
Investigative Ophthalmology and Visual Sciences,  
Ophthalmology, Journal of Refractive Surgery, Journal of  
Cataract and Refractive Surgery

***PROFESSIONAL ORGANIZATIONS***

American Society of Cataract & Refractive Surgery, 1997-;  
Head Society, 1996-;  
Alumni Societies: Harvard, 91-; MIT 91-;  
Wills Eye Hospital 96-;  
Bascom Palmer Eye Institute, 97-;  
Association of Research in Vision and Ophthalmology, 90-;  
Nashville Academy of Ophthalmology, 97-;

Tennessee Academy of Ophthalmology, 98-;

**LICENCE AND BOARD CERTIFICATION**

Licensed in TN, 1997-;

American board of ophthalmology certified, 98-;

**POST GRADUATE TRAINING:**

Clinical fellowship

Cornea/external disease/refractive surgery

Bascom Palmer Eye Institute

Miami, FL, 33101

1996-1997

Resident in Ophthalmology

Wills Eye Hospital

Philadelphia, PA, 19107

1993-1996

Medicine (MD, *magna cum laude*)

Harvard Medical School and MIT

Boston, MA

1987-1992

Postdoctoral Fellow

Molecular Biology

Department of Genetics

Harvard Medical School and MIT

Boston, MA, 02115

1987-1991

Postdoctoral Fellow

Laser Spectroscopy and Collision Dynamics

University of Maryland at

College Park, MD, 20742

1986-1987

**FACULTY/TEACHING POSITIONS HELD:**

Clinical Associate Professor of Ophthalmology

University of Tennessee at Memphis

2005-present

International president, Shanghai Aier Eye Hospital

Shanghai, China

2005-present

Director of Wang Vision Cataract and LASIK Center

Director of Corneal Fellowship Program

**Wang Vision Cataract and LASIK Center  
2002-present**

**Research Associate Professor of Biomedical Engineering  
Department of Biomedical Engineering  
Vanderbilt University  
2002-2003**

**Assistant Professor of Ophthalmology  
Department of Ophthalmology  
Vanderbilt University School of Medicine  
1997-2002**

**Assistant Professor of Ophthalmic Research  
Jefferson Medical College and  
Wills Eye Hospital  
Phil, PA, 19107  
1992-1996**

**Co-instructor  
“Laser Tissue Interaction”  
Department of Biomedical Engineering  
Vanderbilt University  
2002-present**

**Lecturer and course director  
Biol 321: "Human Genetics".  
Biol 221: "Molecular Genetic Analysis".  
Department of Biology  
University of Pennsylvania  
Philadelphia, PA, 19107  
1993-1996**

**Director, Laboratory of Molecular Biology  
Research Division  
Wills Eye Hospital, Phila, PA, 19107  
1992-1993**

**Advisor for premed undergraduate student  
Department of Biological Sciences  
Harvard University, Cambridge, MA  
1988**

**Instructor  
Mathematics/Biology/Chemistry/Physics  
Stanley H. Kaplan Education Center  
Washington D.C., 20008  
1986-1993**

**Tutor**  
**Chemistry/Mathematics/Physics/Biochemistry**  
**University of Maryland at**  
**College Park, MD, 20742**  
**1982-1986**

**Research Assistant**  
**Department of Chemistry**  
**University of Maryland at**  
**College Park, MD, 20742**  
**1982-1986**

**Teaching Assistant**  
**Department of Chemistry**  
**University of Maryland at**  
**College Park, MD, 20742**  
**1982-1985**

***FELLOWSHIPS AND AWARDS:***

**Lifetime Achievement Award**  
**Association of Chinese American Physicians**  
**New York, June, 2007**

**Castle Connelly Selection (award given to less than 1% of US**  
**physicians)**  
**2002 - present.**

**Achievement Award**  
**American Academy of Ophthalmology**  
**2004**

**Best Paper in Cornea Session**  
**“Corneal melt after Intacs”**  
**With Dr. Lance Kugler**  
**ASCRS 2010, Boston, MA**

**Best Paper in Cornea Session**  
**“Efficacy in treating anterior cornea vs non-anterior corneal**  
**astigmatism”**  
**ASCRS, 2005**

**Best Paper in Cornea Session**  
**“Posterior changes after LASIK”**  
**ASCRS, 2002**

**1999/2001 Burroughs-Wellcome Fund Finalist for award as**

**New Investigator  
2000**

**Fight for Sight Fellow  
Grant-in-Aid  
1999**

**1998/2000 Burroughs-Wellcome Fund Finalist for award as  
New Investigator  
1999**

**Vice Chancellor's Faculty Scholar Award  
Vanderbilt University  
1998.**

**Fight for Sight Fellow  
Research to Prevent Blindness  
1998**

**Best paper in refractive surgery  
"Hyperopic shift after PTK"  
ASCRS, 1998.**

**Heed Fellow  
Heed Foundation  
1996-1997.**

**ARVO/Retina Research Foundation  
Lawrence Fellowship Grant  
"Equivalent Gene Carrier Model"  
ARVO, 1995.**

**James Shipman Award  
for the "Best Scientific Presentation by  
a resident at the Annual Conference of  
Wills Eye Hospital"  
Philadelphia, PA, 19107  
1994**

**Henry and Corinne Bower Fellow  
Wills Eye Hospital  
Philadelphia, PA, 19107  
1992-1993**

***Magna cum laude* (M.D.)  
Harvard Medical School  
Boston, MA, 02115  
1991**

**Harold Lamport Biomedical Research Prize:  
For "the Best Thesis Reporting Original  
Research in the Biomedical Sciences"  
Harvard Medical School  
Boston, MA, 02115  
1991**

**Robert D. McCallum Retina Research Fellow  
Wills Eye Hospital  
Philadelphia, PA, 19107  
1991**

**R.H. Levine Scholar of Health Science and  
Technology  
Research Grant, HST/1990  
Harvard Medical School  
Massachusetts Institute of Technology  
Boston, MA, 02115  
1990**

**Sellard Fellow: For Excellence in  
Research in Social Medicine  
Harvard Medical School  
Boston, MA, 02115  
1989**

**National Science Foundation Postdoctoral Fellowship  
Laser Collision Dynamics  
National Science Foundation  
Washington D.C., 20550  
1987**

