

APPENDIX III

REPORT OF POST-GRADUATION 2010

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1. Post-graduation: Master and PhD programs

The School of Health Sciences formally started to offer master and PhD programs, in accordance with the Bologna legislation, in the academic year 2009/2010. Specifically, the School presently offers a Master program in Health Sciences, a PhD program in Health Sciences and a PhD program in Medicine, in which 12, 11 and 11 students enrolled in the present academic year. Of notice, the PhD program in Health Sciences shares with the Medical School of the University of Coimbra and with the Faculty of Medical Sciences, New University of Lisbon an inter-institutional program in Aging and Degeneration of Complex Biological Systems, in which students from the three universities rotate for advanced courses and laboratory rotations; this program counted with 6 students, two of which from our school. The programs include a first curricular year composed of advanced courses (for which the list of 2009/2010 is specified in #2) and laboratory rotations (for which the themes proposed in the present academic year are listed in #3), which is then followed by the preparation of the thesis project and launching of the thesis project. For each laboratory rotation a specific set of skills is established. Within the MD/PhD program, 14 students from the 1st to the 4th year participated in summer laboratory rotations. One student formally registered in the MD/PhD program. Of notice, the two students that first joined the program successfully defended their PhD thesis in December 2010. This happening is to highlight since it represents the first Portuguese students to be awarded a PhD degree completing the MD degree. Of notice this was accomplished in 3 years, with publications as first authors of original articles in international recognized journals. Presently the program has 3 students developing their PhD theses.

2. Advanced courses

The postgraduate offer of ECS has been diversified in recent years with a substantial increase in courses and workshops dedicated to the highly specialized training of medical doctors and researchers in the biomedical sciences. In the year 2010, the international postgraduate program offered by ECS included 26 courses, from which 7, also opened to external participation, were part of formal programs of doctoral and master's degrees. Below are listed all the courses and workshops proposed for 2010. Detailed information on the courses and workshops is available at www.ecsaude.uminho.pt/pg.

RESEARCH METHODOLOGIES (1st Edition)

Manuel João Costa

January 4-15

LEADING THE PATHWAY IN CATARACT SURGERY: LAST GENERATION OF ACCOMMODATIVE LENS

Vitor Soares, Fernando Silva, Nuno Sousa

February 6

INTERNATIONAL HANDS-ON COURSE IN FETAL AND NEONATAL ENDOSCOPIC SURGERY (2nd Edition)

Jorge Correia-Pinto, Tiago Henriques-Coelho

March 8-10

HANDS-ON COURSE IN GYNECOLOGICAL LAPAROSCOPY (2nd Edition)

Jorge Correia-Pinto, João Bernardes

March 11-13

MINIMALLY INVASIVE UROLOGICAL SURGICAL WEEK

Estevão Lima, Riccardo Autorino, Jorge Correia Pinto

March 15-19

DRUGS AND THE BRAIN: AN UPDATE IN PSYCHOPHARMACOLOGY

An European Neuroscience Schools Course (EURON)

Joana Palha, Nuno Sousa

March 22-26

AN INTEGRATIVE APPROACH TO CELL ANALYSIS: CELL AND TISSUE CULTURE, FLOW CYTOMETRY AND MICROSCOPY

António Salgado, Margarida Saraiva, Paula Ludovico, Margarida Correia Neves

April 6-16

DRUG: FROM MOLECULE TO THERAPEUTICS

Fátima Baltazar, José Miguel Pêgo

April 9-10

HOST-PATHOGEN INTERACTION

Gil Castro, Jorge Pedrosa, Margarida Saraiva

April 19-23

HOW TO DEAL WITH RADIOACTIVE MATERIAL: COURSE FOR LABORATORY RESEARCHERS

Fátima Baltazar

May 3-5

METHODS OF DNA ANALYSIS: STATE OF THE ART

In collaboration with the Department of Biology, ECUM

Patrícia Maciel, Fernando Rodrigues, Rui Reis, Dorit Schuller, Célia Pais

May 17-28

HANDS-ON COURSE: FUNDAMENTALS IN ARTHROSCOPY

Rui Cerqueira, Rui Duarte, Nuno Ferreira, Ramiro Fidalgo
May 21-22

FUNDAMENTALS IN NEUROSCIENCE (3rd Edition)

José M. Pêgo, João C. Sousa, João Cerqueira
September 13-24

MICROSURGERY ANASTOMOSIS (2nd Edition)

Nuno Sevivas, Mário Oliveira, Pedro Leão
September 23-25

HANDS-ON COURSE: SULCI, GYRI, VENTRICLES AND DISSECTING FIBERS (8th Edition)

Nuno Sousa, Carlos Alegria, Evandro de Oliveira
September 27 - October 1

FUNDAMENTALS IN IMMUNOLOGY AND INFECTION (2nd Edition)

Paula Ludovico, Gil Castro
September 27 - October 8

FUNDAMENTALS OF GENETICS, DEVELOPMENT AND NEOPLASIA (2nd Edition)

