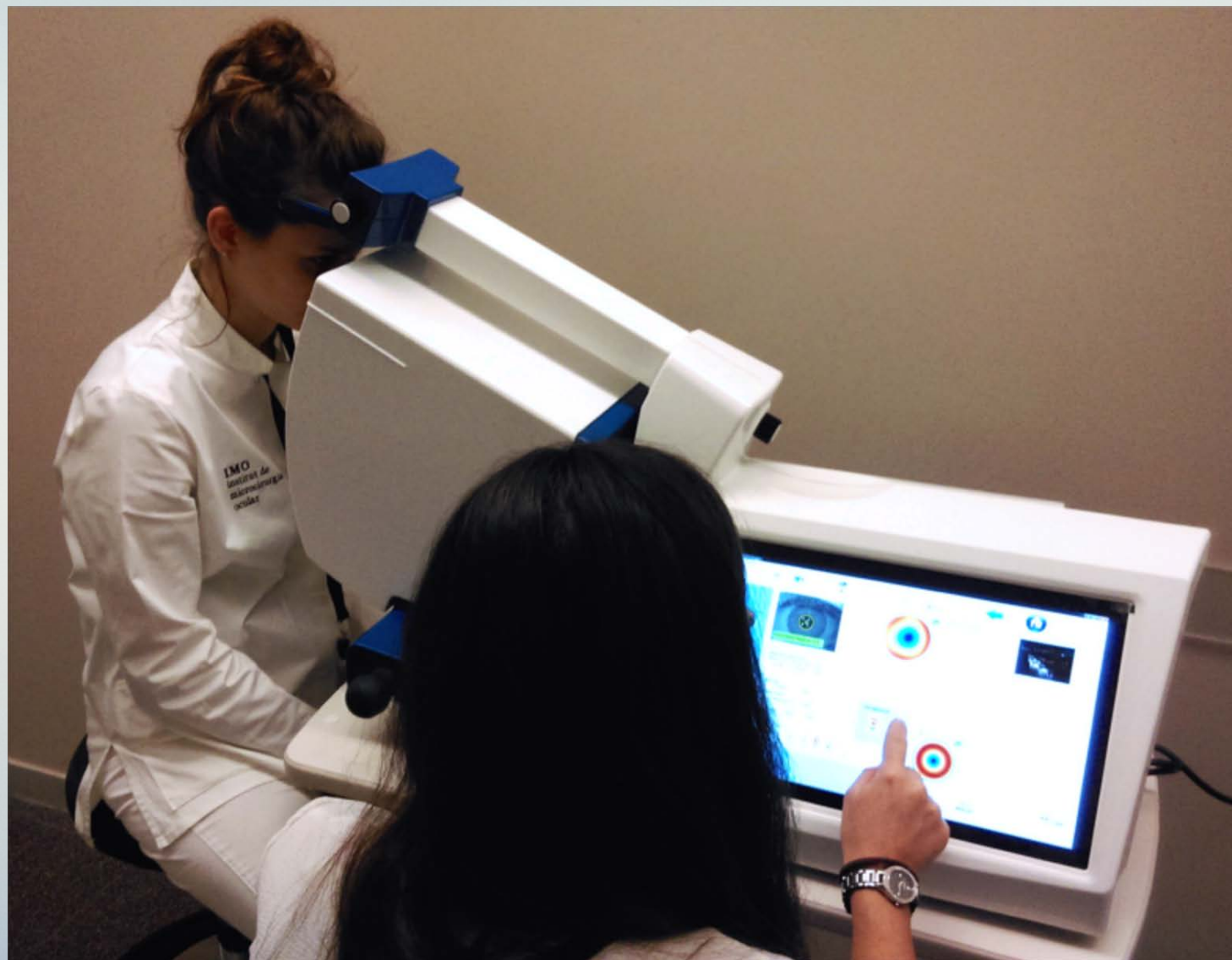


AO*N*eye



Guillermo M. Perez, PhD MBA

voptica
visual
smartoptics



1

OBJECTIVE WAVEFRONT SENSOR



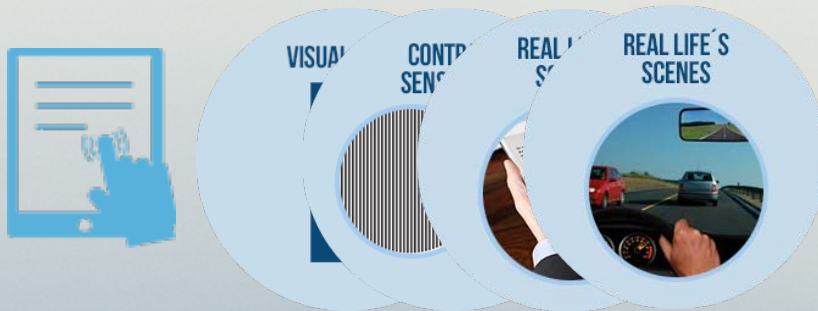
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SUBJECTIVE AO-GUIDED REFRACTION