**Gold Medal  
Latin  
1997 United States USABDA Novice National Championship  
Newark, DE  
1997**

**World finalist, pro-am world ballroom dance championship  
in international 10-dance, 2006.**

***RESEARCH GRANTS:***

**PhamrVU/Chancellor's fund  
"Amniotic contact lens"  
For development based on US patent (6,143,315)  
7/1/01-5/03, \$100,000.**

**NIH RO1 (EY-01621), as co-PI (PI: Denis O'Day)**

**“Experimental Fungal Infections of the Eye”  
4/1/97 – 3/31/00, \$1,080,345.**

**SDRC grant, Vanderbilt.  
“Creation of a transgenic mouse model for lattice dystrophies”.  
5/1/98-4/30/01, \$60,000.**

**Grants-in-Aid, Fight for Sight,  
Research to Prevent Blindness  
“Transgenic mouse model for corneal dystrophies”.  
7/1/98-6/30/99, \$11,000.**

**Award as finalist for new investigator in  
Molecular Pathogenic Mycology  
Burroughs Wellcome Fund  
8/9/98 – 8/29/98, course, \$5,000.**

**URC Vanderbilt Research Award  
“A novel treatment of recalcitrant corneal ulcer using pulsed magnetic therapy”.  
7/1/98 – 6/30/99, \$16,000.**

**Joe C. Davis Foundation Award  
“Characterization of keratoepithelin gene in corneal wound healing”.  
1/1/98 – 12/31/99, \$50,000.**

**Pennsylvania Lions Foundation.  
“Mechanism of tumor suppression: in vivo interaction of retinoblastoma protein with human genes.”  
7/1/92 – 6/30/93, \$7,000.**

**Harvard Medical School  
“The impact on social economics and child education of the one-family-one-child birth-control policy in China”.  
6/88 – 9/88, \$3,500.**

***BOOKS:***

**Wang MX, editor  
Keratoconus and Keratoectasia – Prevention, Diagnosis and Treatment  
SLACK, Inc  
2009**

**Wang MX, editor  
Irregular Astigmatism – Diagnosis and Treatment  
SLACK, Inc**

2007

Wang MX, editor

Corneal Topography in the Wavefront Era – a Guide for  
Clinical Application

SLACK, Inc

2006

Wang MX, editor

Corneal Dystrophies and Degenerations – A Molecular  
Genetics Approach

American Academy of Ophthalmology

2003

Wang MX.

LASIK Vision Correction

1998

*CHAPTERS IN BOOKS:*

Wang MX, Shields JA and Donoso LA:

"Subclinical metastasis of uveal  
melanoma".

International Ophthalmology Clinics

33, 119-127, 1993

Zhang K, Wang MX, Munier F, Roth D,  
Mastrangelo D, Chung S, Shields JA and  
Donoso LA:

"Molecular Genetics of Retinoblastoma".

International Ophthalmology Clinics

33, 53-65, 1993

Wang MX, Donoso LA:

"Gene Research and the Eye".

Current Opinion in Ophthalmology

4;III, 102-111, 1993

Cha SB, Shields JA, Shields CL

and Wang MX.

"Squamous cell carcinoma of the  
conjunctiva".

International Ophthalmology Clinics

33, 19-24, 1993

Wang MX, Jenkins JJ III, Cu-Unjieng AB,  
Meyer D, and Donoso LA.

"Eye tumors".

In "Pediatric Neoplasia: Morphology and  
Biology, in Parham DM, Eds,

Lippincott-Raven,  
pp405-422, 1996.

Wang MX, and Donoso LA.  
"Recent Advances in the Molecular Genetics  
of Retinitis Pigmentosa".  
Current Opinion in Ophthalmology  
1995, 6:III:1-7.

Wang MX, and Nelson LB.  
"The diagnosis and management of strabismus presenting  
after cataract surgery".  
Year Book in Ophthalmology  
pp421-426, 1995

Wang MX, Donoso LA and Nelson LB.  
"Molecular genetic basis of ophthalmic diseases".  
Duane TD, Tasman WS and Jaeger EA Ed.  
Biomedical Foundation of Ophthalmology  
Chapter 55, pp1-44, 1996.

Wang MX  
Excimer - fundamentals and clinical use.  
J. Ophthal Nu and Tech.  
15, 230-231, 1996.

Wang MX, and Nelson LB.  
Heredity of myopia.  
Year Book in Ophthalmology  
pp429-435, 1996.

Wang MX, Karp CL, Selkin RP, and Azar DT.  
Corneal and Conjunctival surgery,  
Ophthalmology, Duker and Yanoff Eds. 5:12, 1-18, 1998.

Wang MX, Forster RK.  
Dystrophies, degenerations and congenital  
Anomalies of the cornea.  
Bascom Palmer Atlas of Ophthalmology  
Richard Parrish Eds, 12:91-98, 1999

Wang MX, Carlson A, Liu, J.  
X-linked ophthalmic diseases  
Duane's Biochemical Foundation of Ophthalmology  
Tasman and Jaeger Eds, 57:1-17, 2001.

Wang MX.  
Surgical correction of refractive errors

**WEBEBM, 2001.**

**Wang MX, Flatter, N, Munier F.**  
**Molecular genetics of corneal dystrophy**  
**In Wang MX Ed, Cornea Dystrophies and Degeneration – A**  
**Molecular Genetics Approach**  
**American Academy of Ophthalmology, 2003.**

**Flatter N, Wang MX.**  
**Stromal corneal dystrophies**  
**In Wang MX Ed, Cornea Dystrophies and Degeneration – A**  
**Molecular Genetics Approach**  
**American Academy of Ophthalmology, 2003.**

**Irvine AD, McLean WHL, Wang MX.**  
**Epithelial, Basement Membrane and Bowman's Layer**  
**Dystrophies**  
**In Wang MX Ed, Cornea Dystrophies and Degeneration – A**  
**Molecular Genetics Approach**  
**American Academy of Ophthalmology, 2003.**

**Handwerker BA, Rapuano CJ, Wang MX, Laibson PR.**  
**Corneal degenerations**  
**In Wang MX Ed, Cornea Dystrophies and Degeneration – A**  
**Molecular Genetics Approach**  
**American Academy of Ophthalmology, 2003.**

