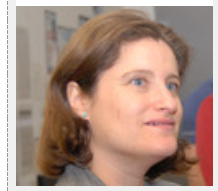


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Latest in vision optics enhances understanding of myopia and presbyopia

One of the world's leading vision scientists, Dr Susana Marcos, has demonstrated how new techniques for investigating vision, currently being developed at the Instituto de Optica in Madrid, may lead to fresh possibilities for the correction of a range of disorders, during a special visit to the Institute for Eye Research recently.



source: IER

Vision science provides an understanding of the eye which underpins all research investigating vision correction technologies. The Institute for Eye Research is currently investing heavily in projects to increase understanding and develop corrective techniques for myopia and presbyopia. Around 1.6 billion people worldwide suffer from myopia (short-sightedness), which is predicted to reach 2.5 billion by the year 2020. Presbyopia occurs when the eye's ageing lens hardens. It affects all people, usually by the age of 45, and means that reading glasses are needed to correct its effects.

Dr Marcos discussed the development of adaptive optics systems, which has enabled investigations into a number of the eye's functions, including the ability to measure the effect of various interventions, such as intraocular lens implantation, to the cornea and crystalline lens. According to Dr Marcos, such advances, which borrow but extend on advanced design aspects from astronomical telescopes, allow researchers to measure and modify aberrations that occur in the eye. Aberrations are defects of the eye that interfere with good vision. Because they are continuously and sometimes rapidly changing, the ability to measure and correct them 'in synch' with the eye is a major advantage. The use of these advanced systems can also facilitate an understanding of the effect of correction devices on vision in a way that has not previously been possible using conventional technologies.

According to Dr Arthur Ho, Executive Director of Technology at the Institute for Eye Research, the new technique presented by Dr Marcos has the potential to significantly enhance our understanding of how to optimise vision correction solutions. "Within the vision science community, we are already seeing the early benefits that can be derived from the application of such systems. We can look forward to more breakthroughs in understanding how the eye works."

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