

3rd European Meeting in Physiological Optics
City University, London
7th to 9th of September 2006.
Programme

THURSDAY

“Limits of Visual Performance”

Chair: **Michael Morgan**

- 9:45 to 10:15 **John L Barbur (Invited)**
Factors affecting chromatic sensitivity - towards a definition of “normal” colour vision
- 10:15 to 10:30 **Marisa Rodriguez-Carmona**
The effect of pre-receptor filtering on colour discrimination thresholds
- 10:30 to 10:45 **Lindsay Sharpe**
The Limits of Dichromatic Vision
- 10:45 to 11:00 **Jose Ramon Jimenez**
Interocular differences in eye aberrations diminish binocular visual performance in normal observers

11:00 to 11:30 **Coffee Break**

Chair: **John L Barbur**

- 11:30 to 11:45 **Aristophanis Pallikaris**
The influence of size and contrast on active eye fixation performance under monocular and binocular viewing conditions
- 11:45 to 12:00 **Harilaos Ginis**
Resolving two point sources of increasing luminous intensity: A cone response - based model of resolution.
- 12:00 to 12:15 **Eugenie Dalimier**
Visual performance as a function of light level (with and without correction of higher order aberrations)

12:15 to 13:30 **Poster session**

13:30 to 14:30 **Lunch**

“Modelling”

Chair **Steve Gruppeta**

- 14:30 to 15:00 **Sergio Barbero (Invited)**
A multilayer model of the human cornea and tear film
- 15:00 to 15:15 **Pablo Artal**
Understanding the mechanisms of compensation of aberrations in real eyes

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- 15:15 to 15:30 **Stefan Riehemann**
Modelling the aging accommodating eye - Ideas on solving the lens paradoxon based on clinical hints
- 15:30 to 15:45 **Rafael Navarro**
A simple adaptive GRIN model of the human lens
- 15:45 to 16:15 **Coffee Break**
- 16:15 to 16:30 **Zoltan Fazekas**
Description of corneal surface changes in a basis tuned to the original surface
- 16:30 to 16:45 **Julian Espinosa**
Light propagation through the eye: numerical considerations and applications to presbylasik surgery analysis
- 16:45 to 17:00 **Sabino Chavez-Cerda**
Nonparaxial effects in visual imaging of the Emsley schematic eye
- 19:00 **Conference Dinner (River Thames)**

FRIDAY

“Ocular Optical Quality”

- Chair **Pablo Artal**
- 9:00 to 9:30 **Harilaos Ginis (Invited)**
Optical aberrations and scatter in the human eye
- 9:30 to 9:45 **Salvador Bará**
On the actual and measured statistics of the eye aberrations
- 9:45 to 10:00 **Lourdes Llorente**
Off-axis ocular aberrations in pseudophakic eyes
- 10:00 to 10:15 **Robert Iskander**
On the use of Zernike power polynomials in calculating objective refraction
- 10:15 to 10:30 **David A Atchison**
Aberrations in the horizontal visual field
- 10:30 to 10:45 **Sotiris Plainis**
Modelling the impact of ocular higher order aberrations on Contrast Sensitivity
- 10:45 to 11:15 **Coffee Break**
- Chair **Joe Zhong**
- 11:15 to 11:30 **Franziska G Rauscher**
A cross-sectional study on the influence of acceleration on the eye based on aberration measurements in GAF pilots

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- 11:30 to 11:45 **Sergio O Luque**
A Procedure to Estimate Intraocular Scattering from Combined Hartmann-shack and Double-pass Measurements
- 11:45 to 12:00 **Eloy Villegas**
Aberrations and retinal image quality in subjects with excellent visual acuity
- 12:00 to 12:15 **Harilaos Ginis**
An experimental evaluation of image quality metrics to predict spherocylindrical correction
- 12:15 to 12:30 **Hema Radhakrishnan**
Refractive changes associated with oblique viewing and reading in myopes and emmetropes
- 12:30 to 12:45 **Pablo Rodriguez**
Relative Effect of Scattering and Aberrations in the Ocular MTF in Green Light
- 12:45 to 14:15 **Lunch**
- “Ocular Aberration Dynamics”**
- Chair **Luis Diaz-Santana**
- 14:15 to 14:45 **Karen M Hampson (Invited)**
Ocular Aberration Dynamics: Properties, Origin and Potential Role
- 14:45 to 15:00 **Niall C Strang**
The effect of perceived proximity cues upon accommodation response dynamics
- 15:00 to 15:15 **Steve Gruppetta**
The role of the tear film in dynamic ocular aberrations - an experimental and theoretical study
- 15:15 to 15:30 **Karen M Hampson**
Binocular Shack-Hartmann Sensor
- 15:30 to 16:00 **Coffee Break**
- 16:00 to 16:15 **Alejandro Mira**
High temporal and spatial resolution wavefront sensor for the eye
- 16:15 to 16:30 **Nisha Singh**
Accommodation induced changes in the foveal Stiles-Crawford effect of the first kind
- 16:30 to 16:45 **Hema Radharishnan**
Changes in the static accommodation response and accommodative miosis with age
- 16:45 to 17:15 **Executive Meeting**

SATURDAY

“Advances in Adaptive Optics in the Human Eye”

Chair	Susana Marcos
9:00 to 9:30	Enrique J Fernández (Invited) <i>Adaptive Optics and Chromatic Aberration Correction for Ultrahigh-Resolution Optical Coherence Tomography</i>
9:30 to 9:45	Hongwei Zhang <i>Adaptive Optics with Phase Plate Precompensation Unit for The Retina Imaging System</i>
9:45 to 10:00	Cristina Alvarez Diez <i>ASIC-Hartmann-Shack and Pyramid Wavefront Sensor with Artificial Neural Networks for Adaptive Optics</i>
10:00 to 10:15	Josef Bille <i>Compact Adaptive Optics System for Multiphoton Fundus Imaging</i>
10:15 to 10:30	Nicolas Chateau <i>Experimental assessment of an electromagnetic deformable mirror</i>
10:30 to 11:00	Coffee Break

“Novel Instrumentation and Methodologies”

Chair	Harilaos Ginis
11:00 to 11:30	Steve Gruppette (Invited) <i>Advances in instrumentation for in-vivo retinal imaging</i>
11:30 to 11:45	Alex Corbette <i>Detecting Ocular Aberrations using a Holographic Modal Phase Mask</i>
11:45 to 12:00	Daniel Vazquez <i>Analysis of focusing properties of crystalline lenses with Hole Diffraction Interferometry</i>
12:00 to 12:15	Mikel A Arévalo <i>Retinal image quality based accommodation measurements</i>
12:15 to 12:30	Fernando Diaz-Douton <i>Curvature sensing: a new method for ocular wave-front determination</i>
12:30 to 12:45	Meeting Closure