**Tran UL, Wang MX.**  
**Excimer laser treatment for corneal dystrophies and**  
**Degenerations**  
**In Wang MX Ed, Cornea Dystrophies and Degeneration – A**  
**Molecular Genetics Approach**  
**American Academy of Ophthalmology, 2003.**

**Wang MX.**  
**Physical optics**  
**Basic Science Series, American Academy of Ophthalmology**  
**Chapter 1, Monograph on optics and refraction**  
**2005**

**Wang MX.**  
**Optical consideration in refractive surgery**  
**Basic Science Series, American Academy of Ophthalmology**  
**Chapter 7, Monograph on optics and refraction**  
**2005**

**Wang MX, Swartz T**  
**Laser Intacs for keratoconus**

**In Gulani A ed  
2005**

**Panchal L, Swartz T, Wang MX  
Femtosecond laser Intacs for keratoconus  
Ophthalmology Hyperguide  
2005**

**Swartz, T et al, and Wang MX.  
History of topography  
In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application  
SLACK, Inc, 2006**

**Yu K, Swartz T, Boerman H, Wang MX.  
Anatomy of the cornea  
In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application  
SLACK, Inc, 2006**

**Coward D, Swartz T, Wang MX.  
The Optics of the Cornea  
In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application  
SLACK, Inc, 2006**

**Swartz T, Liu Z, Yang X, Zhang M, Wang MX.  
Topographic Technologies  
In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application  
SLACK, Inc, 2006**

**Cohen I, Swartz T, Wang MX.  
Axial, Elevation and Pachymetric Mapping  
In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application  
SLACK, Inc, 2006**

**Guillermo A-U, et al and Wang MX  
Pre-refractive surgery evaluation  
In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application  
SLACK, Inc, 2006**

**Wang MX, Swartz T.  
3-D anterior corneal topographic system: The AstraMax  
In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application**

**SLACK, Inc, 2006**

**Maus M et al and Wang MX**

**Pentacam**

**In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application**

**SLACK, Inc, 2006**

**Swartz T, et al, and Wang MX**

**Precisio**

**In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application**

**SLACK, Inc, 2006**

**Gulani A, Wang MX.**

**The future of corneal Topography**

**In Wang MX ed: Corneal Topography in the Wavefront Era  
– a Guide for Clinical Application**

**SLACK, Inc, 2006**

**Boerman H, Swartz T and Wang MX.**

**Decentered ablations**

**In Agarwal A ed: Refractive Surgery Nightmares**

**SLACK, Inc. 2007**

**Swartz T and Wang MX.**

**Topographic and Wavefront aberrometry disasters**

**In Agarwal A ed: Refractive Surgery Nightmares**

**SLACK, Inc. 2007**

**Kieval J and Wang MX.**

**Nonectatic corneal probles causing irregular astigmatism**

**In Wang MX ed: Irregular Astigmatism – Diagnosis and  
Treatment**

**SLACK, Inc, 2007.**

**Swartz T, Wachlar BB Wang MX.**

**Intacs Implantation**

**In Wang MX ed: Irregular Astigmatism – Diagnosis and  
Treatment**

**SLACK, Inc, 2007.**

**Liu D and Wang MX et all**

**Irregular astigmatism: LaserSight Ellipsoid Model and  
Topography-drivern Aspheric Treatment**

**In Wang MX ed: Irregular Astigmatism – Diagnosis and  
Treatment**

**SLACK, Inc, 2007.**

**Wang MX**

**Future direction: technological development and treating the problem at its source**

**In Wang MX ed: Irregular Astigmatism – Diagnosis and Treatment**

**SLACK, Inc, 2007.**

**Wang MX and Swartz T**

**Corneal topography application in prebyopic lens implantation**

**In Change D eds: Prebyopic lenses**

**SLACK Inc 2008.**

**Hill, S, Swartz S, Wang MX**

**Wang's LASIK Complications.**

***LASIK & LASIK Complications*, Robert Pinelli,**

**Editor. Jaypee Brothers Medical Publishers (P)**

**LTD, New Dehli, 2008.**

**Swartz M, Wang MX and Gulani A;**

**Corneal topographers and wavefront aberrometers: complementary tools**

**Refractive surgery, 2nd edition, Agarwal A**

**Jaypee, 2008**

**Klyce S and Wang MX**

**Topographic diagnosis: indices and mapping criteria, corneal thickness progression, In Wang ed Keratoconus and keratoectasia – prevention, diagnosis and treatment**

**SALCK 2009**

**Sztipanovits D, Swartz S and Wang MX**

**Posterior surface changes in keratoconus**

**In Wang ed Keratoconus and keratoectasia – prevention, diagnosis and treatment**

**SALCK 2009**

**Chen YL, Wang MX**

**Infra-red screening for keratoconus**

**In Wang ed Keratoconus and keratoectasia – prevention, diagnosis and treatment**

**SALCK 2009**

**Spadea L, et al, Wang MX**

**Future approaches to treatment of keratoconus**

**In Wang ed Keratoconus and keratoectasia – prevention, diagnosis and treatment**

**SALCK 2009**

**Marten L, Wang MX et al  
Corneal surgery.  
In Yanoff eds. Ophthalmology  
2009**

**Marten L, Wang MX et al  
Excimer laser treatment of corneal pathology  
In Yanoff eds. Ophthalmology  
2009**

**Marten L, Wang MX et al  
Conjunctival surgery  
In Yanoff eds. Ophthalmology  
2009**

**Kugler L, Wang MX  
Laser corneal intrastromal surgery  
CRST 2010**

**Kugler L, Wang MX  
Laser in Refractive Surgery: past, present and future  
Optics  
2010**

***HOBBIES:***

**Competitive ballroom dancing**

- **Ranked 4<sup>th</sup> in World Pro-AM Ballroom Dance Championship in open international 10-dance, 2007;**
- **Gold medal in novice international latin, 1997 United States National Ballroom Championship USABDA**

**Ballet**

**Piano and music composition**

**Table tennis, Badminton, Sailing, Tennis**

**Calligraphy**

**Violin, Er-hu (Two Strings)**

**Writing**

**Classical literature**

## Summary of Doctoral Thesis

*Ph.D. (Physical Chemistry)*  
*Laser spectroscopy and collision dynamics*

*University of Maryland at College Park, MD*  
*1986*

### **COLLISION REACTION DYNAMICS OF ASSOCIATIVE IONIZATION REACTIONS BETWEEN RESONANT EXCITED NA(3P) ATOMS**

Associative ionization is a fundamentally important collision reaction which has served as a model system for studying quantum mechanics and reaction dynamics. It is an elementary two-body collision process where reactant atoms approach collision center by following quantum mechanically accessible energy surfaces. The complex collision dynamics, the mechanism of chemical bond formation and ejection of electrons, and product energy and angular momentum distributions have long challenged physicists since the collision process can be studied in the laboratory under appropriate conditions. We have carried out a systematic theoretical modeling and experimental study of the associative ionization process.