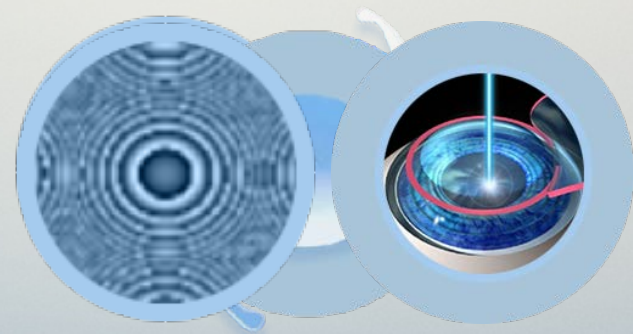
3

VISION TESTING



4

PERSONALIZATION



AONeye



AVAILABLE IN 2015

MANUFACTURERS OF
**OPTICAL
SOLUTIONS**



**NO VALUE
ADDED**

INEFFICIENCY



**STANDARD
SOLUTIONS**

MANUFACTURERS OF
**OPTICAL
SOLUTIONS**



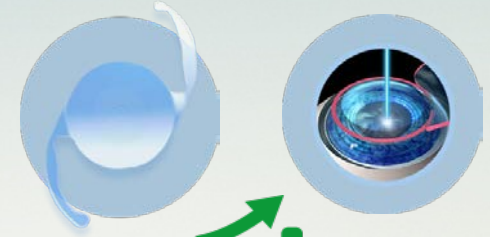
**NO VALUE
ADDED**

INEFFICIENCY



**STANDARD
SOLUTIONS**

MANUFACTURERS OF
**OPTICAL
SOLUTIONS**



**PREMIUM
SOLUTIONS**

PERSONALIZATION

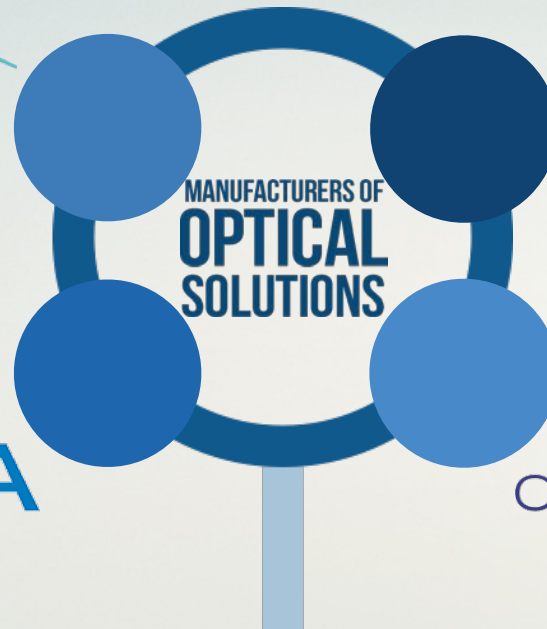
**STANDARD
SOLUTIONS**

AONeye
Seeing is believing





UNDERGOING
PROJECTS WITH



voptica @voptica · 15 de sept.



