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POSITION:

- Research Associate (1998 – 2000)
Center for Visual Science, University of Rochester
- Research Scientist (2000 – 2001)
Center for Visual Science, University of Rochester
- Assistant Professor (2001 – 2008)
Department of Ophthalmology, Institute of Optics, Department of Biomedical Engineering,
Center for Visual Science, University of Rochester
- **Associate Professor (2008 – present)**
**Department of Ophthalmology, Institute of Optics, Biomedical Engineering,
Center for Visual Science, University of Rochester**

EDUCATION:

- **Ph.D. in Laser Optics, March 1998**
Institute of Laser Engineering, Osaka University, Osaka, Japan
- **M.S. in Laser Optics, March 1995**
Institute of Laser Engineering, Osaka University, Osaka, Japan
- **B.S. in Physics, February 1990**
SungKyunKwan University, Seoul, South Korea

RESEARCH PROJECTS:

- Development of a large dynamic range Shack-Hartmann wavefront sensor without losing measurement sensitivity
- Wavefront analysis of eyes with corneal disorders such as keratoconus and penetrating keratoplasty
- Impact of the ocular aberration on visual performance of abnormal corneal patients
- Improvement of outcome of conventional and customized laser refractive surgery by analyzing the surgically induced wave aberrations
- Vision correction using optical methods such as adaptive optics, phase plate, customized contact lenses and intraocular lenses (IOLs)
- Improving vision in abnormal eyes using customized scleral lenses
- Wavefront sensor to measure optical quality of ophthalmic lenses (spectacles, contact lenses and IOLs)

- Static and dynamic movements of a contact lens after blinks and their effect on retinal image quality
- Understanding of tear film dynamics using a wavefront sensor and OCT
- Large stroke adaptive optics for correcting highly aberrated eyes
- Understanding accommodation and evaluating presbyopic lenses (multifocal and accommodative IOLs)
- Off-axis aberrations in patients with central vision loss
- Effect of the wave aberration on stereoscopic vision

POSTDOCTORAL RESEARCH EXPERIENCE:

Research Associate, March 1998 to September 2000

Center for Visual Science, University of Rochester, Rochester, NY

- Evaluating potential visual benefit of correcting aberrations of the eye in psychophysical experiment and optical theory
- Optimizing Hartmann-Shack wavefront sensor for the eye
- Developing real time adaptive optics system for the eye
- Improving image quality of the retina with real time adaptive optics
- Aberration analysis in laser refractive surgery (corneal topography and wavefront sensor data)
- Ray tracing analysis of corneal aberrations
- Developing animal model to improve ablation algorithm of refractive surgery

PREDOCTORAL RESEARCH EXPERIENCE:

Research Fellow, April 1995 to March 1998

Japan Society for the Promotion of Science, Japan

- Shaping optical surface by laser ablation with an Excimer laser
- X-ray laser experiment (laser and plasma interaction)
- Designing a Hartmann-Shack wavefront sensor and a large aperture deformable mirror for high power laser beam control for fusion
- Diffractive optics for laser beam shaping (phase retrieval and wrapping)

GRANTS:

- NIH/NEI R01: PI (2007 ~ 2012) “Customized Contact Lenses” *pending*
- NIH/NEI R01: PI (2003 ~ 2007) “Customized Contact Lenses”
- NIH/NEI R03: co-PI (2005 ~ 2006) “Characterization of Tear Dynamics” PI - Jianhua Wang
- NIH/NEI R01: co-PI (2004 ~ 2009) “Effect of corneal wound healing on ocular optics after laser refractive surgery” PI – Krystel Huxlin
- NIH/NEI R01: co-PI (2006 ~ 2008) “Stereoscopic vision” PI – Martin Banks
- NYSTAR/CEIS (Center for Electronic Imaging Science) and Bausch & Lomb: PI (2008 ~ 2009) “In-vivo high resolution anterior segment imaging with spectral domain OCT to study on accommodation and presbyopic intraocular lenses”
- Rochester/ Finger Lakes Eye & Tissue Bank: PI (2008) “Real-time observation of in situ tear film dynamics with OCT and wavefront sensor”
- University of Rochester Medical Center Interim Funding: PI (2008) “Customized scleral lenses”

