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## **Real-time measurement of monochromatic ocular wavefront aberrations: Techniques and its current applications**

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The optical properties of the eye are not static and change continuously over time with factors such as pupil size, the tear film stability and accommodation. Real-time measurement of the monochromatic ocular wavefront aberrations provides insights into the dynamics of the mechanisms that control accommodation. In addition, real-time wavefront analysis can be applied to evaluate the tear film dynamics providing data to understand how the tear film quality and dynamics affects the optical quality of the eye and retinal image quality. This work will review existing techniques to measure time ocular monochromatic wavefront aberrations in real time and will explore some of its clinical applications. Special attention will be given to techniques and studies undertaken at the Centre of Physics of University of Minho.

### **Biography**

Sandra Franco has a degree in Applied Physics – Optics (with specialization in optometry) and completed her PhD at University of Minho in 2005. She is currently an Assistant Professor in the Department of Physics, University of Minho. Her research focuses on the field of Ophthalmic Instrumentation and Visual Optics, particularly in imaging and evaluation of the anterior segment of the eye. She developed further research to assess the impact of ocular accommodation in both ocular and internal aberrations. She has published several scientific articles and book chapters and presented communications in various national and international conferences. She is referee of some scientific journals and was/is part of the research team of national and European research projects.

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