

MING WANG, M.D., PH.D

CEO, Aier-USA

Director, Wang Vision Cataract and LASIK Center

Clinical associate professor of ophthalmology, University of Tennessee

1801 West End Ave, Ste 1150, Nashville, TN, 37203, USA, 615-321-8881, 615-321-8874(fax)

www.WangCataractLASIK.com, drwang@wangvisioninstitute.com

Ming Wang, MD, PhD, graduated from Harvard Medical School and Massachusetts Institute of Technology (MD, *magna cum laude*) in Boston, Massachusetts and 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.

Dr. Wang published a paper in the world-renowned journal "Nature", over 120 papers and book chapters, as well as 9 ophthalmic textbooks:

- **Corneal Topography in the Wavefront Era**
- **Irregular Astigmatism - Diagnosis and Treatment**
- **Corneal Dystrophy and Degeneration - a Molecular Genetic Approach**
- **Keratoconus and Keratoectasia - Prevention, Diagnosis and Treatment,**
- **LASIK Vision Correction**
- **Corneal Topography in the Wavefront Era – 2nd edition**
- **Atlas and Clinical Guide for Corneal Topography**
- **Refractive Lens Exchange – a Surgical Treatment for Presbyopia**
- **The 5th Wave – Surgical Treatment for Presbyopia**

A former panel consultant to the US FDA Ophthalmic Device Panel, Dr. Wang holds several US patents for his inventions of new biotechnologies to restore sight, including

- **The world's first amniotic membrane contact lens**
- **Adaptive infrared retinoscopic device for detecting ocular aberrations**
- **Digital eye bank for virtual clinical trials.**

Dr. Wang is currently one of investigators in the U.S. conducting an FDA-regulated clinical trial to treat age-related loss of near vision (presbyopia) and also cross-linking clinical trial to treat keratoconus. He introduced the femtosecond laser to Tennessee and performed the first bladeless all-laser LASIK in the state, as well as the first such procedure in China. He also performed the world's first femtosecond laser-assisted artificial cornea implantation (Alphacor), and the first Intacs procedure in the U.S. using a new version of Intacs for advanced keratoconus. He performed over 55,000 procedures (including on over 4,000 physicians).

Dr. Wang is a recipient of the Honor Award of the American Academy of Ophthalmology and Lifetime Achievement Award of the Association of Chinese American Physicians.

Dr. Wang specializes in 3D SMILE & 3D LASIK (18+), 3D Kamra (45+), 3D Forever Young Lens (50+), and 3D laser cataract surgery (60+), corneal topography, corneal and external diseases. He runs a busy international referral clinic for post-LASIK/cataract surgery complications. He founded a 501c(3) non-profit charity, the Wang Foundation for Sight Restoration, which has helped patients from over 40 states in the U.S. and 55 countries worldwide with all sight restoration surgeries performed free-of-charge.

Dr. Wang is the founding president of the Tennessee Chinese Chamber of Commerce, co-founder of Tennessee Immigrant and Minority Business Group, and CEO of Aier-USA, the U.S. extension of Aier Eye Hospital, the world's largest eye hospital group with over 300 locations in 3 continents, providing eye care to 2 billion people worldwide.

Dr. Wang received an honorary doctorate degree from Trevecca Nazarene University, NPR's Philanthropist

of the Year Award and Kiwanis Nashvillian of the Year Award.

Dr. Wang is a champion amateur ballroom dancer, and a former finalist in the world ballroom dance championships in the open pro-am international 10 dance. He also plays Chinese violin er-hu and was featured in Dolly Parton's CD "Those were the days".

