

**Dottorato di Ricerca in Fisica dell'Università degli Studi di Messina**  
**22 Febbraio 2011, ore 15.00, Aula E. Majorana, Dip.to di Fisica,**  
**V.le F. Stagno d'Alcontres 31, S. Agata, Messina**

**Prof. C.A. Squeri, Prof. V. Candela, Dott. J. Trombetta, Dott. A. M. Roszkowska**  
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Seminar title:

**“Clinical applications of the different laser platforms in ophthalmology”**

**Abstract**

The purpose of this seminary is to present the clinical applications of the different lasers in ophthalmology.

The following lasers will be presented:

**Femtosecond lasers.**

This kind of lasers is characterized by ultrashort pulses. They perform horizontal or vertical corneal cuts and are used in corneal and refractive surgery. They are adopted in corneal lamellar keratoplasty and in refractive surgery.

**Excimer laser and solid state laser.**

The characteristics of these lasers are used to modify the anterior corneal shape. Flattening or stepping of the corneal surface permit to correct existing refractive errors, so such lasers are widely used in corneal refractive surgery.

**Argon laser and diode laser**

These lasers perform retinal photocoagulation. They create retinal scars with effect on retinal pathologies such as diabetic retinopathy, retinal ruptures or holes and degenerations.

**NdYAG laser.**

It is above all a disruptive laser used to treat secondary cataract performing posterior capsulotomy. It is also adopted to resolve an angle closure glaucoma by localized iridotomy (puncture-like openings through the iris without the removal of iris tissue).