

# Brain Awareness Week 2010 Report

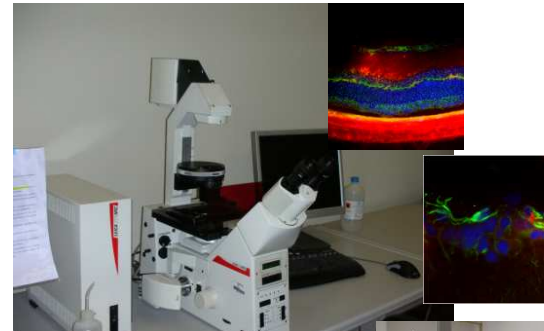
Ocular and Brain Pharmacology and Experimental Therapeutics Group  
Institute of Biomedical Research in Light and Image (IBILI), Faculty of Medicine,  
University of Coimbra

**Coordination:** António Francisco Ambrósio

**14 - 20 March 2010**

# Activities

## Visiting the Lab



## Researchers go to School

# Visiting the lab

Escola Secundária Amato Lusitano, Castelo Branco

*How to measure the electrical activity of the retina?*

March 16<sup>th</sup>, 2010

## Researchers involved

Ana Raquel Santiago

Ana Batista

A grayscale micrograph of retinal tissue, showing a dense network of branching, light-colored structures (likely retinal vessels or nerve fibers) against a darker, more textured background. The branching pattern is complex and fills the entire frame.

**We proposed to host visiting scholars, age ranged 16-18 years old. The activities were focused on the retina.**

**The activities included:**

- Presentation focusing on structure and anatomy of the retina, principles of electroretinography and clinical applications of electroretinography
- Visit to the cell culture room
- Observation of retinal neuronal cell cultures
- Electroretinography
- Measurement of intraocular pressure



# Activities

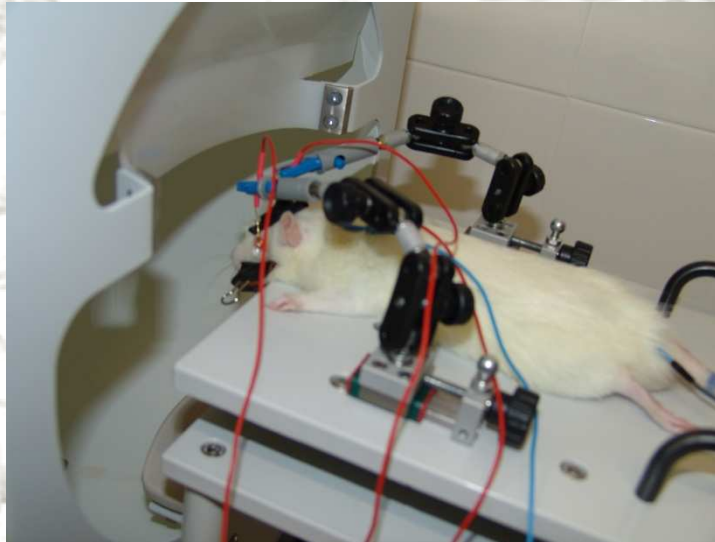
## Introductory lecture



## Handling of animals



## Electroretinography



## Students and professors



# Visiting the lab

Colégio Internato dos Carvalhos, Vila Nova de Gaia

*How to measure the electrical activity of the retina?*

March 16<sup>th</sup>, 2010



## **Researchers involved**

**Francisco Ambrósio**

**Ana Raquel Santiago**

**Ana Batista**

A grayscale microscopic image of neural tissue, showing a dense network of branching, fiber-like structures. The fibers vary in thickness and orientation, creating a complex, web-like pattern. Some fibers appear more prominent and thicker than others. The background is a light gray, and the overall texture is intricate and organic.

**We proposed to host visiting scholars, age ranged 16-18 years old. The activities were focused on the retina.**

**The activities included:**

- Lecture “Retina: an open door to the brain”
- Presentation focusing on structure and anatomy of the retina, principles of electroretinography and clinical applications of electroretinography
- Visit to the cell culture room
- Observation of retinal neuronal cell cultures
- Electroretinography
- Measurement of intraocular pressure