POSITION:

CEO, Aier-USA

Director, Wang Vision 3D Cataract and LASIK Center – an Aier-USA eye clinic
1801 West End Ave, Ste 1150, Nashville, TN, 37203, USA
615-321-8881(O), 615-321-8874(fax)

Professor of Ophthalmology
Xiamen University

Clinical Associate Professor of Ophthalmology
University of Tennessee, Memphis, TN

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 Fellowship
MIT/Harvard, 1987-1988

Ph.D. (laser spectroscopy)
University of Maryland at
College Park, College Park, MD, 20742
December, 1986

Honorary doctorate degree
Trevecca University,
Nashville, TN, May 2015

INVENTIONS AND PATENTS:

LASERACT – phaco-free all-laser cataract surgery
U.S. patent filed, 2012

Phacoplasty
U.S. patent filed, 2011

Biochemical contact lens for photoablated corneal tissue
U.S. Patent Serial No 5,932,205, 1999

Biochemical contact lens for injured corneal tissue
U.S. Patent Serial No 6,143,315, 1999

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

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

Pulsed electromagnetic field therapy for non-healing corneal ulcer
U.S. patent filed with Vanderbilt University, 1999.

A whole-genome method of assaying in vivo DNA-protein interaction and gene-expression regulation
U.S. patent filed with Harvard University, 1993.

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, Cornea, 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 Alumni Society 96-;
Bascom Palmer Eye Institute Alumni Society, 97-;
Association of Research in Vision and Ophthalmology, 90-;
Nashville Academy of Ophthalmology, 97-;
Tennessee Academy of Ophthalmology, 98-;
American Academy of Ophthalmology, 90-07,12-15.

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:

Professor of Ophthalmology
Xiamen University
1994-present

Clinical Associate Professor of Ophthalmology
University of Tennessee at Memphis
2005-present

**International president, Shanghai Aier Eye Hospital
Shanghai, China
2005-present**

**Director, Wang Vision Cataract and LASIK Center
Director of Corneal Fellowship Program
Wang Vision 3D Cataract and LASIK Center
2002-present**

**Formal Panel Consultant
US FDA Ophthalmic Device Panel
1997-2002**

**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 Oncology
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:

Nashvillian of the Year
Kiwanis Club International
2016

Peace Award
Atlantic Institute
2015

Honorary doctorate degree
Trevecca University
Nashville, TN, 2015

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.

Honor 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; Tracy Swartz, Nathan Rock, co-editors
The 5th Wave – Surgical Treatment of Presbyopia
SLACK, Inc
2018

Wang MX, editor; Tracy Swartz, co-editor
Refractive Lens Exchange: surgical treatment for presbyopia
SLACK, Inc
2015

Wang MX, and Kugler K, co-editors
Atlas and Clinical reference guide to corneal topography
SLACK, Inc
2014

Wang MX, editor; Tracy Swartz, co-editor
Corneal Topography in the Wavefront Era – a Guide for Clinical Application
2nd edition
SLACK, Inc
2011

Wang MX, editor, Tracy Swartz, co-editor
Keratoconus and Keratoectasia – Prevention, Diagnosis and Treatment
SLACK, Inc
2009

Wang MX, editor, Tracy Swartz, co-editor
Irregular Astigmatism – Diagnosis and Treatment
SLACK, Inc
2007

Wang MX, editor, Tracy Swartz, co-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, Flattem, 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.

Flattem 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 sterior 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 problems 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 al
Irregular astigmatism: LaserSight Ellipsoid Model and
Topography-driven 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
Premium IOL implantation – what to look in topography
In Change D eds: Mastering refractive IOLs – the art and science
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
Cataract & Refractive Surgery Today,, 2010

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

Liu D, Chen S, Swartz T, et al and Wang MX
Astramax Comprehensive Diagnostic Workstation with Polar Grid Topography, in
Wang ed, Corneal Topography in the Wavefront Era, 2nd edition, SLACK, 2011.
Swartz, T, et al and Wang MX
Topography – basic principles
In Wang MX eds, Corneal Topography in the Wavefront Era, 2nd edition
SLACK, 2011.

Kugler, L and Wang MX
Corneal topography: what will the upcoming decade bring?
Wang ed, Corneal Topography in the Wavefront Era, 2nd edition, SLACK, 2011.

