

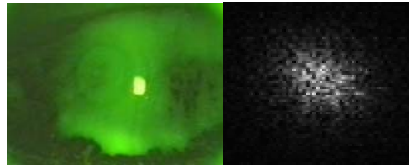


# SEMINARIO DE IMÁGENES Y VISIÓN

## INSTITUTO DE OPTICA (CSIC)

---

### New tools to study tear film optics



**Sergio Barbero, PhD**

Fulbright Postdoctoral Fellow  
Indiana University, USA

#### ABSTRACT

---

Tear film optics play a crucial role in retinal image quality, and it is of special interest in the clinic to understand the problems associated with tear film break up. Nowadays the measurement of the wavefront aberration in the human eye is a well-accepted optical tool, but tear film break up wavefront changes are out of range of the standard aberrometers such as centroid based Hartmann-Shack or laser ray tracing sensing, because of the spatial resolution (~400 microns size of microlens & ~500 microns laser beam size). Strategies are being developed trying to deal with the challenge of reaching CCD pixel size resolution (~2 microns); such as intensity sensing, phase retrieval techniques, PSF deconvolution or quantitative analysis of fluorescence images. A brief discussion on the possibilities of these new techniques will be presented in this talk

---

**Lunes, 4 octubre 2004**

**16:00 horas**

**Sala de Juntas. Instituto de Optica (CSIC) .  
C/ Serrano 121, 28006 Madrid**

**Información:**

Susana Marcos

Instituto de Optica, CSIC

Tel: 915616800 x2306; email: [susana@io.cfmac.csic.es](mailto:susana@io.cfmac.csic.es)

---