

2007 Research Days Abstract Form – Department of Ophthalmology – UNIFESP/EPM

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): Review the Scientific section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract

BE

3. PRESENTATION PREFERENCE (REQUIRED) Check one (1)

(a) Poster

(b) Poster

4. The signature of the First (Presenting) Author, (REQUIRED) acting as the authorized agent for all authors, hereby certifies. That any research reported was conducted in compliance with the Declaration of Helsinki and the 'UNIFESP Ethical Committee'



Signature of First

Scientific Section Descriptions

- (OR) ORBIT
- (PL) OCULAR PLASTIC SURGERY
- (RE) RETINA / VITREOUS
- (RX) REFRACTION-CONTACT LENSES
- (NO) NEURO-OPHTHALMOLOGY
- (TU) TUMORS AND PATHOLOGY
- (ST) STRABISMUS
- (UV) UVEITIS
- (LS) LACRIMAL SYSTEM
- (LV) LOW VISION
- (CO) CORNEA / EXTERNAL DISEASE
- (GL) GLAUCOMA
- (RS) REFRACTIVE SURGERY
- (CA) CATARACT
- (US) OCULAR ULTRASOUND
- (TR) TRAUMA
- (LA) LABORATORY
- (BE) OCULAR BIOENGINEERING
- (EP) EPIDEMIOLOGY
- (EF) ELECTROPHYSIOLOGY

Deadline: 29/10/2007

FORMAT:
Abstract should contain:
Title, Name of Authors, Name of other authors (maximum 6), Purpose, Methods, Results, Conclusions.
Example: ARVO (1.10 x 1.70) Abstract Book

1. FIRST (PRESENTING) AUTHOR (REQUIRED)
Must be author listed first in body of abstract

() R1 () R2 () R3
(X) PG0 () PG1 () Estagiário () Tecnólogo () PIBIC

KRONBAUER / AIRTON LEITE

Last Name	First	Middle
<i>Department of Ophthalmology</i>		
<i>UNIFESP / USP-IFSC / BIOENGINEERING</i>		<i>1102/06</i>

Service (sector) _____ Nº CEP _____

Title
Measurement of sight with psychophysical tests: study, standardization and construction of digital equipment.

Sector and University
University Federal of São Paulo - Department of Ophthalmology (UNIFESP)
University of São Paulo - São Carlos Physics Institute - Optic Group (USP-IFSC)

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Purpose
In ancient times there were already references of measuring the sharpness of vision by the ability to resolve double stars. Around 1850 major changes started to happen in ophthalmology. In 1854, Eduard von Jaeger in Vienna published a series of reading samples. In 1861 Franciscus Cornelis Donders, professor of physiology in the Medical School of Utrecht University, proposed a formula defining the "sharpness of vision". First of all, Donders defined a standard of measurement. He defined a "standard eye" as capable of recognizing letters that are 5' high. Donders had chosen Herman Snellen as his co-worker, who would later become his successor. Snellen introduced his letter charts in 1862.

Since then the method Donders and Snellen became the main form of measuring the vision in ophthalmology worldwide. More than 140 years old this simple method of measuring doesn't possess the capacity to differentiate small variations in the visual quality. More than in previous years, the necessity of current ophthalmology practice is to quantify the small variations in the medical procedures with the new technologies of ocular aberration measurements. Our objective is to study, standardize and construct new digital equipment incorporating the new technologies.

Methods
A computational device that generates visual stimulus has been constructed. The visual stimulus is dynamic. The sinusoidal frequency is changeable being modified by the psychophysical response of the examined individual. The modifications of frequency and amplitude will be computed by software. The psychophysical results will be compared with objective data of ocular measurements.

Results
The study is in its intermediate phase. The project platform hasn't been totally standardized yet. Nevertheless it's possible to accomplish the first measurements of the visual quality of the eye of voluntary subjects and understand its principles.

Conclusions
With a simple idea and computerized equipment the researchers seek for creating a new and precise technique to measure visual quality.