- NSF/PTAP (Photonics Technology Access Program) “Ophthalmic applications of Boston Micromachine MEMS deformable mirror”
- NYSTAR/CEIS (Center for Electronic Imaging Science) and Bausch & Lomb: PI (2007 ~ 2008) “Investigation of the feasibility of laser ablation to generate higher order aberrations for customized contact lenses”
- NYSTAR/CEIS (Center for Electronic Imaging Science) and Bausch & Lomb: PI (2006 ~ 2007) “Evaluating multifocal intraocular lens designs using spatial light modulator”
- NYSTAR/CEIS (Center for Electronic Imaging Science) and Bausch & Lomb: co-PI (2006 ~ 2007) “Developing a new method for the simultaneous measurement of optical and biomechanical changes in the intraocular lens during accommodation”
- Rochester Eye & Tissue Bank: PI (2005 ~ 2006) “Impact of tear film dynamics on optical quality in dry eye patients”
- NYSTAR/CEIS (Center for Electronic Imaging Science) and Bausch & Lomb: PI (2005 ~ 2006) “Effect of dynamic movements of customized contact lens on visual performance”
- NYSTAR/CEIS (Center for Electronic Imaging Science) and Bausch & Lomb: PI (2004 ~ 2005) “Vision improvement with customized contact lenses”
- NYSTAR/CEIS (Center for Electronic Imaging Science) and Bausch & Lomb: PI (2003 ~ 2004) “Correction of the eye’s aberration using phase plate”
- NYSTAR/CEIS (Center for Electronic Imaging Science) and Bausch & Lomb: PI with Krystel Huxlin (2003 ~ 2004) “Further development of wavefront sensing in an awake-behaving cat model for refractive surgical applications”
- NYSTAR/CEIS (Center for Electronic Imaging Science) and Bausch & Lomb: PI with Krystel Huxlin (2002 ~ 2003) “Developing wavefront sensing of optical aberrations in an awake, behaving cat model for refractive surgical applications”
- Vision Alliance Research Funding (Bausch & Lomb): PI - Dr. David Williams (2000 ~ 2005) “Improving outcome of laser refractive surgery”
- Bausch & Lomb Research Funding: PI (2002 ~ 2003) unrestricted grant
- Fellowship of the Japan Society for the Promotion of Science (Japan) (1995 ~ 1998)
- The Telecommunications Advancement Foundation grant (Japan), 1997
- CLEO'97 grant (Optical Society of America), 1997
- IBM - Asia Fellowship (Japan), 1994 ~ 1995

AWARDS AND HONORS:

- 2007-2008 Dolly Green Special Scholars Award, Research to Prevent Blindness (RPB)
- 1995-1998 Fellowship of the Japan Society for the Promotion of Science (Japan)
- 1997 CLEO'97 grant (Optical Society of America)
- 1997 The Telecommunications Advancement Foundation grant (Japan)
- 1994-1995 IBM - Asia Fellowship (Japan)

PATENTS:

- S Feldon, **G. Yoon**, “Compact fundus camera” pending
- **G. Yoon**, “Compact portable (hand-held) wavefront sensor” U.S. Patent #10,397,101
- **G. Yoon**, “Large dynamic range Shack-Hartmann wavefront sensor” U.S. Patent (pending).
- D. R. Williams, W. Vaughn, B. Singer, H. Hofer, **G. Yoon**, “Rapid, automatic measurement of the eye’s wave aberration” U.S. Patent #6,299,311, 10/9, 2001.