We devised a high vacuum collision chamber, highly collimated atomic beam sources and a state-of-the-art signal detection and analyzing system. These laboratory apparatuses were coupled with a high resolution laser system which includes solid, liquid and gas lasers. The lasers were used to induce resonant atomic excitation of reactant atoms and to modulate collision velocity and angular momentum.

A mathematical model has been developed to characterize the quantum mechanics, the vibrational and rotational angular momentum distributions, the characteristic collision energy distributions and the product internal state partitions. Direct measurement of the velocity dependence of the associative ionization process revealed peaked collision cross section at energy of 120 meV, a minimum at 180 meV and an uprising cross section above 180 meV. The collision partners favor sigma-sigma orbital orientation, and the reaction probability decreases in the following order: sigma-sigma, pi-pi and sigma-pi. The anisotropy in the spatial orientation of collision orbitals is also velocity dependent, with the reaction cross section increasing with collision velocity above thermal energies. We developed a semiclassical theory in which the collision dynamics are described in terms of transformation from a laboratory fixed coordinate to a molecular axis. A unique locking radius was found (25 Å) within which the quantum axis was described within the framework of inter-atomic coordinates. We also probed the internal state distribution of the product  $\text{Na}_2^+$ . Through computer simulation of the collision dynamics, we discovered a characteristic internal rotational and vibrational energy distribution which opens a new channel of quantum mechanical calculation and experimental verification of reaction parameters. We developed a battery of experimental techniques which include Doppler detuning and collision velocity selection, single beam subthermal energy collision, collision spatial alignment and toggling, product spatial collimation and photofragmentation techniques. Intensive experimental study and theoretical modeling has led to the discovery of the principle reaction pathway of the fundamentally important collisional ionization reaction between resonantly excited alkali atoms.

Summary of M.D. Doctoral Thesis

*M.D. (Magna cum laude)  
Harvard Medical School*

*Thesis concentration: Molecular biology*

*Harvard-MIT  
Division of Health Science and Technology  
Massachusetts Institute of Technology  
1991*

**IN VIVO DNA-PROTEIN INTERACTIONS:  
A WHOLE GENOME APPROACH**

Increasingly extensive collections of genomic DNA sequences and cloned modification enzymes open up new ways to view *in vivo* macromolecular assemblies. We have developed a new technique to study whole genome for protein recognition sites that are protected from *in vivo* DNA methylation. Assays for such sites exploit the ability of appropriate endonuclease to subsequently cleave purified genomic DNA only at the unmethylated sites. Three assays of these endonuclease sites include end-labeled fragment sizing, clone sequencing and filter hybridization. Application of these methods to the *Escherichia coli* genome has revealed specific patterns of partially methylated sites for GATC, CCGG, CCGG, GCGC, GANTC and TCGA specific methylases. For the GATC specific dam methylase, the end-labeled protected sites sum to 0.1% of the potential targets. The clone sequencing assay is particularly informative for *E. coli* since 37% of the genome sequence is available in computer databases. Sequences flanking protected GATCs found to match database entries all fell in non-coding regions of genes. These include the *gut*, *mtl*, *cdd*, *flh*, and *car* operons. These matches immediately suggest physiological and mutational tests of methylation protection models through the filter hybridization assay. Some undermethylated GATC sites overlap close matches to the cAMP-CRP consensus sequence. Protection of such a GATC site in the *gut* upstream region was reduced in a *crp*<sup>-</sup> strain. The protection of the GATC site upstream of *car* is sensitive to growth on pyrimidines, fitting well with the role of carAB products in pyrimidine biosynthesis. Further complete genome sequences will increase the utility and accuracy of these and other whole cell analyses by urging immediate identification of each unique observation with a specific computer molecular species.

*Published in Nature 1992;360:606-610, "A whole-genome approach to in vivo DNA-protein interaction", Wang MX and Church GM.*

## PROFESSIONAL PUBLICATIONS

Wang MX, DeVries MS, Keller J, Weiner J:

Direct Measurement of the Velocity Dependence of the Associative Ionization Cross Section in Na(3p) + Na(3p) Collisions.

Physical Review A 32:681-684, 1985.

Keller J, Bonanno R, Wang MX, DeVries MS, Weiner J:

Determination of Internal Energy Distribution in Na<sub>2</sub><sup>+</sup> Produced by Associative Ionization Collisions in Crossed-beams.

Physical Review A 33:1612-1619, 1986.

Wang MX, DeVries MS, Weiner J:

Measurement of Product Rotational Alignment in Associative Ionization Collisions between Polarized Na(3p) Atoms.

Physical Review A 33:765-767, 1986.

Wang MX, DeVries MS, Weiner J:

Analysis of the Alignment of Na<sub>2</sub><sup>+</sup> Rotational Angular Momentum Arising from Associative-Ionization Collisions between Polarized Na(3p) Atoms.

Physical Review A 34:1869-1875, 1986.

Wang MX, Keller J, Boulmer J, Weiner J:

Strong Velocity Dependence of the Atomic Alignment Effect in Na(3p) + Na(3p) Associative Ionization Collision.

Physical Review A 34:4497-4501, 1986.

Wang MX, Keller J, Boulmer J, Weiner J:

Spin-selected Velocity Dependence of the Associative-Ionization Cross Section in Na(3p) + Na(3p) Collisions over the Collision Energy Range from 2.4 meV to 290 meV.

Physical Review A 35:934-938, 1987.

Wang MX, Weiner J:

Evidence for the Dominant Role played by <sup>3</sup>Sigma<sub>u</sub><sup>+</sup> and <sup>1</sup>Sigma<sub>g</sub><sup>+</sup> Adiabatic Molecular States in Associative Ionization Collisions between Two Excited Sodium Atoms.