Vida R and Wang MX
Corneal topography in refractive surgery
In Copeland and Afshari ed Cornea
2012

Vida R and Wang MX
Topographic complications
In Agarwal ed Cornea
2012

Swartz, S, Shahid M and Wang MX
Intraoperative wavefront technology for improved refractive targeting for refractive
lens exchange – in Wang ed Refractive lens exchange: a surgical treatment for
presbyopia (SLACK)
2015.

Moore M and Wang MX
Future directions for refractive lens exchange for presbyopia in Wang ed Refractive
lens exchange: a surgical treatment for presbyopia (SLACK)
2015.

Shareef Mahdavi; Li Jiang, MD; Ming Wang, MD, PhD
Marketing Surgical Treatment for Presbyopia, in Wang ed the 5th Wave – Surgical
Treatment of Presbyopia
2018

Ming Wang, MD; Nathan Rock, OD
The Future of Presbyopia Treatment
in Wang ed the 5th Wave – Surgical
Treatment of Presbyopia
2018

HOBBIES:

Competitive ballroom dancing

- Ranked 4th 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 interatomic coordinates. We also probed the internal state distribution of the product 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*⁻ 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.
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Abdelmalak, H, Swartz, T, Wang, MX. Intacs/femtosecond laser surgery: A New Option for Keratoconus American Academy of Optometry in Tampa, FL, December 2004

Abdelmalak, H, Swartz, T, Wang, MX. Laser-Intacs Surgery for GP Intolerant Keratoconus
Multimedia Poster presented at SECO International, Atlanta, GA, February 2005

Abdelmalak, H, Swartz, T, Coward D, Wang, MX. Artificial Cornea Implantation: Alternative for Poor Prognosis Penetrating Keratoplasty. Multimedia Poster presented at SECO International, Atlanta, GA, February 2005

Swartz, T, Abdelmalak, H, Wang MX. "Pseudoectasia" in a Post-Refractive Patient
Multimedia Poster presented at SECO International, Atlanta, GA, February 2005.

Wang MX, Yu K, Swartz T. Comparison of rate of image capture using WavePrint and Tracey wavefront system. ASCRS 2005.

Yu K, Swartz T, Wang MX. High order aberration attributable anterior corneal surface and intraocular component in myopic, keratoconic and cataractous patients. ARVO, 2005.

Wang MX. Irregular astigmatism.
ESCRS, Sept 2005;

Wang MX: Femtosecond laser intacs for keratoconus
AAO, 2005;

Wang MX: the impact to comanagement with femtosecond laser intacs for keratoconus
AAO, 2005;

Wang MX: Internal optical aberration in normal, keratoconus and cataractous eyes
AAO, 2005;

Wang MX: Femtosecond laser artificial cornea implantation
AAO, 2005;

Wang MX: Femtosecond laser Intacs rings for post-LASIK ectatic eyes;
AAO, 2005;

Wang MX: Femtosecond laser Intacs rings for keratoconus graft;
AAO, 2005;

Hill S, Boerman H, Swartz T, and Wang MX.
Relift versus recut
American Academy of Optometry, 2005;

Panchal L, Boerman H, Swartz T, and Wang MX.
Intralase Intacs for keratoconus
American Academy of Optometry, 2005.

Chen YL et al and Wang MX. Appearance of keratoconus eyes: Computation, Journal of Vision, Volume 5, Number 12, Abstract 47, Page 47a, 2005;

Wang MX, et al "Refraction comparison between WavePrint, Tracey, autorefraction and automated refractor"
ASCRS 06.

Wang MX. Irregular astigmatism: classification, diagnosis and treatment;
ASCRS 06;

Wang MX. A logical and sequential approach to the treatment of irregular astigmatism
Nodic Ophthalmology Congress, June 06;

Wang MX: C-CAP treatment for decentered ablation.
Nodic Ophthalmology Congress, June 06;

Wang MX. Irregular astigmatism: classification, diagnosis and treatment;
Nodic Ophthalmology Congress, June 06;

Chen YL, et al, Wang MX. Digital Eye Bank, Invest Ophthalmol Vis Sci 2006;47: E-Abstract 1188, 2006;