- D. R. Williams, W. Vaughn, B. Singer, H. Hofer, **G. Yoon**, P. Artal, J. L. Aragon, P. Prieto, F. Vargas, “Rapid, automatic measurement of the eye’s wave aberration” U.S. Patent #6,199,986, 3/13, 2001.
- D. R. Williams, **G. Yoon**, “Wavefront sensor with off-axis illumination” U.S. Patent #6,264,328 B1, 6/24, 2001.
- D. R. Williams, **G. Yoon**, A. Guirao, “Apparatus and method for improving vision and retinal imaging” US Patent #6,338,559 B1, Jan/15/2002.
- 10 patent applications in pending

PUBLICATIONS (BOOK CHAPTER):

- L. Nagy, **G. Yoon**, S. MacRae “Higher-order spherical aberrations of multifocal intraocular lenses” *Transitioning to Refractive IOLs – The Art and Science*, Slack Inc., *in press* (2008)
- **G. Yoon** “Wavefront Sensing and Diagnostic Uses” Chapter 2 *Adaptive Optics for Vision Science: Principles, Practices, Design and Applications*, Center for Adaptive Optics, John Wiley & Sons, Inc. (2006)
- Hofer H, Porter J, **Yoon G**, Chen L, Singer B, Williams D “Rochester Adaptive Optics Ophthalmoscope” Chapter 15 *Adaptive Optics for Vision Science: Principles, Practices, Design and Applications*, Center for Adaptive Optics, John Wiley & Sons, Inc. (2006)
- **G. Yoon**, S. Pantanelli, S. MacRae, “Optimizing Shack-Hartmann Wavefront Sensor” Chapter 16 *Customized Corneal Ablation: The Quests for Super Vision*, SLACK Inc. (2004)
- D. R. Williams, J. Porter, **G. Yoon**, A. Guirao, H. Hofer, L. Chen, I. Cox, S. MacRae, “How far can we extend the limits of human vision?” Chapter 3 *Customized Corneal Ablation: The Quests for Super Vision*, SLACK Inc. (2004)
- D. R. Williams, **G. Yoon**, J. Porter, H. Hofer, A. Guirao, “How far can we extend the limits of human vision?” Chapter 2 *Customized Corneal Ablation: The Quests for Super Vision*, SLACK Inc. (2001)

PUBLICATIONS (PEER REVIEWED JOURNAL):

- R. Sabesan, **G. Yoon**, “Visual performance after correcting higher order aberrations in keratoconic eyes”, *Journal of Vision*, *submitted* (2008).
- L. Nagy, S. MacRae, **G. Yoon**, “Increasing depth of focus with higher order spherical aberrations induced using a spatial light modulator”, *Invest Ophthalmol Vis Sci.*, *submitted* (2008).
- M. Chen, **G. Yoon**, “Posterior corneal aberrations and their compensation effects on anterior corneal aberrations in keratoconic eyes”, *Invest Ophthalmol Vis Sci.*, *in press* (2008).
- **G. Yoon**, S. Pantanelli, S. MacRae. Comparison of Zernike and Fourier wavefront reconstruction algorithms in representing the aberration in normal and abnormal eyes. *J. Refract. Surg.*, 24, 582-590 (2008).
- J. Buehren, **G. Yoon**, S. Kernner, S. MacRae, K. Huxlin. The Effect of Optical Zone Decentration on Lower- and Higher-Order Aberrations after Photorefractive Keratectomy (PRK) in a Cat Model. *Invest Ophthalmol Vis Sci.*, 30, 5806-5814 (2007).
- R. Sabesan, K. Ahmad, **G. Yoon**. Correcting Highly Aberrated Eyes Using Large-Stroke Adaptive Optics. *J. Refract. Surg.*, 23, 947-952 (2007).