Physical Review A 35:4424-4427, 1987.

Wang MX, Weiner J:

Internal-State Distribution of Na<sub>2</sub><sup>+</sup> Produced by Associative Ionization collisions between Na(3p) atoms.

Physical Review A 39:405-408, 1989.

Johnson BC, Wang MX, Weiner J:

Crossed-Beam Studies of Associative Ionization in Heteronuclear

Systems:  $\text{NaLi}^+$  Production from  $\text{Li}^* + \text{Na}$  and  $\text{Na}^* + \text{Li}$  Collisions.  
J. Physics B 21:2599-2605, 1988.

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Tan B, Chen YL, Lewis JWL, Shi L, Wang MX. Simulations of keratoconus patient vision with optical eye modeling. 74<sup>th</sup> American Physics Society (APS) Annual Meeting of the Southeastern, Nov 2007, Nashville

Shi L, Chen YL, Baker K, Lewis JWL, Tan B and Wang MX. Zernike interpretation in ocular photorefractive images, 75<sup>th</sup> SESAPS Annual Meeting, Nov 2007, Nashville

Jim W, Lewis L, Tan B, Chen YL and Wang MX. Ophthalmic simulation for medical training. 2007 American Telemedicine Association Annual Conference.

Jim W, Lewis L, Shi L, Chen YL, Wang MX. Development automatic analysis of mobile ocular screening. 2007 American Telemedicine Association Annual Conference.

Agarwal A, et al Wang MX. Flap wars, ESCRS, 2007.

Wang MX, Marten L, Panchal, L, Swartz, T. Intacs for keratoectasia in post-LASIK, post-RK and post-PKP eyes. ASCRS, 2007;

Wang MX, Marten L, Panchal, L, Swartz, T. Single versus double Intacs segment for treating keratoconus. ASCRS, 2007;

Lewis JWL, Chen YL, Baker K, and Wang MX. Detection of high-order aberrations in photorefractive ARVO, May 2007.

Boerman H, Swartz T, Hill S, Wang MX. Intacs/Femtosecond Laser Surgery Combined with Conductive Keratoplasty: An Alternative to Penetrating Keratoplasty for Severe Keratoconus. American Academy of Optometry, Tampa, FL, Oct 2007.

Hill S, Boerman H, Swartz T, Wang MX. Intacs/Femtosecond laser surgery combined with conductive keratoplasty for severe keratoconus. Global Keratoconus Congress, Las Vegas, Jan 2008

Hill S, Boerman H, Swartz T, Wang MX. Corneal Imaging Technologies Involved in Forme Fruste Keratoconus Criteria Global Keratoconus Congress, Las Vegas, Jan 2008

**Wang MX. Three-point touch.  
ASCRS, 2008**

**Wang MX. Corneal melt of incisions overlying Intacs  
ASCRS, 2008**

**Wang MX. Melt of corneal tissue overlying RK incisions.  
World Ophthalmology Congress, Hong Kong, 2008.**

**Wang MX. Double Intacs segment is better than single in treating KC.  
World Ophthalmology Congress, Hong Kong, 2008.**

**Swartz T, Hill S, Boerman H and Wang MX. Management of angle closure glaucoma following  
Visian lens implantation. AAO, Anaheim, CA, Oct 2008.**

**Swartz T, Boerman H, Hills S and Wang MX. Ocular response analysis retuls following  
unsatisfactory LASIK. AAO, Anaheim, CA, Oct 2008.**

**Wang MX. Mascuquates of FFKC. ASCRS 2009.**

**Wang MX. Three-point touch in detecting FFKC. ASCRS 2009.**

**Kugler L. Boerman H, Swartz S, Sztipanovits L and Wang MX. Corneal melt in incisions overlying  
Intacs segment. ASCRS 2010.**

**Wang MX, Kugler L. Boerman H, Swartz S, and Sztipanovits L. Non-lens non-refraction factors  
contributing to poor performance of premium IOLs – the concept of spatial precision. ASCRS 2010.**

**Wang MX. FFKC criteria 2010.**

**Wang MX. Topographic pearls in identifying FFKC. ASCRS 2010.**

#### **AS INVITED SPEAKER**

**Collisional-ionization reactions between homonuclear  $\text{Na}^* + \text{Na}$ ,  
 $\text{Li}^* + \text{Li}$  and heteronuclear  $\text{Na}^* + \text{Li}$ ,  $\text{Li}^* + \text{Na}$  collisions.  
Department of Chemistry  
University of Maryland at College Park  
College Park, MD, 20742  
1983**

**A Novel Design of Crossed-Beam Atomic Collision Experiment to Study  
the Velocity Dependence of Associative Ionization Reaction.  
University of Maryland at College Park  
College Park, MD, 20742**

**1984.**

**Collision Reaction Dynamics of the Associative Ionization Reaction  
between Resonantly Excited Na(3p) Atoms.**

**Department of Chemistry  
University of Maryland at College Park  
College Park, MD, 20742  
1987.**

**Thermodynamic and Kinetic Studies of the Heterogeneous Hybridization  
Reactions in the Multiplex DNA Sequencing.**

**Department of Genetics  
Harvard Medical School  
Boston, MA, 02115  
1988.**

**A Method for Screening Genomes to Identify and Characterize DNA  
Sequences Involved in Strong DNA-Protein Interactions.**

**Annual Research Forum of Harvard Medical School - M.I.T.  
Division of Health Science and Technology  
Massachusetts Institute of Technology  
Cambridge, MA  
1991.**

**In vivo DNA-protein interaction: A whole-genome approach.**

**Department of Biochemistry and Molecular Biology  
Thomas Jefferson University, Philadelphia, PA, 19107  
1992.**

**In vivo DNA-protein interaction: A whole-genome approach.**

**Department of ophthalmology  
Children Hospital of Los Angeles, Los Angeles, CA,  
1992.**

**A whole genome approach to in vivo DNA-protein interaction.**

**Ludwig Institute for Cancer Research  
San Diego Branch, University of California, San Diego  
1992.**

**In vivo DNA-protein interactions.**

**Department of Biological Sciences  
Columbia University, New York  
1993.**

**In vivo DNA-protein interaction: A whole genome approach.**

**Department of Bioscience and Biotechnology  
Drexel University, Philadelphia, PA,  
1993.**

**Genetics of retinoblastoma.**  
Wills Eye Hospital  
Philadelphia, PA, 1994.

**Equivalent Gene Carrier - a genetic analysis model.**  
Ophthalmic Genetics Study Club  
American Academy of Ophthalmology  
San Francisco, LA, 1994.