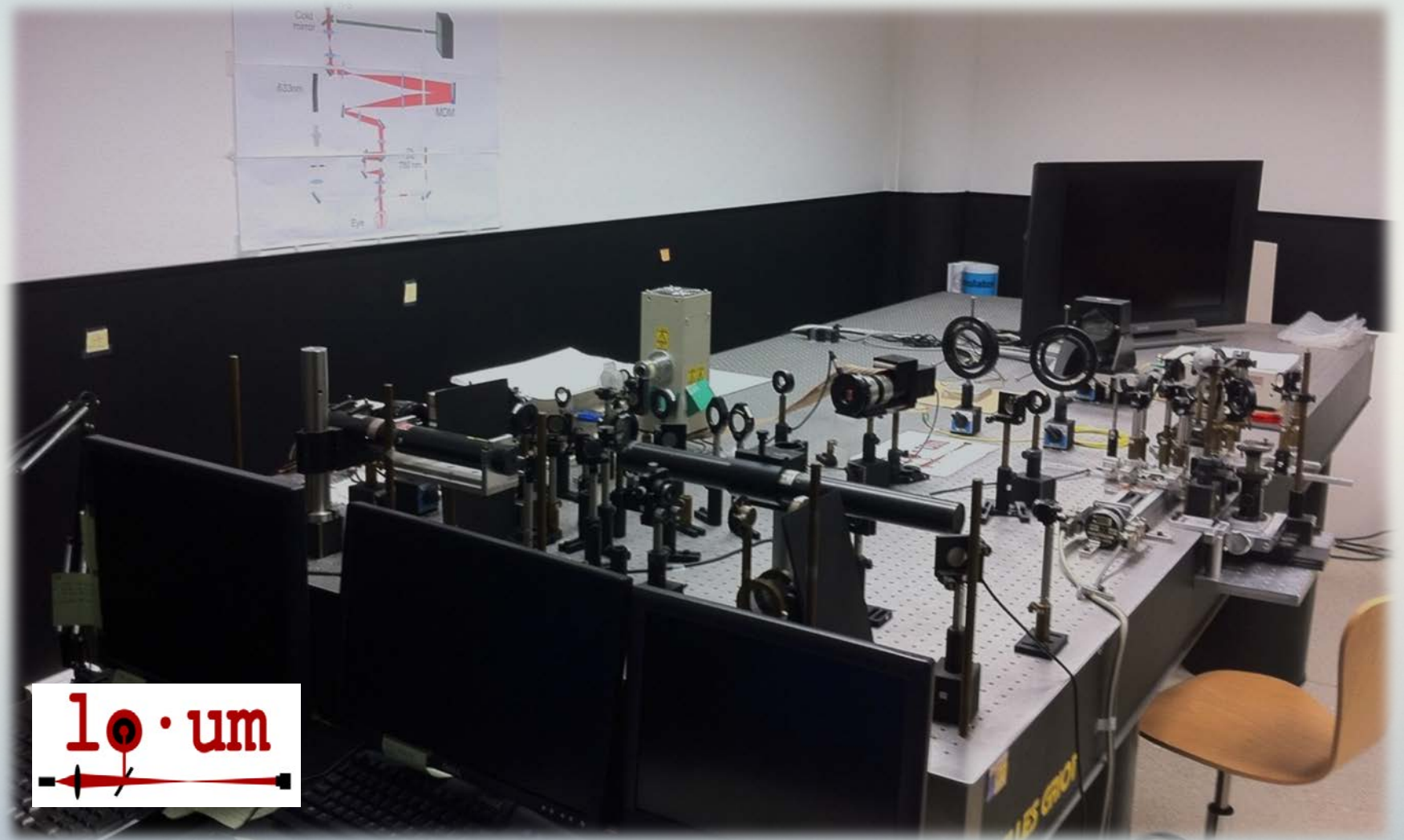
Siguiendo

Schwind acquires an AOnEye unit
to develop customized LASIK in London.



↻ 1







Laboratorio de Óptica

Universidad de Murcia



Blog de Pablo Artal

Inicio | Investigación | Publicaciones | Docencia | Miembros | Eventos



Noticias



Publicaciones



Loum en Prensa



Contacto



Entrevista a Pablo Artal en la revista JOT DOWN



Entrevistas

Clasificar



Pablo Artal es el responsable de los trabajos de investigación en el Laboratorio de Óptica Visual, Óptica Adaptativa y Óptica Biomédica de la Universidad de Murcia. Ha sido el responsable de la creación del grupo de investigación en el campo de la Óptica Adaptativa y Óptica Biomédica. Ha sido el responsable de la creación del grupo de investigación en el campo de la Óptica Adaptativa y Óptica Biomédica. Ha sido el responsable de la creación del grupo de investigación en el campo de la Óptica Adaptativa y Óptica Biomédica.

Últimas Noticias

Benjamin Leray, Myriam Cassagne, Vincent Soler, Eloy A. Villegas, Claire Triozon, Guillermo M. Perez, Jonathan Letsch, Eric Chapotot, Pablo Artal, François Malecaze
Object... [Ver más](#)

Bienvenidos a lo.um

El Laboratorio de Óptica de la Universidad de Murcia (LOUM) es un grupo de investigación líder mundial en diversos aspectos de la Óptica Visual, Óptica Adaptativa y Óptica Biomédica.

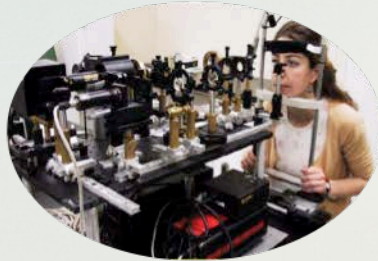
Fue creado en 1994 por el Prof. Pablo Artal quien lo ha dirigido desde entonces. Las líneas de