- S. Pantanelli, S. MacRae, T.M. Jeong, **G. Yoon**. Characterizing the Wave Aberration in Eyes with Keratoconus or Penetrating Keratoplasty Using a HighDynamic Range Wavefront Sensor. *Ophthalmology*, 114, 2013-2021 (2007).
- C.Y. Kim, S.H. Chung, T.I. Kim, Y.J. Cho, **G. Yoon**, K.Y. Seo, “Comparison of higher-order aberration and contrast sensitivity in monofocal and multifocal Intraocular lenses”, *YONSEI MEDICAL JOURNAL*, 48, 627-633 (2007).
- M. Chen, R. Sabesan, K. Ahmad, **G. Yoon**. Correcting Anterior Corneal Aberration and Variability of Lens Movements in Keratoconic Eyes with Back Surface Customized Soft Contact Lenses. *Optics Letters*, 32, 3203-3205 (2007).
- N. Doble, D. Miller, **G. Yoon**, D.R. Williams, “Requirements for Discrete Actuator and Segmented Wavefront Correctors for Aberration Compensation in Two Large Populations of Human Eyes” *Applied Optics*, 46, 4501-4514 (2007).
- L. Nagy, S. MacRae, **G. Yoon**, M. Wyble, J. Wang, I. Cox, K. Huxlin “Effects of photorefractive keratectomy in the cat eye: biomechanical correlates of optical outcomes” *J. Cataract Refract. Surg.*, 33, 1051-1064 (2007).
- R. Sabesan, T. M. Jeong, L. Carvalho, I. Cox, D.R. Williams, **G. Yoon**, “Vision improvement by correcting higher-order aberrations with customized soft contact lenses in keratoconic eyes”, *Optics Letters*, 32, 1000-1002 (2007).
- K. Li, **G. Yoon** “Changes in aberration and retinal image quality due to tear film dynamics” *Optics Express*, 14, 12552-12559 (2006)
- T. M. Jeong, **G. Yoon**, “Customized correction of wavefront aberrations in abnormal human eyes by using a phase plate and a customized contact lens”, *J of the Korean Physical Society*, 49, 121-125 (2006)
- S. Chung, I. Lee, Y. Lee, H. Lee, E. Kim, **G. Yoon**, K. Seo, “Comparison of higher-order aberrations after wavefront-guided laser in situ keratomileusis and laser subepithelial keratomileusis”, *J. Cataract Refract. Surg.*, 32, 779-784 (2006)
- **G. Yoon**, S. Pantanelli, L. Nagy, “Large-dynamic-range Shack-Hartmann wavefront sensor for highly aberrated eyes”, *Journal of Biomedical Optics*, 030502-1 - 030502-3 (2006).
- P. Padmanabhan, **G. Yoon**, J. Porter, S. Rao, J. Roy, M. Choudhury, “Wavefront aberrations in eyes with monofocal intraocular lenses”, *J. Refract. Surg.*, 237-242 (2006).
- J. Porter, **G. Yoon**, S. MacRae, I. Cox, D.R. Williams, “Aberrations induced in customized laser refractive surgery due to shifts between natural and dilated pupil center locations”, *J. Cataract Refract. Surg.*, 32, 21-32 (2006).
- J. Porter, **G. Yoon**, S. MacRae, I. Cox, D.R. Williams, “Surgeon offsets and dynamic eye movements in laser refractive surgery”, *J. Cataract Refract. Surg.*, 31, 2058-2066 (2005).
- T. M. Jeong, M. Menon, **G. Yoon**, “Measurement of wavefront aberration in soft contact lenses by use of a Shack-Hartmann wavefront sensor”, *Applied Optics*, 44, 4523-4527 (2005).
- **G. Yoon**, S. MacRae, D. Williams, I. Cox, “Causes of spherical aberration induced by laser refractive surgery?”, *Journal of Cataract and Refractive Surgery*, 31, 127-135 (2005).
- **G. Yoon**, T. M. Jeong, I. Cox, D. Williams, “Vision improvement by correcting higher order aberrations with phase plates in normal eyes”, *Journal of Refractive Surgery*, 20, S523-S527 (2004).
- K. Huxlin, **G. Yoon**, L. Nagy, E. Brandon, J. Porter, I. Cox, S. MacRae and D. Williams, “Monochromatic ocular wavefront aberrations in the awake-behaving cat”, *Vision Research*, 44, 2159-2169 (2004)