Tan B, Chen YL, and Wang MX. Visualization Of Ophthalmic Measurement Using Computer Eye Modeling, Invest Ophthalmol Vis Sci 2006;47: E-Abstract 1169;

Baker K, Chen YL, and Wang MX. Keratoconus Screening Instrumentation Invest Ophthalmol Vis Sci 2006;47: E-Abstract 4050

Tan B, Chen YL, Lewis JWL, Shi L, Wang MX. Simulations of keratoconus patient vision with optical eye modeling. 74th 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, 75th 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, 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, Hill S and Wang MX. Ocular response analysis retuls following unsatisfactory LASIK. AAO, Anaheim, CA, Oct 2008.

Wang MX. Masquates 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.

Chen YL, Tan B, Shi L, Lewis J, Wang MX and Baker K. The shape of aging lens. ARVO 2010.

Chen YL, Lei S, Lewis JW, Wang MX and Vida R.
Customized eye modeling using clinical pentacam and wavescan data. OSA 2011 Life Science.

Lewis JW, Shi L, Hartmann, EE, Naser N, Chen YL and Wang MX.
Pilot Study of an Automatic Assessment of Ocular Alignment ARVO 2011

Shi L, Lewis JW, Hartmann, EE, Naser N, Chen YL and Wang MX.
Pilot Study of a Dynamic Binocular Photoscreening Device. ARVO 2011

Chen YL, Shi L, Lewis JW, Wang MX, Vida R.,
Keratoconus Eye Modeling, ARVO 2011

Wang MX
Laser refractive and refractive lens surgery – the state of the art
Shanghai Aier Eye Hospital Conference, June 2011.

Wang MX
Presbyopia correction using spatial spacing procedure
Shanghai Aier Eye Hospital Conference, June 2011.

Wang MX
Phaco float – an ideal technique for moderate cataract for premium lens implantation
Shanghai Aier Eye Hospital Conference, June 2011.

Wang MX
Corneal melt in incisions over Intacs
AAO/Addition Technology conference
October, 2011

Chen, Ying-Ling; Shi, L; Lewis, J W L; Wang, MX. Normal and diseased personal eye modeling using age-appropriate lens parameters, Optics Express, Vol. 20 Issue 11, pp.12498-12507 (2012)

Ying-Ling Chen, Lei Shi, J W L. Lewis, Wang MX. Simulation of fundus image measurements – one step toward virtual clinical trial, Invest Ophthalmol Vis Sci 2012;53: E-Abstract 5683.

Lei Shi, E E. Hartmann, Naser T. Naser, J W L. Lewis, Ying-Ling Chen, Wang MX. Intraocular Scattering in Double-Pass Retinal Reflex, Invest Ophthalmol Vis Sci 2012;53: E-Abstract 3052.

Ying-Ling Chen, Lei Shi, J W L. Lewis, Wang, MX, and Ryan Vida, Keratoconus Eye Modeling, Invest Ophthalmol Vis Sci 2011;52: E-Abstract 2811.

J W L. Lewis, Lei Shi, E E. Hartmann, Naser T. Naser, Ying-Ling Chen, and Wang MX, Pilot Study of an Automatic Assessment of Ocular Alignment, Invest Ophthalmol Vis Sci 2011;52: E-Abstract 2513.

Lei Shi, E E. Hartmann, Naser T. Naser, J W L. Lewis, Ying-Ling Chen, and Wang MX, Pilot Study of a Dynamic Binocular Photoscreening Device, Invest Ophthalmol Vis Sci 2011;52: E-Abstract 2516.

K. C. Baker, Y.-L. Chen, L. Shi, J. W. L. Lewis, L. Kugler, and Wang MX, Does the Posterior Corneal Elevation Provide the First Indication of Keratoconus, Invest. Ophthalmol. Vis. Sci. 2010 51: E-Abstract 4963.

Y.-L. Chen, B. Tan, L. Shi, J. Lewis, Wang MX, and K. Baker, The Shape of Aging Lens, Invest. Ophthalmol. Vis. Sci. 2010 51: E-Abstract 4593.