1998



COMPACT

WAVEFRONT SENSOR



2001



CLINICAL

WAVEFRONT SENSOR

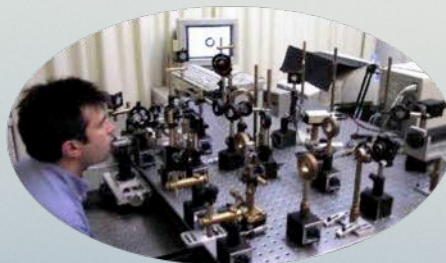


2002



AOVA

VISION ANALYZER



2009



BINOCULAR

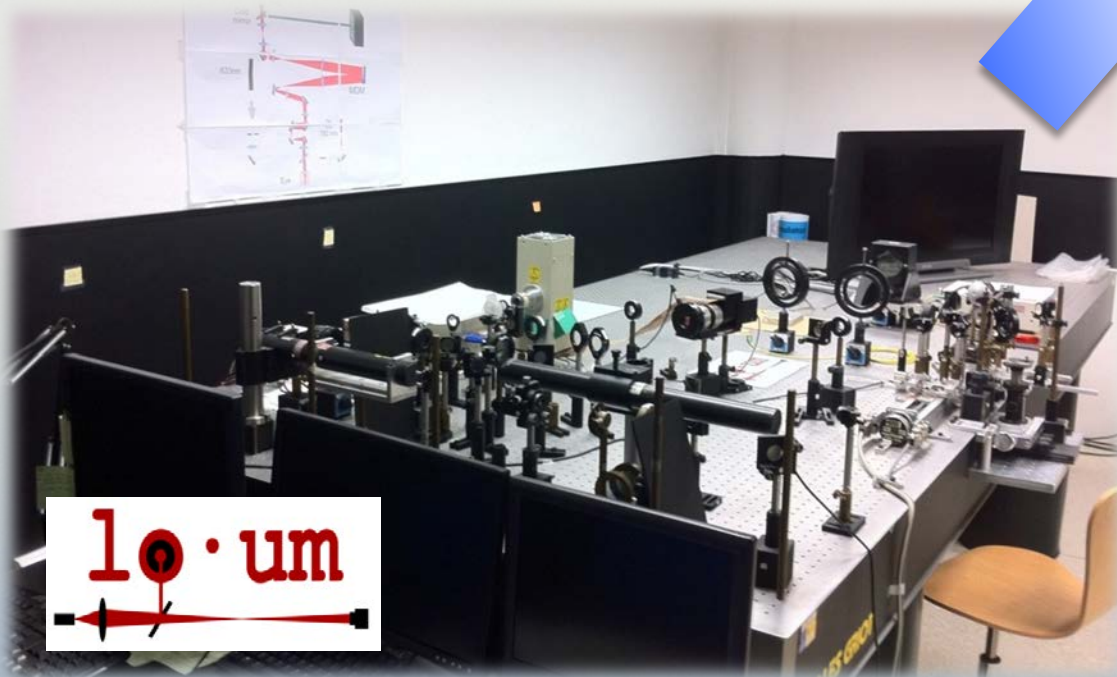
VISION ANALYZER





- “Binocular adaptive optics vision analyzer with full control over the complex pupil functions”, Opt. Lett., 36, 4779 –4781(2010).
- “Adaptive optics binocular visual analyzer to study stereopsis in the presence of aberrations”, J. Opt. Soc. Am. A., 7 (11), A48-A55 (2010).
- "Binocular adaptive optics visual analyzer ", Opt. Lett., 34, 2628 –2630 (2009).
- “Wave-aberration control with a liquid crystal on silicon (LCOS) spatial phase modulator”, Opt. Lett., 17, 11013 –11025 (2009).
- "Liquid crystal adaptive optics visual analyzer: application to testing and design of ophthalmic optical elements". Opt. Express, 15, 16177-16188 (2007) .
- “Use of adaptive optics to determine the optimal ocular spherical aberration", J. Cataract Refract Surg 33, 1721-1726 (2007)
- "Adaptive optics visual analyzer", J. Refrac. Surgery 18, 634-638 (2002).

HISTORY: LOUM TO VOPTICA



AONEye



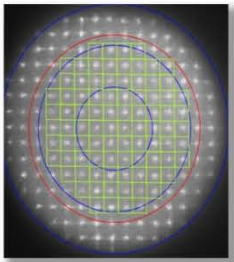
ADAPTIVE OPTICS*
Liquid Crystal- Spatial Light Modulator



Visual Acuity



Vision
Testing



HS Wavefront Sensor

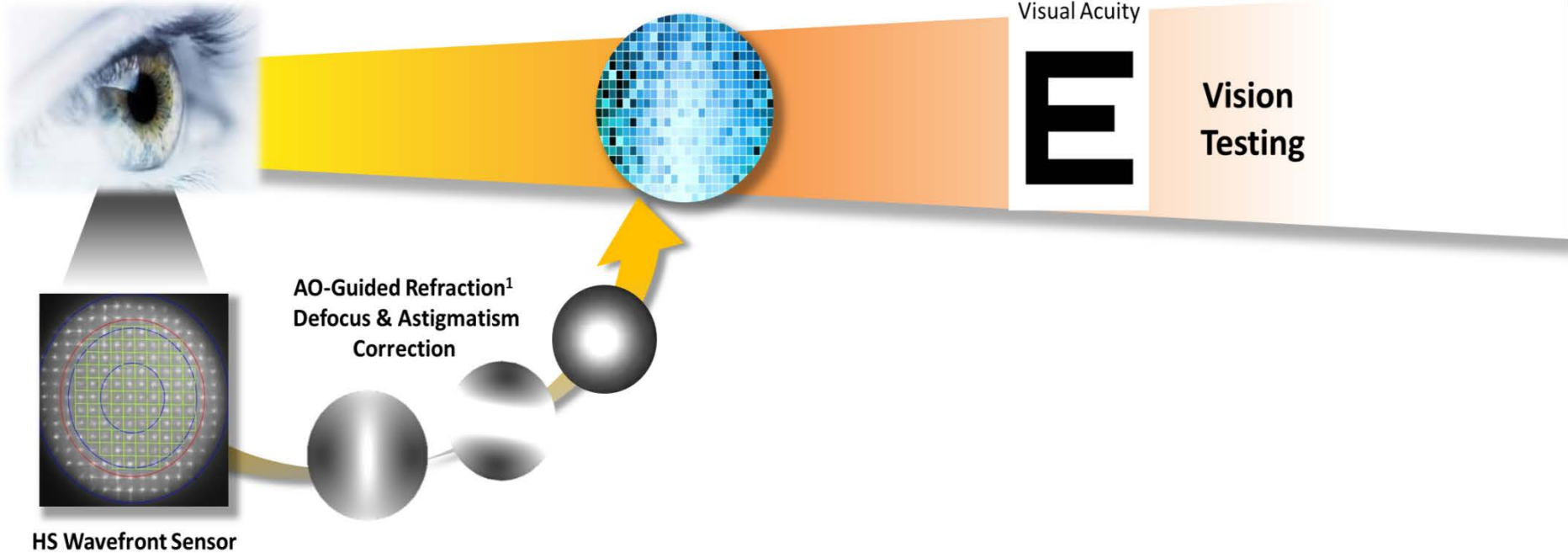
(*) - *Adaptive Optics Visual Analyzer*, **J. Refrac. Surgery** 2002.