- J. Porter, S. MacRae, **G. Yoon**, C. Roberts, I. Cox, D.R. Williams, “Separate effects of the microkeratome incision and laser ablation on the eye’s aberration”, *Am. J. Ophthal.* 136(2), 327 - 337 (2003).
- N. Doble, **G. Yoon**, L. Chen, P. Bierden, B. Singer, S.Olivier, D.R.Williams, “Use of a microelectromechanical mirror for adaptive optics in the human eye”, *Opt. Lett.* 17, 1537-1539 (2002).
- **G. Yoon**, D. R. Williams, “Visual performance after correcting the monochromatic and chromatic aberrations of the eye”, *J. Opt. Soc. Am. A*, 19, 266-275 (2002).
- H. Hofer, L. Chen, **G. Yoon**, B. Singer, Y. Yamauchi, D. R. Williams, “Improvement in retinal image quality with dynamic correction of the eye’s aberrations”, *Optics Express*, 8, 631-643 (2001)
- D. R. Williams, **G. Yoon**, J. Porter, A. Guirao, H. Heidi, I. Cox, “Visual benefit of correcting the eye’s higher order aberrations of the eye”, *J. of Refractive Surgery*, 13, S554-S559 (2000)
- H. Daido, S. Sebban, N. Sayaka, T. Norimatsu, T. Jitsuno, **G. Yoon**, *et al.* “High brightness Ni-like soft x-ray lasers for various applications”, *Inst. Phys. Conf. Ser. No 159*, 83-90 (1999)
- S. Sebban, H. Daido, N. Sayaka, T. Norimatsu, T. Jitsuno, **G. Yoon**, *et al.* “Studies on Collisional Pumping of Soft X-Ray Laser at ILE”, *IEEE J. Selected Topics in Quantum Electronics*, 5, 1460-1468 (1999)
- Weng SJ, Lin ZQ, Gu Y, Huang GL, Tang HJ, Ximing D, Zhang GP, Kato Y, Daido H, Imani T, Sezaki S, Hirose S, **Yoon GY** *et al.*, Intense nickel-like neodymium X-ray laser at 7.9 nm with a double-curved-slab target”, *JAPANESE JOURNAL OF APPLIED PHYSICS LETTERS*, 37, L1234-L1237 (1998)
- **G. Yoon**, T. Imani, H. Daido, T. Jitsuno, Y. Kato, M. Nakatsuka, *et al.*, “Enhancement of x-ray lasing due to wavefront correction of line-focusing optics with a large aperture deformable mirror”, *Applied Physics Letters*, 72, 2785-2787 (1998)
- **G. Yoon**, S. Matsuoka, T. Jitsuno, M. Nakatsuka, Y. Kato, “Wave-front design algorithm for shaping a quasi-far-field pattern”, *Applied Optics*, 37, 1386-1392 (1998)
- **G. Yoon**, T. Jitsuno, Y. Kato, M. Nakatsuka, “High-aspect-ratio line focus for an x-ray laser by a deformable mirror”, *Applied Optics*, Vol. 36, No. 4, 847-852 (1997)
- **G. Yoon**, T. Jitsuno, M. Nakatsuka, S. Nakai, “Shack Hartmann wave-front measurement with a large F-number plastic microlens array”, *Applied Optics*, Vol. 35, No. 1, 188-192 (1996)

PUBLICATIONS (PROCEEDINGS):

- **G. Yoon**, D. R. Williams, “Visual benefit of correcting the higher order monochromatic aberrations and the chromatic aberration in the eye”, *Trends in Optics and Photonics Series (TOPS)*, 35, 205-211 (2000)
- K. Tokumura, T. Jitsuno, M. Nakatsuka, **G. Yoon**, H. Tamamura, “UV laser ablative figuring of precise optics”, *SPIE proceedings of High Power Laser Ablation II*, 3885, 284-292 (1999)
- **G. Yoon**, T. Jitsuno, M. Nakatsuka, Y. Kato, “Development of a large aperture deformable mirror for the wavefront control”, *SPIE proceedings of 2nd Annual International Conference on Solid State Lasers for Application to Inertial Confinement Fusion (ICF)*, 3047, 777-782 (1996)