**Genetics in Ophthalmology**  
Lecture presented at the Annual Wills Eye Conference  
Adam Mark Hotel, Philadelphia, PA, 1995.

**Parental source of the retinoblastoma gene.**  
Ophthalmic Genetics Study Club.  
American Academy of Ophthalmology., Atlanta, GA, 1995.

**Molecular genetic basis of ophthalmic diseases**  
Annual Meeting for the American Academy of Ophthalmology. Chicago, IL, 1996.

**Corneal haze is reduced by amniotic membrane matrix in excimer laser photoablation in rabbits.**  
Bascom Palmer Eye Institute, Miami, FL, 1997.

**A genomic approach to in vivo DNA-protein interaction.**  
Department of Molecular Biology  
Vanderbilt University School of Medicine  
Nashville, TN, 1997.

**A panel screen for Betaig-H3 and K3/K12 mutations in Meesmann, anterior basement membrane disease and anterior stromal corneal dystrophies.**  
Ophthalmic Genetics Study Club  
AAO, New Orleans, 1998.

**Molecular biology of hereditary ocular diseases.**  
AAO, New Orleans, 1998.

**TUP1 regulated hyphael growth in C. albicans.**  
Department of Microbiology  
Vanderbilt University School of Medicine  
Nashville, TN, 1998.

**Mutational analysis for Bigh3 gene for corneal dystrophies**  
Skin Disease Research Center  
Vanderbilt University School of Medicine  
Nashville, TN, 1999.

**“Modern refractive laser systems of the 21<sup>st</sup> century”**

**Invited speaker, Conference on Refractive Surgery  
Mayo Clinic, Jacksonville, FL  
Sept, 1999.**

**“LASIK complications and management”  
Invited speaker, Conference on Refractive Surgery  
Mayo Clinic, Jacksonville, FL  
Sept, 1999.**

**The 1<sup>st</sup> Internatinal Conference on Amniotic Membrane  
Invited speaker, “Amniotic membrane graft for severe chemical burn”  
Brazil, 2000.**

**“A new drug regiment for systemic immunosuppression for limbal stem cell graft”  
International conference on amniotic membrane graft and stem cells  
Session moderator and invited speaker, Poland, 2000.**

**“Amniotic membrane contact lens”  
Vanderbilt Chancellor Fund  
Vanderbilt University School of Medicine  
Nashville, TN, March, 2001.**

**“Amniotic membrane graft”  
Invited speaker, Wake Forest Annual Eye Conference  
May, 2001.**

**“New anterior segment reconstructive surgeries:  
Invited speaker, National Medical Association Annual Conference  
Opryland, Nashville, Aug, 2001.**

**“New surgical techniques for anterior segment reconstruction”  
Invited speaker, University of North Carolina at Chapel Hill  
October, 2001.**

**“Amniotic contact lens”  
Department of Ophthalmology and Visual Sciences  
Vanderbilt University School of Medicine  
November, 2001.**

**“Topographic pitfalls in refractive surgery”  
Invited speaker, Wake Forest University Annual Eye Meeting, 2001.**

**“Modern refractive laser systems”  
Invited speaker, Wake Forest University Annual Eye Meeting, May, 2001.**

**“Limits of current topographies”, ASCRS, April, 2001.**

**“New reconstructive eye surgeries using amniotic membrane and stem cell grafts”  
Wake Forest University Annual Eye Meeting, invited speaker, May, 2001.**

**“New refractive surgical techniques: a critical review”, Kentucky Annual Eye Meeting, invited speaker, June, 2001.**

**“Limits and clinical problems of current topography systems”, invited speaker, ISRS, Orlando, July, 2001.**

**“Cornea 2001 – a vision odyssey”, National Medical Association Ophthalmology Annual meeting, invited speaker, Aug, 2001.**

**“Topographic pitfalls in refractive surgery”, National Medical Association Ophthalmology Annual meeting, invited speaker, Aug, 2001.**

**“New surgical techniques for anterior segment reconstruction”  
Invited speaker, University of North Carolina at Chapel Hill  
October, 2001.**

**“Limitations of current topographers and the AstraMax solution”  
Catch the Wave 2, International Society of Refractive Surgery Annual meeting, Nov 2001.**

**“Biological Planck’s Constant – fundamental limitations to wavefront treatment technologies”,  
invited speaker, Bascom Palmer Eye Institute 40<sup>th</sup> Anniversary Scientific Meeting, Miami, 2002.**

**“Clinical significance of posterior corneal changes after LASIK”, Ocular Therapeutics Annual Conference, CA, 2002.**

**“FDA clinical trial status of ICL”  
Annual Refractive Surgery Conference  
Department of Ophthalmology and Visual Sciences  
Vanderbilt University  
June, 2002.**

**“Ablation depth analysis of AstraPro custom cornea-based treatment”, Annual Conference of Refractive Surgery, The Netherlands, Feb, 2003.**

**“Amniotic contact lens: a progress report”  
Invited speaker, University of Michigan Winter Cornea conference  
January, 2004**

**“Corneal topography and wavefront: complementary tools”  
Invited speaker, University of Michigan Winter Cornea conference  
January, 2004**

**“Tracey Ray-Tracing: a new generation wavefront system”  
Invited speaker, Annual meeting of China Academy of Ophthalmology**

**Sept, 2004.**

**“Corneal topography-drive custom ablation”**

**Invited speaker, Annual meeting of China Academy of Ophthalmology  
Sept, 2004.**

**“Wavefront and corneal topography: custom ablation system with combined considerations”**

**Invited speaker, Ai-er Eye Hospital  
Changsha, PRC, Sept 2004.**

**“Posterior changes after LASIK”**

**Invited speaker, University of Michigan Winter Cornea Conference  
January, 2004.**

**“Update on refractive surgery”.**

**Talk presented to University of Tennessee ophthalmology resident, Dec, 2004.**

**“Current techniques in refractive surgery”**

**University of Tennessee, Department of Ophthalmology, June, 2005;**

**“Topogrpahy – Recent advances”, Aspen Invitational, March 2006;**

**“Corneal topography – the stat of the art”, Hawaii Eye Meeting, Jan 2007;**

**“Recent advances in corneal topography”. NY Refractive Surgery Club, Feb, 2007;**

**“Amniotic membrane contact lens”. Aspen Invitational meeting, March 2007;**

**“Refractive Surgery in China”. Aspen Invitational meeting, March 2007;**

**“Corneal topography – a comprehensive review”, Saudi Arabia annual ophthalmology meeting,  
May, 2007.**

**“My nomogram”, Subspecialty Day – Refractive Surgery**

**AAO, 2007**

**“Is there a fundamental limit of efficacy when correcting aberrations arising from one axial point  
(lens), at another (cornea)”, Aspen Invitational Meeting, March 2008.**