- *Liquid Crystal Adaptive Optics Visual Analyzer: Application to Testing and Design of Ophthalmic Optical Elements*. **Opt. Express** 2007

- *Wave-Aberration Control with a Liquid Crystal on Silicon (LCOS) Spatial Phase Modulator*. **Opt. Lett.** 2009



ADAPTIVE OPTICS*
Liquid Crystal- Spatial Light Modulator



(*) - Adaptive Optics Visual Analyzer, *J. Refrac. Surgery* 2002.

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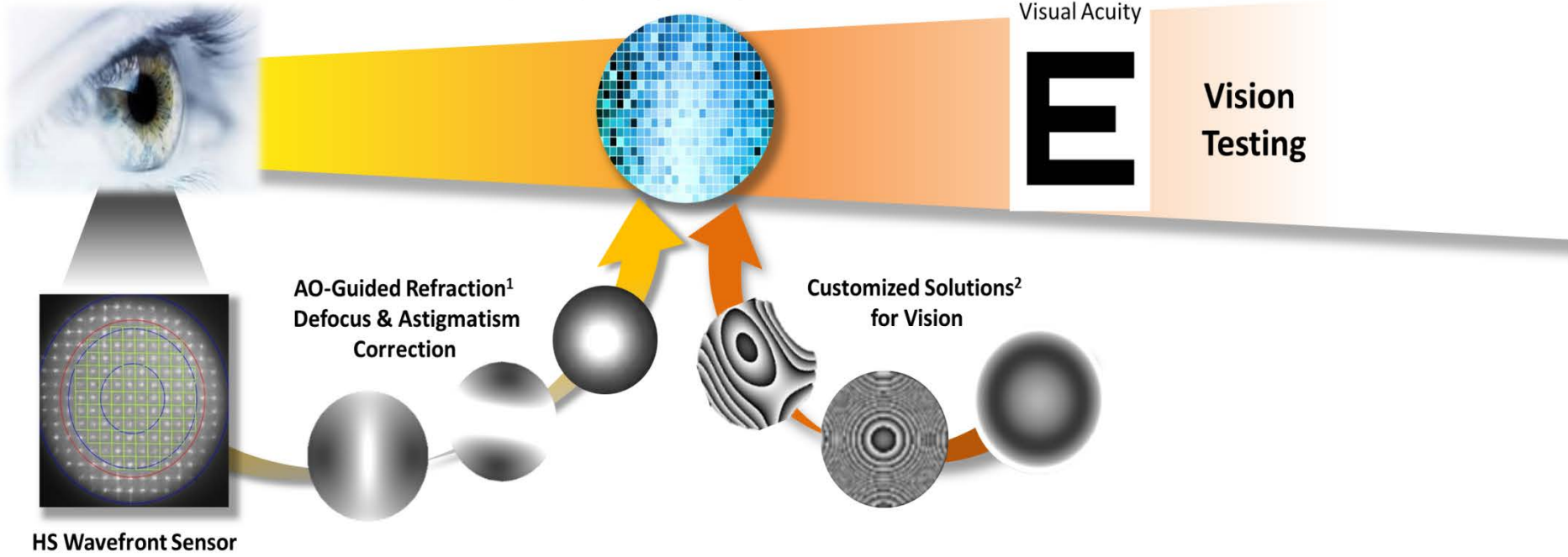
- Wave-Aberration Control with a Liquid Crystal on Silicon (LCOS) Spatial Phase Modulator. *Opt. Lett.* 2009

(1) - Accuracy of Adaptive Optics Guided Refraction. *Invest Ophthalmol Vis Sci* 2012

- Clinical Validation of Adaptive Optics Guided Refraction. *Invest Ophthalmol Vis Sci* 2014



ADAPTIVE OPTICS*
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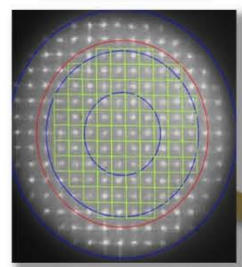
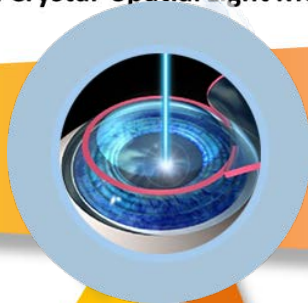
(2) - Customizing Near Vision In Patients Implanted With Light Adjustable IOLs With An Adaptive Optics Visual Analyzer. *Invest Ophthalmol Vis Sci* 2012