- **G. Yoon**, T. Jitsuno, M. Nakatsuka, Y. Kato, “Wavefront correction of laser beam using a deformable mirror with a large aperture”, SPIE proceedings of 17th CONGRESS of the INTERNATIONAL COMMISSION for OPTICS, 2778, 269-270 (1996)

PUBLICATIONS (CONFERENCE PRESENTATIONS):

- S.M. MacRae, L.J. Nagy, J. Buhrens, **G. Yoon**, “The Effects of Corneal Aberrations on Visual Quality in Eyes With *Rezoom* and *ReSTOR* Multifocal Intraocular Lenses”, Invest Ophthalmol Vis Sci. 2008;49:ARVO E-Abstract 396 (2008)
- M. Chen, S. MacRae, **G. Yoon**, “Posterior Corneal Aberrations and Their Compensation Effects on Anterior Corneal Aberrations in Keratoconic Eyes”, Invest Ophthalmol Vis Sci. 2008;49:ARVO E-Abstract 987 (2008)
- K. Stasi, S. Pantanell, R. Sabesan, **G. Yoon**, G. McCormick, J.V. Aquavella, “Characterization of Higher Order Aberrations in Eyes With Dohlman/Boston Keratoprostheses and Comparison With Penetrating Keratoplasty and Normal Eyes”, Invest Ophthalmol Vis Sci. 2008;49:ARVO E-Abstract 1038 (2008)
- L.J. Nagy, **G. Yoon**, “Interaction Between Primary and Secondary Spherical Aberrations and Its Impact on Retinal Image Quality Through Focus”, Invest Ophthalmol Vis Sci. 2008;49:ARVO E-Abstract 2422 (2008)
- **G. Yoon**, R. Sabesan, M. Gilbert, “Effects of Higher Order Aberrations on Night Myopia Using Adaptive Optics”, Invest Ophthalmol Vis Sci. 2008;49:ARVO E-Abstract 2837 (2008)
- R. Sabesan, **G. Yoon**, “Short-Term Visual Benefit of Correcting Higher Order Aberrations in Keratoconic Eyes”, Invest Ophthalmol Vis Sci. 2008;49:ARVO E-Abstract 2842 (2008)
- J. Buehren, L.J. Nagy, **G. Yoon**, M. DiMagistris, S.M. MacRae, K.R. Huxlin, “Biological Correlates of Higher-Order Aberrations (HOAs) After Photorefractive Keratectomy (PRK) in a Cat Model”, Invest Ophthalmol Vis Sci. 2008;49:ARVO E-Abstract 2922 (2008)
- **G. Yoon**, “Definition of Optimized CL Optics for the Highly Aberrated Eye Using Image Quality Metrics”, 9th International Congress on Wavefront Sensing and Optimized Refractive Corrections (2008); *invited paper*
- L.J. Nagy, J. Buehren, S. MacRae, **G. Yoon**, “Impact of Corneal Aberrations and Lens Decentrations on the Performance of a Multifocal IOL”, Invest Ophthalmol Vis Sci. 2007;48:ARVO E-Abstract 6009 (2007)
- J. Buehren, **G. Yoon**, S. Kenner, S. Artrip, S. MacRae, K. Huxlin, “The Effect of Pupil Decentration on Lower- and Higher-Order Aberrations After Myopic Photorefractive Keratectomy (PRK) in a Cat Model”, Invest Ophthalmol Vis Sci. 2007;48:ARVO E-Abstract 5336 (2007)
- F. Taketani, M. Kojima, **G. Yoon**, Y. Hara, “Theoretical Visual Benefit When Correcting Higher Order Aberration With Fully Customized and Aspherical Intraocular Lenses”, Invest Ophthalmol Vis Sci. 2007;48:ARVO E-Abstract 3132 (2007)
- H. Ren, **G. Yoon**, “Investigating the Effect of Negative Spherical Aberration on the Depth of Focus Using a Spatial Light Modulator”, Invest Ophthalmol Vis Sci. 2007;48:ARVO E-Abstract 2787 (2007)
- R. Sabesan, **G. Yoon**, “Correcting Highly Aberrated Eyes Using Large-Stroke Adaptive Optics”, Invest Ophthalmol Vis Sci. 2007;48:ARVO E-Abstract 2777 (2007)
- S.M. MacRae, M. Venkiteshwar, **G. Yoon**, H. Zhao, “Aberration Interactions in Wavefront Guided Customized Ablation”, Invest Ophthalmol Vis Sci. 2007;48:ARVO E-Abstract 2364 (2007)