**“Laser vision correction: the state of the art”**

**World Ophthalmology Congress, Hong Kong, 2008.**

**“The important role of corneal topography is wavefront treatments”**

**World Ophthalmology Congress, Hong Kong, 2008.**

**“Refractive surgery pearls”**

**Visiting professor, University of Florida, Jan 2010.**

**Corneal factors responsible for performance of premium IOLs.**  
**Invited speaker, Italian Ophthalmological Society Annual Meeting/OSN, Rome, Italy, May 2010.**

**Pseudo FFKC.**  
**Invited speaker, Italian Ophthalmological Society Annual Meeting/OSN, Rome, Italy, May 2010.**

**When it is not the IOL**  
**Invited speaker, APAO, Beijing 2010**

**Scleral spacing procedure – US FDA clinical trial Phase III result**  
**Invited speaker, APAO, Beijing 2010**

**Asphericity – hype or truth**  
**Invited speaker, APAO, Beijing 2010**

**Topography and corneal imaging – state-of-the-art**  
**Invited speaker, APAO, Beijing 2010**

**Pseudo FFKC**  
**Invited speaker, APAO, Beijing 2010**

#### **AS THE PRINCIPLE OR CO-INSTRUCTOR FOR COURSES**

**The 1<sup>st</sup> Annual LASIK Training Course**  
**Course organizer and principle instructor**  
**Vanderbilt University, June, 1998.**

**The 2nd Annual LASIK Training Course**  
**Course organizer and principle instructor**  
**Vanderbilt University, June, 1999.**

**The 1<sup>st</sup> Annual VISX Excimer Laser Certification Course**  
**Principle instructor**  
**Vanderbilt University, June, 1999.**

**The 1<sup>st</sup> LASIK training course**  
**Principle instructor**  
**Shanghai, 1999.**

**The 1<sup>st</sup> LASIK Certification Course**  
**Taiwan Academy of Ophthalmology**  
**Principle instructor**  
**Taipei, Taiwan, August, 1999.**

**Diabetic corneal diseases**  
**American Academy of Ophthalmology Annual meeting, Oct, 1999.**

**The 3<sup>rd</sup> annual refractive training course**  
**Course organizer and principle instructor**  
**Vanderbilt University, 2000.**

**The 2<sup>nd</sup> LASIK course**  
**Taiwan Academy of Ophthalmology**  
**Principle instructor**  
**Taipei, Taiwan, 2000.**

**The 1<sup>st</sup> Advance LASIK course**  
**Taiwan Academy of Ophthalmology**  
**Principle Instructor**  
**Taichung, Taiwan, 2000.**

**LASIK video grand round**  
**Co-instructor**  
**American Academy of Ophthalmology Annual meeting, Oct, 2000.**

**Corneal disorders in diabetic patients**  
**Co-instructor**  
**American Academy of Ophthalmology Annual meeting, Oct, 2000.**

**Orbiscan**  
**Co-instructor**  
**ASCRS, April, 2001.**

**The 4<sup>th</sup> Annual Rfractive Conference of Vanderbilt Laser Sight Center**  
**Course organizer and principle instructor**  
**Vanderbilt University, June, 2001.**

**LASIK video grand round**  
**Co-instructor**  
**American Academy of Ophthalmology Annual meeting, Nov, 2001.**

**Orbiscan course**  
**Co-instructor**  
**American Academy of Ophthalmology Annual meeting, Nov, 2001.**

**Corneal disorders in diabetic patients**  
**Co-instructor**  
**American Academy of Ophthalmology Annual meeting, Nov, 2001.**

**Refractive complications**  
**Course director**  
**Vanderbilt Laser Sight Center CME course, Dec 2001.**

**Refractive Eyecare of 21<sup>st</sup> Century**

**The first annual refractive surgery conference of Wang Vision Institute  
Principal instructor  
Nov, 2002.**

**Advanced corneal topography course for refractive surgeons  
Principal instructor  
ASCRS 2003.**

**Intralase corneal surgery  
Refractive surgery conference of Wang Vision Institute  
May 2003**

**Advanced corneal topography course for refractive surgeons  
Principal instructor  
AAO 2003.**

**Intralase flap making in post-RK eyes  
Intralase  
AAO 2003**

**Corneal topography and wavefront: a transition  
Co-instructor (PI: Arun Gulani)  
AAO 2003**

**LASIK complication video grand round  
Co-instructor (PI: Ralph Chu)  
ASCRS 2003**

**Advanced corneal topography course for refractive surgeons  
Principal instructor  
AAO 2003.**

**Intralase flap making in post-RK eyes  
Intralase  
AAO 2003**

**Corneal topography and wavefront: a transition  
Co-instructor (PI: Arun Gulani)  
AAO 2003**

**LASIK complication video grand round  
Co-instructor (PI: Ralph Chu)**

**New refractive surgery technologies  
Hangzhou 1<sup>st</sup> Affiliated Hospital  
Dec, 2003;**

**Update on refractive surgery technologies**

**Jianghua, Dec, 2003;**

**New refractive surgery and corneal surgery technologies  
Zhongshan Eye Hospital, Guangzhou  
Dec, 2003;**

**New refractive surgery technologies  
Wuhan Ai-good Eye Hospital  
Dec, 2003;**

**Custom wavefront technology and amniotic contact lens  
Shanghai eye, ear, nose and throat hospital  
Dec, 2003;**

**Surgical options for presbyopia  
Nan-ning Eye Hospital  
Dec, 2003;**

**From corneal topography and wavefront  
Co-instructor (PI: Arun Gulani)  
ASCRS 2004**

**The first combined case of intralase with alphacor  
LASIK complication video grand round  
Co-instructor (PI: Ralph Chu)  
ASCRS 2004**