Jorge Correia-Pinto, Raquel Andrade, Rui M. Reis
October 11-22

HANDS-ON COURSE IN DIGESTIVE LAPAROSCOPY

Novo de Matos, Jorge Correia-Pinto
October 11-13, 2010

HANDS-ON COURSE IN THERAPEUTIC ENDOSCOPY

Carla Rolanda, Jorge Correia-Pinto
October 14-15, 2010

HANDS-ON COURSE IN BILIARY LAPAROSCOPY

Jaime Vilaça, Daniela Sá Leão, Jorge Correia-Pinto
October 25-27, 2010

BIostatISTICS IN HEALTH SCIENCES (2nd Edition)

Pedro Oliveira
October 25 - November 5

ENCONTROS DE ONCOLOGIA, ESTADO DA ARTE

– *Cancro do Pâncreas* –

Rui Reis, Herlânder Marques

November 6

LABORATORY ANIMAL SCIENCE (6th Edition)

(according to FELASA category C recommendations)

Magda Carlos, Margarida Correia Neves

November 8-19

RESEARCH METHODOLOGIES (2nd Edition)

Manuel João Costa

November 22 - December 3

BIOINFORMATICS IN HEALTH SCIENCES (2nd Edition)

Raquel Andrade

December 6-17

Courses postponed

DIGESTIVE ANASTOMOSIS IN ANIMAL MODEL (2nd Edition)

António Mesquita Rodrigues, Braga dos Anjos, Sandra Martins, Pedro Leão

November 22-23

2.1 Sponsors

To run the international postgraduate programme, we obtained financial support from several companies: Baptista Marques, BioPortugal, Calouste Gulbenkian Foundation, Enzifarma, Luso-Americana Foundation, Olympus, Roche, Sarstedt, Tadinense and VWR International. We are grateful to our sponsors for the helpful contribution for this international program of courses and workshops in biomedical sciences.

2.2 Global Assessment

In 2010 the International Postgraduate Programme included novel courses in diverse scientific areas and also new editions of courses that have been very successful in previous years and that continue to represent areas of demand among the participants.

The main goal of the post graduation at ECS is to offer a highly specialized training for medical doctors and investigators in biomedical sciences as well as to improve and promote the medical education, an emergent research area that aims to improve individual's abilities to teach. Therefore, we intend to continue offering training in multiple areas through the organization of novel courses every year, but also by promoting additional editions of courses for which the demand is evident.

2.2.1 Participants Background

In 2010, we have a total of 507 participants in the courses and workshops. Figure 1 presents the participant's professional background distribution in 2010. During the year 2010 the vast majority of the participants have as background "Biological Sciences" but it is grateful to realize that the ECS courses and workshops have attracted a considerable number of clinicians, which we intend to promote further.

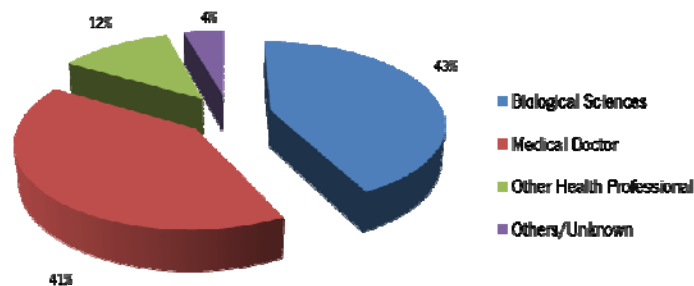


Figure 1 - Background distribution of the participants ("Other Health Professionals" include participants having as background pharmacy, psychology or clinical analysis and public health; "Others" include participants having as background polymer, biotechnological, biological, food technology or chemical engineering).

The participants belong to different national and international institutions as presented in Figure 2.

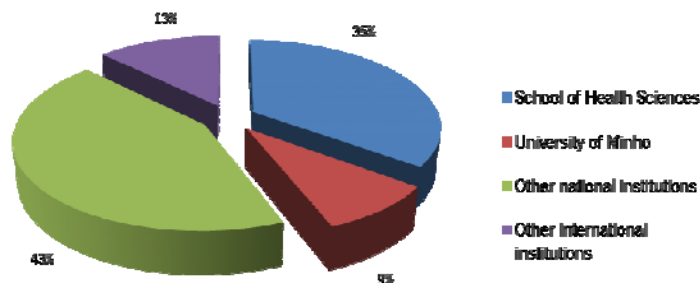


Figure 2 – Participants affiliation.

The vast majority of the participants belong to University of Minho and to Portuguese Institutions other than the University of Minho, which is very representative of the growing acceptance of our programme in the national biomedical research and medical communities. Of relevance, 13% of the participants originate from foreign institutions, which highlight the ability of the program to attract as well investigators and medical doctors from other countries.

2.2.2 Evaluation Results

A questionnaire was filled by 389 out of the 507 total participants to evaluate several aspects of each course. The overall evaluation provided the results presented in Figure 3: excellent (34%), Very good (44%), Good (18%), Sufficient (3%), Weak/Poor (1%).