Y.-L. Chen, Lei Shi, J W L. Lewis, Wang MX, Predictive ophthalmic simulation and applications, UT Comparative & Experimental Medicine & Public Health Research Symposium 2010

Lei Shi, Y-L Chen, J W L. Lewis, Wang MX, Design of an automatic cover-uncover test for diagnosing strabismus, UT Comparative & Experimental Medicine & Public Health Research Symposium 2010

Y.-L. Chen, L. Shi, B. Tan, J. W. L. Lewis, and Wang MX, Astigmatism in Dynamic Infrared Photorefractive (DIP), Invest. Ophthalmol. Vis. Sci. 2009 50: E-Abstract 1580. , <http://abstracts.iovs.org/cgi/content/abstract/50/5/1580>

L. Shi, B. Tan, Y.-L. Chen, J. W. L. Lewis, and Wang MX, Tear Film Breakup in Dynamic Infrared Photorefractive (DIP), Invest. Ophthalmol. Vis. Sci. 2009 50: E-Abstract 1581. ,

B. Tan, L. Shi, Y.-L. Chen, J. W. L. Lewis, and Wang MX, Spherical Aberration in the Enhancement of Presbyopia Vision, Invest. Ophthalmol. Vis. Sci. 2009 50: E-Abstract 1122. , <http://abstracts.iovs.org/cgi/content/abstract/50/5/1122>

Wang MX

Corneal topography and FFKC detection
ASCRS, 2012

Wang, MX, Celmer M and Blemker M

Two-year results of scleral implantation for treatment of presbyopia
ASCRS, 2013

Wang MX, et al

Comparison of intraoperative refraction measured by ORA wavefront aberrometer and postoperative refraction after cataract surgery
ASCRS, 2013

Celmer, M, Wang MX

Comparison of Tecnis multifocal IOL with Crystalens accommodating IOL in patients with prior myopic LASIK
ASCRS, 2013

Yang R, Wang MX

Comparison of formulas for IOL calculation in eyes with prior myopic LASIK
ASCRS, 2013

Shi Lei, Wang MX, Chen YL

Clinical testing of a new objective binocular refraction device
ARVO, 2013

Chen YL, Wang MX

Pilot testing of a multi-functional device for pediatric vision screening application
ARVO, 2013

Rahman M, Yeh A, Yang R, Hord N, Brown B, Waymire A and Wang MX.

Comparison of postoperative refraction with intraoperative refraction measured by ORA for cataract surgery
ARVO, 2013

Wang MX, et al.

2-year result of scleral spacing procedure for the treatment of presbyopia: US. FDA clinical trial, Phase III
World Ophthalmology Congress, Tokyo, 2014

Wang MX, et al

Comparison of intraoperative refraction measured by ORA and postop refraction.
World Ophthalmology Congress, Tokyo, 2014

Wang MX, et al.

2-year result of scleral spacing procedure for the treatment of presbyopia: US. FDA clinical trial, Phase III
ASCRS, 2014

Wang MX, et al

Comparison of intraoperative refraction measured by ORA and postop refraction.
ASCRS, 2014

Wang MX, Rock N and Blemker M.

Scleral Spacing procedure for the treatment of presbyopia – US FDA Phase III result 3-year result
ASCRS
San Diego, 2015

Wang MX et al
Spatial precision and tolerance model – semi-quantitative analysis of the etiology of poor performance of presbyopic intraocular lenses
ASCRS 2016

Wang MX et al
Comparison of accuracy and precision of topographies using standard spheres and cylinders
ASCRS 2017

Wang MX, et al
A study of the effect of capsular tension ring on the refractive predictability of accommodating intraocular lenses
ASCRS, 2018

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 $\text{Na}(3p)$ 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, CA, 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 21st 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 1st 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 membrane 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 40th 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;

“Topography – Recent advances”, Aspen Invitational, March 2006;

“Corneal topography – the state 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 in 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

Corneal irregular astigmatism after hyperopia LASIK
AAO Subspecialty Day – Refractive Surgery
October, 2011