**From corneal topography and wavefront  
Co-instructor (PI: Arun Gulani)  
ASCRS 2004**

**The first combined case of intralase with alphacor  
LASIK complication video grand round  
Co-instructor (PI: Ralph Chu)  
ASCRS 2004**

**LaserSight custom cornea ablation system  
Co-instructor: Alex Stonojavich  
Annual meeting of China Academy of Ophthalmology  
Sept, 2004.**

**Custom wavefront technologies  
China National Ophthalmological Annual Conference  
Sept, 2004;**

**New trend in refractive surgery  
Changsha Ai-er Eye Hospital  
Sept, 2004;**

**Advanced corneal topography course for refractive surgeons**  
**Principal instructor**  
**AAO 2004.**

**Intralase-assisted Intacs for keratoconus**  
**Intralase**  
**AAO 2004**

**LASIK complication video grand round**  
**Co-instructor (PI: Ralph Chu)**  
**AAO, 2004**

**Femtosecond laser – assisted Intacs intracorneal ring treatment for keratoconus**  
**LASIK complication video grand round**  
**Co-instructor (PI: Ralph Chu)**  
**AAO 2004**

**Advanced corneal topography course for refractive surgeons**  
**Principal instructor**  
**ASCRS 2005.**

**Video grand round**  
**ASCRS 2005**

**China's first symposium on femtosecond laser**  
**Course organizer and principle instructor**  
**Shanghai Aier Eye Hospital,**  
**August, 2005**

**China's first ICL training course**  
**Guangzhou,**  
**Sept, 2005;**

**Femtosecond laser technologies**  
**Guangzhou Zhong Hospital**  
**August, 2005;**

**Femtosecond laser**  
**Ton-reng Eye Hospital, Beijing**  
**August, 2005;**

**Femtosecond laser technologies**  
**Tiangjing Eye Hospital**  
**August 2005;**

**New refractive surgery technologies**  
**Guangzhou Zhongshan Eye Hospital**

Sept, 2005;

Femtosecond laser technologies  
Yangguang Eye Hospitals  
Shangzhen, China  
August, 2005;

New refractive technologies  
Changsha Wangwang Hospital  
August, 2005;

Femtosecond laser  
Zhuhai Eye Hospital  
August, 2005;

LASIK video grant round  
Co-instructor (PI: Ralph Chu)  
AAO, 2005

Advance corneal topography course for refractive surgeons  
Principle instructor  
AAO, 2005.

Wang MX: Advanced corneal topography for refractive surgeons  
ASCRS 06

Wang MX, as co-instructor: “Video Grand Round”  
ASCRS 06

Wang MX, as co-instructor: “Nightmare cases”  
ASCRS 06

Wang MX, as co-instructor: “Management of irregular astigmatism”  
ASCRS 06

Wang MX, principal instructor: “New technologies in corneal topography”  
Shanghai Aier Eye Hospital  
April 06

Wang MX, principal instructor: “Femtosecond laser – LASIK and beyond”  
Shanghai Aier Eye Hospital  
April 06

Wang MX, principal instructor: “New technologies in treating LASIK complications”  
Shanghai Aier Eye Hospital  
April 06

Wang MX, principal instructor: “Differentiate or die”

**Shanghai Aier Eye Hospital  
April 06**

**Wang MX, co-instructor: “New technologies in treating complex eyes”  
Nordic Ophthalmology Congress (Principle instructor: Aleks Stonjavich);  
June 06**

**Wang MX, co-instructor: “New refractive surgery technologies”  
Nordic Ophthalmology Congress (Principle instructor: Aleks Stonjavich);  
June 06**

**Wang MX, principal instructor: “Advanced corneal topography for refractive surgeons”  
ASCRS, April 2007.**

**Wang MX, as co-instructor, “Treating post-refractive surgery complex eyes”  
ASCRS, April 2007.**

**Wang MX, as co-instructor, “Video grand round”  
ASCRS, April 2007.**

**Wang MX, as co-instructor, “Refractive surgery nightmares”  
ASCRS, April 2007**

**Wang MX, as session moderator “Refractive surgery – aberrations”  
ASCRS, April 2007.**

**Wang MX, principal instructor: “Advanced corneal topography for refractive surgeons”  
AAO, Nov 2007.**

**Wang MX, principal instructor: “Treating post-refractive surgery complex eyes”  
AAO, Nov 2007.**

**Wang MX, “Three-point touch – identifying FFKC topographically”  
AAO, Nov 2007.**

**Wang MX. Principal instructor: “Advanced corneal topography for refractive surgeons”  
ASCRS 2008**

**Wang MX, co-instructor (principal instructor: Agarwal) “Melt of corneal incisions overlying  
Intacs”  
ASCRS 2008**

**Wang MX, co-instructor (principal instructor: Aleksandar Stonjavich) “Irregular astigmatism –  
classification, diagnosis and treatment”  
ASCRS 2008**

**Wang MX, as principal instructor - Advanced corneal topography course for refractive surgeons  
Nordic Ophthalmology Congress**

**Tromoso, Norway, 6/08**

**Wang MX, co-instructor (principal instructor: Gulani): “Advanced corneal topography – what every surgeon should know in 2008”  
AAO, 2008.**

**Wang MX, co-instructor (principal instructor: Agarwal) “Removal of Intacs”  
AAO 2008**

**Wang MX, principal instructor – Advanced corneal topography course for refractive surgeons.  
ASCRS 2009**

## REFERENCES

**Terry Kim, MD**  
**Professor of Ophthalmology**  
**Cornea and Refractive Surgery**  
**Duke University Eye Center**  
**2351 Erwin Road - Box 3802**  
**Durham, NC 27710**  
**(919) 681-3568 - office**  
**(919) 681-7661 - fax**

**Natalie Kerr, MD**  
**Professor of Ophthalmology**  
**University of Tennessee**  
**930 Madison Ave. Ste 470**  
**Memphis, TN 38138**  
**901-481-0902**

**Spencer Thornton, M.D.**  
**Clinical Professor of Ophthalmology**  
**University of Tennessee**  
**5070 Villa Crest Drive**  
**Nashville TN 37220**  
**615-373-1236**