- K.Stasi, S.Pantanelli, R.Sabesan, **G.Yoon**, G.J. McCormick, J.V. Aquavella, “Evaluation of Higher Order Aberrations in Eyes With Dohlman/Boston Keratoprosthesis”, Invest Ophthalmol Vis Sci. 2007;48:ARVO E-Abstract 1997 (2007)
- M.Chen, **G.Yoon**, “Generation of Higher Order Aberrations by Customized Soft Contact Lenses Sculpted With Excimer Laser Ablation”, Invest Ophthalmol Vis Sci. 2007;48:ARVO E-Abstract 1514 (2007)
- **G. Yoon**, “AO technology for studying and improving vision”, 8th International Congress on Wavefront Sensing and Optimized Refractive Corrections (2007); *invited paper*
- **G. Yoon**, “The aberration structure of keratoconic eyes”, 8th International Congress on Wavefront Sensing and Optimized Refractive Corrections (2007); *invited paper*
- **G. Yoon**, M.Subbaram, S.MacRae, “Impact Of Correcting Spherical Aberration On Hyperopic Overcorrection After Wavefront Guided Myopic Refractive Surgery”, Invest Ophthalmol Vis Sci. 2006;47:ARVO E-Abstract 59 (2006)
- F.Taketani, **G.Yoon**, Y.Hara, “Theoretical Improvement In Retinal Image Quality When Correcting Higher Order Aberration With Partially And Fully Customized IOLs”, Invest Ophthalmol Vis Sci. 2006;47:ARVO E-Abstract 326 (2006)
- S.M. Pantanelli, **G.Yoon**, G.Pan, “Can The Zernike Polynomials Reliably Represent The Aberration In Normal And Abnormal Eyes?”, Invest Ophthalmol Vis Sci. 2006;47:ARVO E-Abstract 1204 (2006)
- R.Sabesan, L.Carvalho, T.Jeong, **G.Yoon**, R.Somasundaram, I.Cox, “Correcting Higher Order Aberrations Using Customized Soft Contact Lenses In Keratoconic Eyes”, Invest Ophthalmol Vis Sci. 2006;47:ARVO E-Abstract 1205 (2006)
- M.V. Subbaram, S.M. MacRae, **G.Yoon**, “Causes of Postoperative Astigmatism With Myopic Custom Ablation”, Invest Ophthalmol Vis Sci. 2006;47:ARVO E-Abstract 3610 (2006)
- K. Stasi, S. Pantanelli, **G. Yoon**, G. McCormick, J. Aquavella, “Wavefront higher order aberrations in Dohlman/Boston keratoprosthesis and normal eyes”, The 6th KPro Study Group Meeting (2006)
- G. J. McCormick, S.M. Pantanelli, S.M. MacRae, **G.Yoon**, “Use of a Large Dynamic Range Shack-Hartmann Wavefront Sensor to Measure Higher Order Aberrations in Eyes with Keratoconus or Penetrating Keratoplasty”, ASCRS (2006); *Best Paper of Session*
- **G. Yoon**, “Customized contact lenses & customized aberration correction through contact lenses”, Global Symposium in Vision Correction (2006); *invited paper*
- **G. Yoon**, “Wavefront-guided CLs: Challenges in Moving from the Laboratory to the Dispensary”, 7th International Congress on Wavefront Sensing and Optimized Refractive Corrections (2006); *invited paper*
- **G. Yoon**, “Customized Contact Lens Correction using Wavefront Technologies”, American Academy of Optometry, San Diego (2005); *invited paper*
- K.Y. Li, **G.Yoon**, G.Pan, “Variability in Retinal Image Quality With Tear Film Behavior After Blink”, Invest Ophthalmol Vis Sci. 2005;46:ARVO E-Abstract 848 (2005)
- **G. Yoon**, T. Jeong, “Effect of Dynamic Movement of Customized Contact Lens on Visual Benefit of Correcting Higher Order Aberrations in Keratoconic Eyes”, Invest Ophthalmol Vis Sci. 2005;46:ARVO E-Abstract 2051 (2005)
- L.J. Nagy, **G.Yoon**, S.MacRae, I.Cox, M.Beha, K.R. Huxlin, “Relative Contribution of Corneal Biomechanics to Optical Aberrations After PTK”, Invest Ophthalmol Vis Sci. 2005;46:ARVO E-Abstract 2715 (2005)