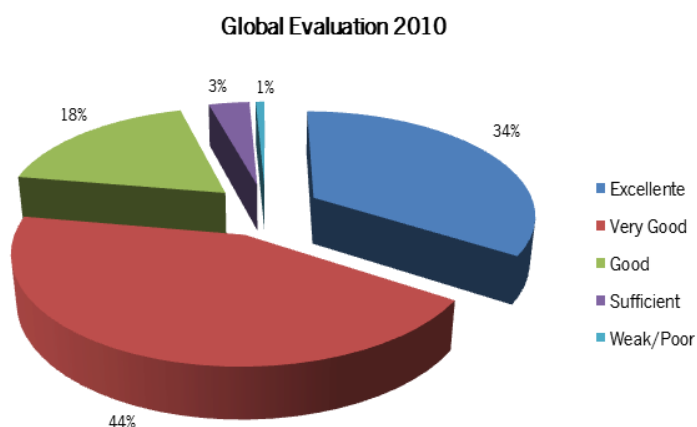


Figure 3 – Evaluation results.

In most cases, participants considered that the courses should be repeated in years to come, and would recommend it to a peer, which represents a great incentive to continue and consolidate the programme.

3. Laboratory rotations

The laboratory rotations were offered from the three research domains at the Life and Health Sciences Research Institute, which is a research unit, part of the School, rated as Excellent by the Portuguese Science Foundation evaluation panel. In justified instances, students could choose external laboratories for their laboratory rotations.

Students were given the opportunity to choose among the following options:

Microbiology and infection Research Domain

- Role of IL-17 and IL-10 in intramacrophage mycobacterial growth
- Evaluation of virulence factors among Asiatic Mycobacterium tuberculosis strains
- Molecular mechanisms of IL-10 gene regulation
- Impact of the lipidic toxin mycolactone in the effector mechanisms of phagocytes
- Study of the toxicity promoted by the expression of α -synuclein in yeast aged cells: the role of the autophagic pathway
- Hsp90 chaperone a IRES-mediated regulator of apoptosis in mammalian and yeast cells
- Towards a molecular system in Paracoccidioides brasiliensis: downregulating the end-joining pathway
- Differential response to Candida albicans and C. non-albicans of human cells carrying the Asp299Gly polymorphism in TLR4
- Yeast model of Batten disease: response to stress agents
- Nitric oxide synthase expression during embryonic neurodevelopment in the Cln3 Δ ex7/8 mouse model for Batten disease
- Infection of the thymus by mycobacteria: is the thymus able to mount an immune response?
- How (in)dependent are the effects of corticosterone and cytokines in depression?

Neurosciences Research Domain

- Choroid plexus in multiple sclerosis: neuroprotective or neurodeterimental?
- The choroid plexus as an immune-sensor for the brain
- Combinatory effect of temozolomide with anti-RTKs drugs in glioblastomas
- Influence of HOXA9 expression in the cellular response to chemotherapy
- Relevance of HOXA9 expression in the prognosis of glioblastoma patients
- Studying the specificity of nanoparticle based systems for targeted drug delivery in microglial cells
- Modulation of Schwann cell growth by FMSS based scaffolds aimed at SCI regeneration

- Effects of the secretome of criopreserved and non-criopreserved human umbilical cord stem cells on central nervous system cells
- Genetic study of X-linked mental retardation (XLMR): validation of a gene panel for diagnosis --
- Molecular determinants of ataxin-3 knockouts thermoresistance phenotype
- Phenotypical characterization of *C. elegans* Isu1-deficient animals
- C. elegans* as a model to unravel the molecular and cellular basis of epilepsy
- Insights into the pathogenesis of Machado-Joseph disease: study in a transgenic mouse model -
- Modeling Machado-Joseph disease pathogenesis in *C. elegans*: search for modifier genes
- Identification of compounds that modulate ataxin-3 aggregation and neurological dysfunction in a *C. elegans* model of Machado-Joseph disease
- Characterization of neudesin ontogenic and histological expression profile
- Neudesin impact in the nervous system – behavioural and structural studies in neudesin-null mice
- Novel mechanism of stress-induced mood and cognitive dysfunction – the path from depression to Alzheimer’s Disease
- Gender-dependent neurodegenerative role of stress: A link between stress and human tauopathies
- Antenatal exposure to dexamethasone increases susceptibility to addiction: molecular and neurochemical correlates
- Understanding the neuronal substrate of probabilistic decisions in rats
- How does cognitive stimulation work?
- Divergence and convergence on neural pathways implicated in pain processing
- The effect of chronic corticosteroid administration upon descending pain modulation mediated by the hypothalamus
- The role of hypothalamic plasticity in depression
- The cognitive role of hippocampal neurogenesis in depression

Surgical Sciences Research Domain

- Endothelium-derived factors as modulators of fetal lung growth: a strategy looking for a therapy for congenital diaphragmatic hernia
- Molecular mechanisms of temporal-spatial control of embryonic lung development
- One step forward on the dissection of the embryonic molecular clock mechanism
- Role of MAPK signaling pathway activation in solid tumors
- Characterization of the metabolism in MCT positive cancer cells
- Sensitivity of cancer cells to MCT inhibitors
- Study of genetic susceptibility factors for solid cancer development