- Customizing Depth of Focus Outcomes in Hyperopic Lasik using an Adaptive Optics Vision Analyzer. *Invest Ophthalmol Vis Sci* 2013

- Relationship between induced Spherical Aberration and Depth Of Focus after Hyperopic LASIK in Presbyopic Patients. *Ophthalmology* (in press)



ADAPTIVE OPTICS*
Liquid Crystal- Spatial Light Modulator



HS Wavefront Sensor

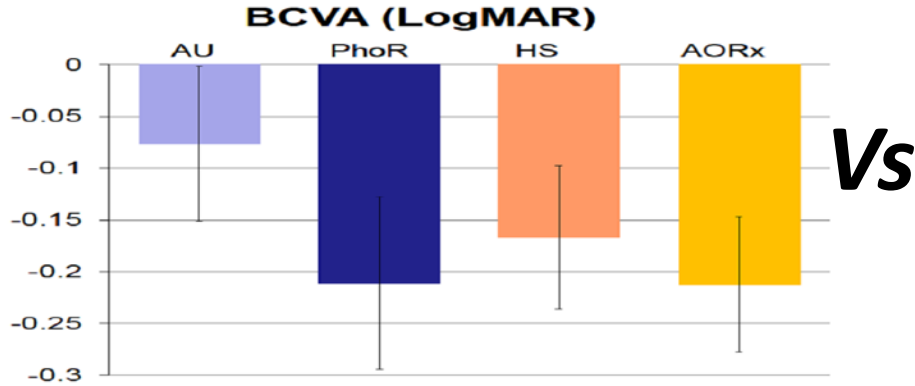
AO-Guided Refraction¹
Defocus & Astigmatism
Correction

Customized Solutions²
for Vision

- (*) - Adaptive Optics Visual Analyzer, *J. Refrac. Surgery* 2002.
 - Liquid Crystal Adaptive Optics Visual Analyzer: Application to Testing and Design of Ophthalmic Optical Elements. *Opt. Express* 2007
 - Wave-Aberration Control with a Liquid Crystal on Silicon (LCOS) Spatial Phase Modulator. *Opt. Lett.* 2009
- (1) - Accuracy of Adaptive Optics Guided Refraction. *Invest Ophthalmol Vis Sci* 2012
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- (2) - Customizing Near Vision In Patients Implanted With Light Adjustable IOLs With An Adaptive Optics Visual Analyzer. *Invest Ophthalmol Vis Sci* 2012
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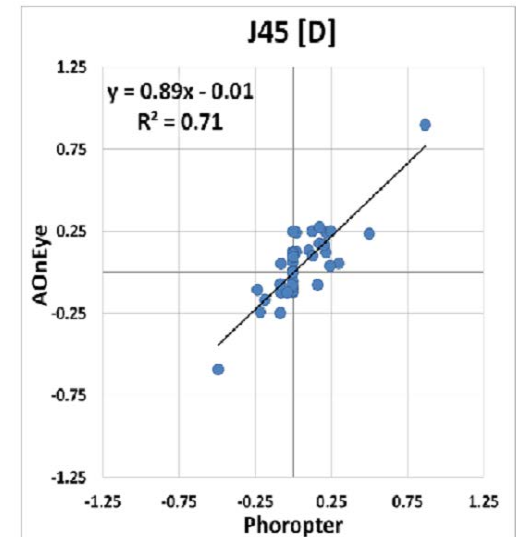
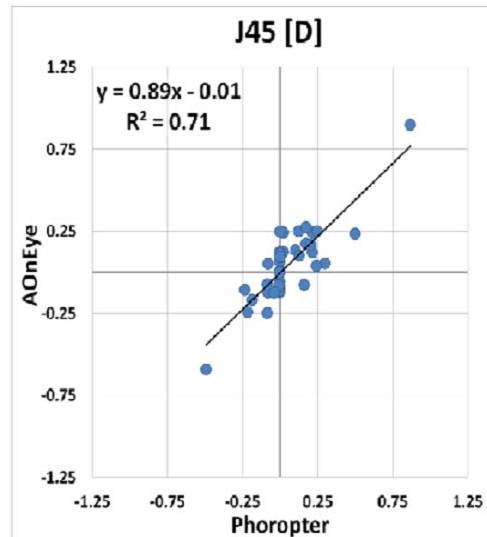
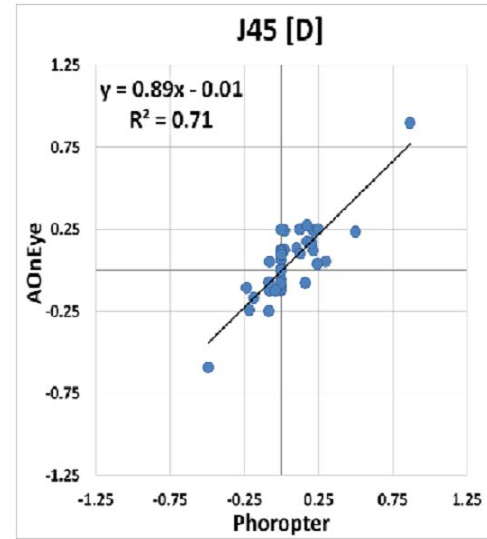
AO-Guided Refraction