- M.V. Subbaram, S.M. MacRae, **G.Yoon**, I.G. Cox, “Role of Spherical Aberration on Refractive Outcome After Custom LASIK Procedure”, Invest Ophthalmol Vis Sci. 2005;46:ARVO E-Abstract 4362 (2005)
- **G. Yoon**, “Performance of customized contact lens on keratoconic eyes”, 6th International Congress on Wavefront Sensing and Optimized Refractive Corrections (2005); *invited paper*
- **G. Yoon**, “Debate 1: Zernike vs Fourier vs Zonal reconstruction methods in wavefront analysis and treatment”, 6th International Congress on Wavefront Sensing and Optimized Refractive Corrections (2005); *invited paper*
- L. Nagy, S. MacRae, **G. Yoon**, I. Cox, K. Huxlin, “Ocular wave aberrations after laser refractive surgery – a comparison of human and cat eyes”, Invest Ophthalmol Vis Sci. 2004;45:ARVO E-Abstract 163 (2004)
- I. Cox, S. MacRae, J. Porter, **G. Yoon**, C. Roberts, D. Williams, “What Causes The Increase in Higher Order Aberrations After LASIK? The Cut, The Flap Manipulation and/or the Ablation?”, Invest Ophthalmol Vis Sci. 2004;45:ARVO E-Abstract 211 (2004)
- J. Porter, **G. Yoon**, R. Tumbar, D. Lozano, J. I. Wolfing, I. G. Cox, D. R. Williams, “Aberrations induced by pupil center decentrations in customized laser refractive surgery”, Invest Ophthalmol Vis Sci. 2004;45:ARVO E-Abstract 212 (2004)
- **G. Yoon**, S. MacRae, “Corneal thickness required to correct higher order aberrations in customized laser refractive surgery”, Invest Ophthalmol Vis Sci. 2004;45:ARVO E-Abstract 222 (2004)
- T. M. Jeong, **G. Yoon**, I. Cox, D. Williams, “Vision improvement using customized optics in normal and abnormal eyes”, Invest Ophthalmol Vis Sci. 2004;45:ARVO E-Abstract 1078 (2004)
- M. Menon, **G. Yoon**, T. M. Jeong, “Measuring higher order aberrations of customized contact lenses”, Invest Ophthalmol Vis Sci. 2004;45:ARVO E-Abstract 2847 (2004)
- S. Pantanelli, **G. Yoon**, T.M. Jeong, S. MacRae, “Aberration Characterization of Abnormal Eyes using the Large Dynamic Range Shack-Hartmann Wavefront Sensor”, Invest Ophthalmol Vis Sci. 2004;45:ARVO E-Abstract 2848 (2004)
- S. Pantanelli, **G. Yoon**, T.M. Jeong, S. MacRae, “Large dynamic range Shack-Hartmann wavefront sensor for highly aberrated eyes”, Invest Ophthalmol Vis Sci. 2003;44:ARVO E-Abstract 2536 (2003)
- N. Doble, D. Miller, H. Zhao, **G. Yoon**, D. Williams, “Deformable mirror requirements for adaptive correction of the population of normal human eyes”, Invest Ophthalmol Vis Sci. 2003;44:ARVO E-Abstract 999 (2003)
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