# Activities

## Lecture “Retina – an open door to the brain”



## Visit to the cell culture room



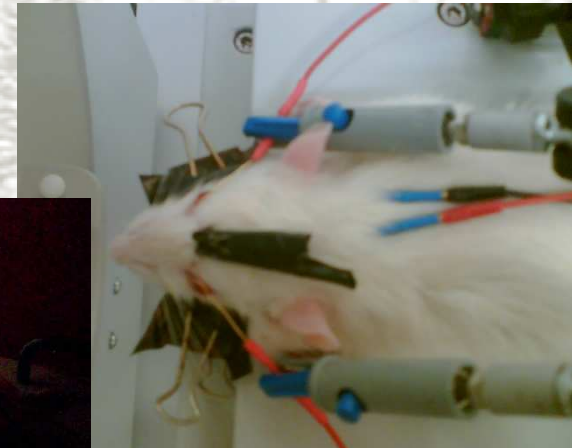
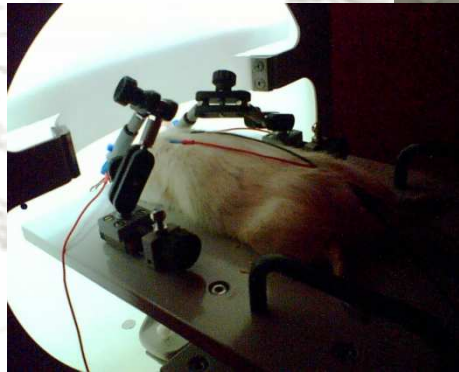


# Activities

## Measurement of intraocular pressure



## Electroretinography



## Students and professors





# Visiting the lab

Colégio Internato dos Carvalhos, Vila Nova de Gaia

*The curious relationship between the retina and the brain*

March 16<sup>th</sup>, 2010

## **Researchers involved**

**Francisco Ambrósio**

**Andreia Gonçalves**

**Patrícia Garrido**

**Rosa Fernandes**

A grayscale micrograph of a retinal section. The image shows a dense network of cells and fibers. A prominent, horizontal band of cells, likely the photoreceptor layer, runs across the middle of the frame. Above and below this band, there are various other cellular structures, including what appear to be larger, more rounded cells and thinner, more elongated fibers. The overall texture is complex and granular.

**We proposed to host visiting scholars, age ranged 16-18 years old. The activities were focused on the retina.**

**The activities in the lab included:**

- Presentation about the eye and ocular diseases
- Dissection of rat eyes
- Retina sections staining
- Fluorescence microscopy
- Visit to an Animal Facility

# Visiting the labs



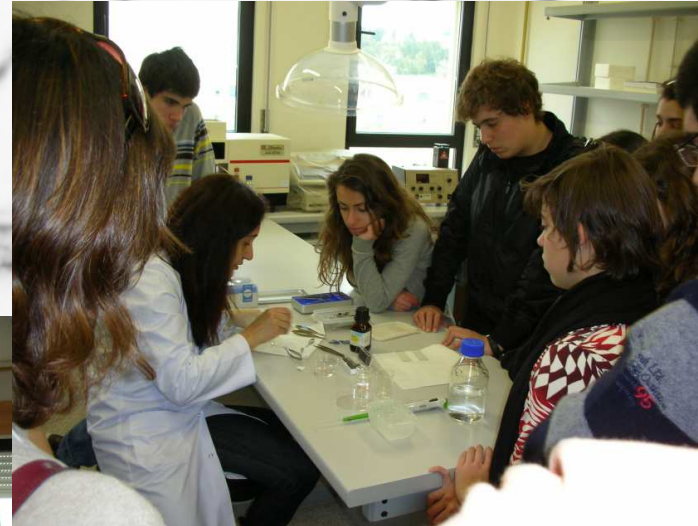


# Activities

**Dissecting an eye**



**Whole mount retinal preparation**



**Retinal vasculature observation**





# Visiting an experimental Animal Facility



**Talking about animal care and maintenance**



# Animal manipulations



**Animal restraint handling**



# Visiting the lab

Escola Secundária da Moita, Moita

12º Ano

*The effect of alcohol in motor coordination*

March 18<sup>th</sup>, 2010

## Researchers involved

Ana Paula Silva

Joana Gonçalves



# Activities

## Seminar – Drugs of Abuse and the Brain



## Behaviour studies – Rotarod Test





## Dissecting the mouse brain



## Brains slices and neuronal cells observation



# **Researchers go to school**

Escola EB1 de Montemor-o-Velho, Montemor-o-Velho

**March 19<sup>th</sup>, 2010**

## Researchers involved

Ana Paula Silva

Joana Gonçalves

Ana Marta Romão

Raquel Cerejo

Andreia Gonçalves

Rosa Fernandes

Andreia Melo

We proposed an organized classroom visit to the school, age ranged 8-10 years old. The activities were focused on the brain and the eye.

After a presentation about brain and eye anatomy and function, we planned and prepared the following activities

- paintings
- word search
- connecting the dots
- puzzles
- memory games, among others

## Talking about the brain and the eye



## Starting the activities...







**Capturing the kids interest and awareness for the body-related topics**



## Painting the brain



## Learning about the eye components

**A fortunate journey motivated by the curiosity and interest of the kids**



# **Researchers go to school**

Escola Secundária de Oliveira do Bairro, Oliveira do Bairro

**March 25<sup>th</sup>, 2010**



# Lecture “The retina - an open door to the brain”

António Francisco Ambrósio

