Course Name: **Translational Research in Retinal Degenerative Diseases**

Date (Please refer to the calendar of the PhD programme): **14-18/03/2011**

Organizer: Dr. Paulo Pereira, Prof. Conceição Lobo, Prof. José Cunha-Vaz

Email: cunhavaz@aibili.pt

**NOTE:** Courses with a theoretical component should typically have a duration of one week and courses with a practical component should have a duration of two weeks

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**Background and Goals:**

Since the World Health Organizations (WHO) estimates of the 1990s, new data based on the 2002 global population show a clear increase in the number of people who are blind from conditions related to longer life spans.

This new information underscores the need to modify the international healthcare and research agenda to now include the management of these age related diseases. According to WHO:

- Globally, in 2002 more than 161 million people were classified as visually impaired: 124 million people had low vision and 37 million were blind.
- Among the blind community internationally, an average of 3.4 people out of every 100 have low vision, with country and regional variation ranging from 2.4-5.5 people out of every 100.

The aforementioned figures are the first global estimates since the early 1990s and thus, are the most reliable scientific source for understanding the global impact of visual impairment (cited by WHO).

The WHO estimates that, globally, up to 75% of all blindness is avoidable. The proportion of the specific causes of blindness varies considerably from region to region, depending on local circumstance. However, only about half of the cases of childhood blindness are avoidable.

According to Trautner et al. (Invest Ophthalmol Vis Sci. 2003;44:1031-1034) **Age-Related Macular Degeneration (AMD)** is the leading cause of blindness, followed by Diabetic Retinopathy (caused by secondary changes of the visual system due to systemic diabetes) and Primary Open-Angle Glaucoma (POAG).

These diseases are age-related diseases. The prevalence of these diseases will rise steadily in the European countries due to the ageing population. It is estimated that in 2050, half of the population will be older than 48 years and a third will be older than 60 years ([www.destatis.de/basis/d/bevoe/bevoegra2.htm](http://www.destatis.de/basis/d/bevoe/bevoegra2.htm)). An estimated 8% incidence of advanced AMD in people older than 75 indicates a public health problem of significant proportions ([Klein, R. et al. Fifteen-year cumulative incidence of age-related macular degeneration: the Beaver Dam Eye Study. Ophthalmology 114, 253-262 (2007)](http://www.clinicalkey.com/#!/content/citation/690948173)).

It is urgent to address these eye diseases in a pragmatic patient-oriented strategy, to develop patient-oriented research, i.e., translational research.

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**Faculty (name and affiliation of the lecturers of the Course):**

José Cunha-Vaz - FMUC, Coimbra

Rufino Silva, FMUC, Coimbra

Carla Bento - FMUC, Coimbra (in replacement of Paulo Pereira)

Francisco Ambrósio - FMUC, Coimbra

Rui Bernardes - FMUC, Coimbra

Conceição Lobo - FMUC, Coimbra

Rick Ferris - National Eye Institute, Bethesda, MD, USA

Ronald P. Danis – University of Wisconsin / Wisconsin Fundus Photography Reading Centre, Madison, USA

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**Evaluation dates (Please indicate dates for First and Second Evaluation periods):**

Evaluation at the end of the course;

23-27May – 2nd evaluation for improvement.

**Form of evaluation:** Attendance, participation and intervention, Journal Club Presentation, Written Essay
**PhD Course on Translational Research in Retinal Degenerative Diseases**  
**14-18 March, 2011**

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**Written Essay** (to be delivered by the students by March 21, 2011)  
Outline of a project for translational research on a retinal degenerative disease (DR or AMD)

**References** (Please indicate and attach up to a maximum of 8 bibliography references):