Accurate, Reliable, Fast



AO-Guided Refraction

Accurate, Reliable, Fast

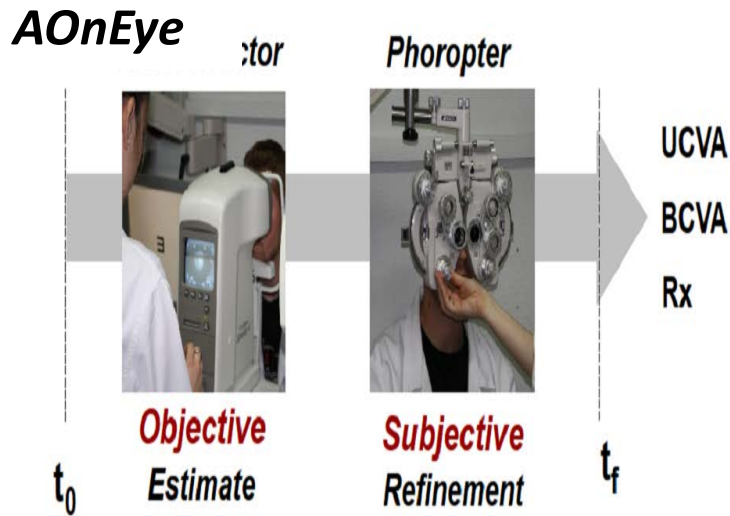
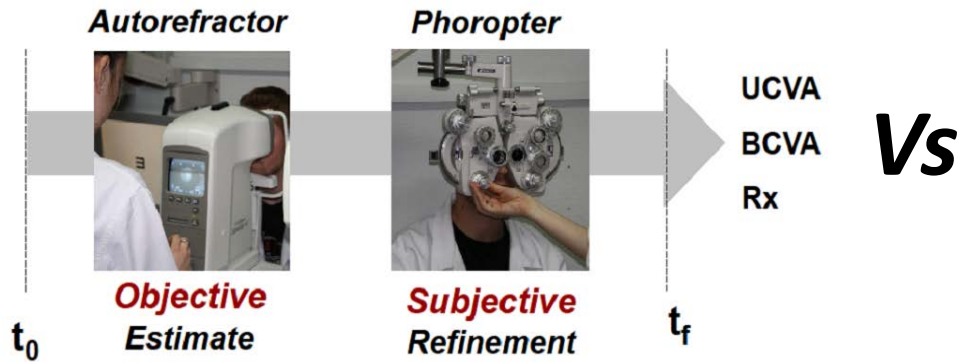


... with High correlation

...