Spatial precision analysis – establishing a clinical guideline for implanting multifocal IOL in post-LASIK patient
AAO/AMO conference
October, 2011

Phaco-free all-laser cataract surgery using femtosecond laser
Italian Ophthalmology meeting, 2012

Spatial precision scale analysis – identifying causes of visual problem in eyes implanted with presbyopia-correcting lenses
Italian Ophthalmology meeting, 2012

Scleral spacing procedure to treat presbyopia – U.S. FDA clinical trial phase III 18-month result
Italian Ophthalmology meeting, 2012

Identifying etiologies for visual problems after premium IOL implantation
Invited speaker
Washington Academy of Eye Physicians and Surgeons
Seattle, Washington, 2012

Corneal topography – the state-of-the-art
Invited speaker
Washington Academy of Eye Physicians and Surgeons
Seattle, Washington, 2012

Pseudo-FFKC
Invited speaker
Washington Academy of Eye Physicians and Surgeons
Seattle, Washington, 2012

Corneal topography – the state-of-the-art
International Ophthalmology Conference
Shanghai Aier Eye Hospital
Shanghai, China, 2012

Laser cataract surgery
Annual Ophthalmology Conference
Tianjin Medical University Eye Hospital
Tianjin, China, 2012

Corneal topography in the 21st century
Annual Ophthalmology Conference
Tianjin Medical University Eye Hospital
Tianjin, China, 2012

Anterior segment imaging techniques
Invited talk, World Ophthalmology Congress
Tokyo, 2014

Clinical pearls of using Cassini
Invited talk, iOptics meeting
At American Academy of Ophthalmology Annual meeting
Chicago, 2014.

Corneal topography for refractive surgery and for refractive lens surgery
Advanced Cornea Conference
Ft. Lauderdale, 2015

Comparison of efficacy in treating corneal versus non-anterior cornea astigmatism
Advanced Cornea Conference

Ft. Lauderdale, 2015

**Recurrent pterygium
Advanced Cornea Conference
Ft. Lauderdale, 2015**

**Scleral Spacing procedure for the treatment of presbyopia – US FDA Phase III result
Advanced Cornea Conference
Ft. Lauderdale, 2015**

**Comparison of Kamra and Raindrop corneal inlays
Aier National Conference
2017**

AS THE PRINCIPLE OR CO-INSTRUCTOR FOR COURSES

The 1st 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 1st Annual VISX Excimer Laser Certification Course
Principle instructor
Vanderbilt University, June, 1999.

The 1st LASIK training course
Principle instructor
Shanghai, 1999.

The 1st 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 3rd annual refractive training course
Course organizer and principle instructor
Vanderbilt University, 2000.

The 2nd LASIK course
Taiwan Academy of Ophthalmology
Principle instructor
Taipei, Taiwan, 2000.

The 1st 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.

Orbscan
Co-instructor
ASCRS, April, 2001.

The 4th 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.

Orbscan 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 21st 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 1st 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
Tromsø, 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 and refractive lens surgeons. ASCRS 2009

Wang MX, co-instructor (principal instructor: Stonjavich) “Customized treatment for irregular corneal astigmatism”, ESCRS 2010.

Wang MX, principal instructor – Advanced corneal topography course for premium IOL and refractive surgery, ASCRS 2011.

Wang MX, principal instructor – Advanced corneal topography course for premium IOL and refractive surgery, ASCRS 2012.

Wang MX, principal instructor – Advanced corneal topography course for premium IOL and refractive surgery, ASCRS 2013.

Wang MX, principal instructor – Update of anterior segment surgeries, Aier national video conference, Dec 2013.

Wang MX, principal instructor – Update of anterior segment surgeries, Aier national video conference, Dec 2014.

Wang MX, moderator – Presbyopic lens surgery, ASCRS 2015.

Wang MX, principal instructor: “Advanced corneal topography for refractive and refractive lens surgery”.
ASCRS 2016

Wang MX, principal instructor: “Corneal inlays for presbyopia”
Shanghai Aier Eye Hospital, 2017

REFERENCES

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