UNIVERSITY OF GENOA
DEPARTMENT OF INFORMATICS, BIOENGINEERING, ROBOTICS AND SYSTEMS ENGINEERING
MASTER'S PROGRAM IN BIOENGINEERING

Thesis Project Form

Title (tentative): In vitro study of the efficiency vitreous cutter systems

Thesis advisor(s): Repetto Rodolfo, Carassale Luigi

E-mail: Rodolfo.Repetto@unige.it

Address: Laboratorio di Idraulica Enrico Marchi (zona Villa Cambiaso)

Phone: (+39) 010 33 52471

Description

Motivation and application domain

Vitrectomy is a surgical procedure during which the vitreous humour is removed from the eye. To this end surgical tools are adopted, named vitreous cutters. One of the key requirements for an efficient procedure is minimisation of pressure fluctuations in the eye during surgery.

General objectives and main activities

The proposed study is aimed at reproducing in vitro a full surgical procedure and investigate the efficiency of a vitreous cutter system (that will be provided by the producer) in compensating pressure changes within the eye.

Training Objectives (technical/analytical tools, experimental methodologies)

The student will learn basic experimental techniques and will also write and use a software to analyse the pressure signals.

Place(s) where the thesis work will be carried out: DICCA - DIME

Additional information

Pre-requisite abilities/skills: Basic knowledge of fluid mechanics and experimental techniques.

Maximum number of students: 1