AO-Guided Refraction

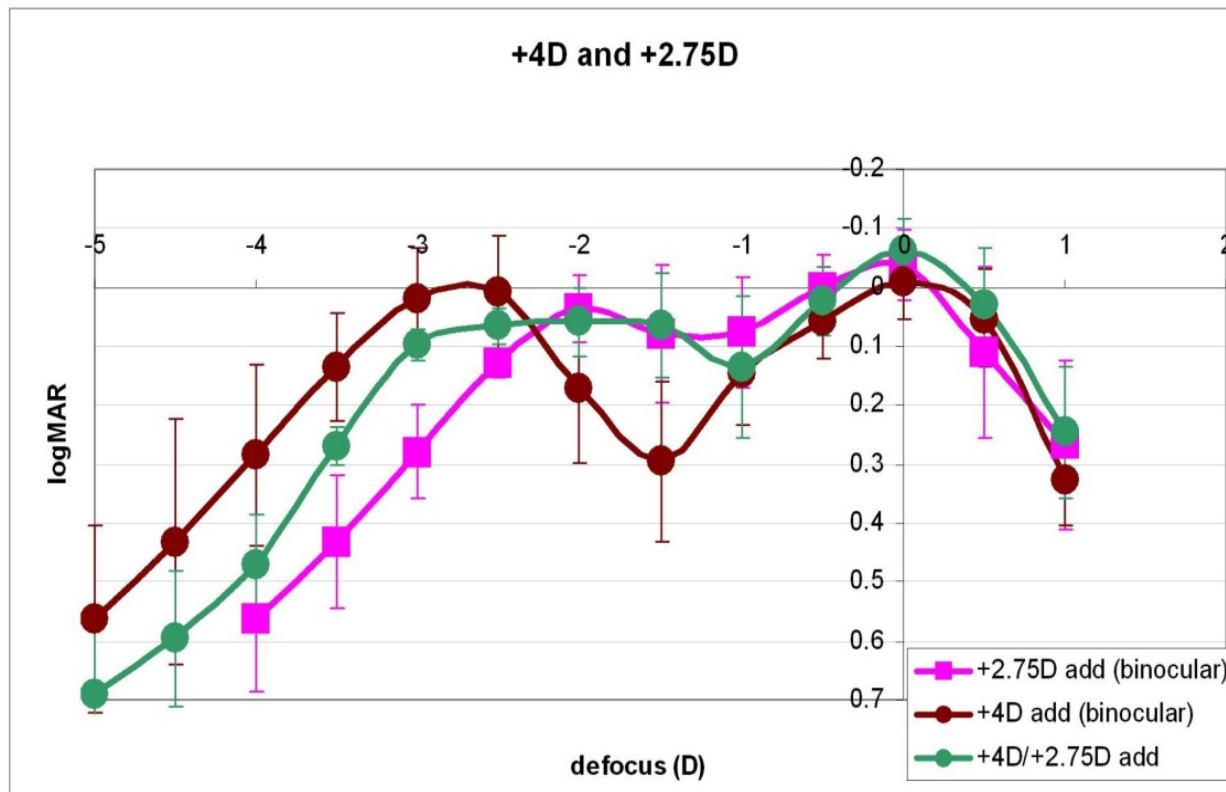
Accurate, Reliable, Fast



 **...and**
40% faster

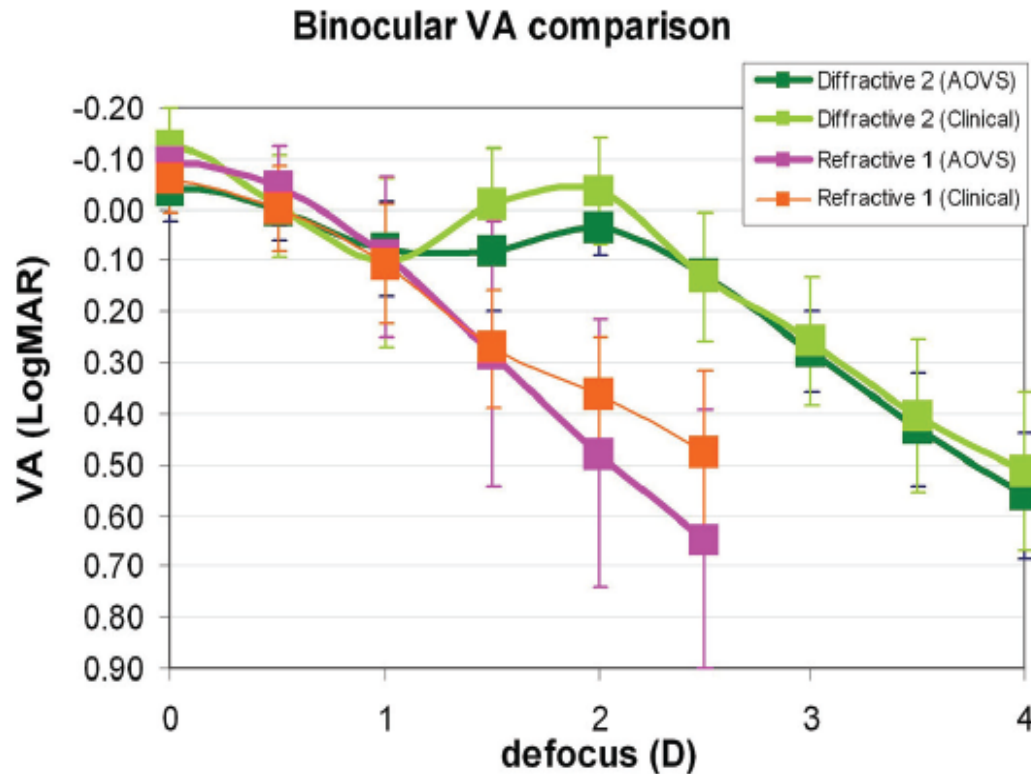
AO vs theory

Different multi-focal diffractive IOL designs were evaluated using an AO system to measure VA.



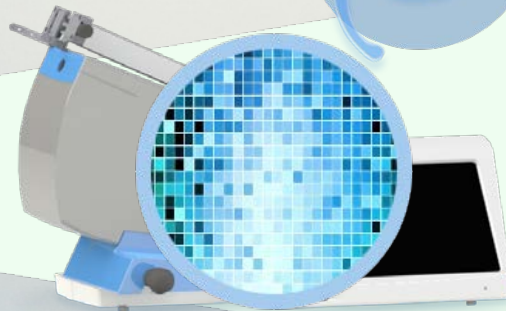
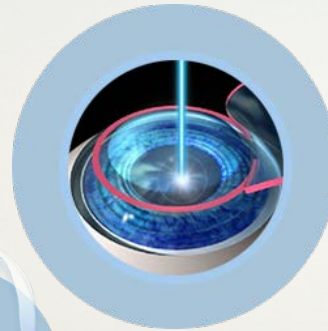
AO vs IOL post-surgery

Visual acuity of pre-operative AO simulations was compared with the post-surgery performance.



THE GATEWAY TO PERSONALIZED SOLUTIONS

AONeye





AONE*eye*

Guillermo M. Perez, PhD MBA

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1