School of Health Sciences

ANNUAL REPORT

2009

University of Minho

1. INTRODUCTION

The School of Health Sciences (ECS) has graduated the third cohort of medical students in October 2009. This moment, despite its repetition in time, should be viewed as a milestone for any educational community: for the ECS, it represents the transition from the implementation to the consolidation period. It renovates the sense of achievement, but also the need for continuous improvement.

In a permanent commitment to set the benchmark of quality at the highest international level, the ECS has promoted several important educational and research initiatives. At the educational level, the collaborative effort with the National Board of Medical Examiners (USA) was pursued so that every Minho's medical students can participate in an international experience of assessment of clinical knowledge (along with students from Medical Schools from Italy and Belgium). The performance of our students was extremely positive, which reassured the quality of the educational programme with an international benchmark. This result is in accordance with a highly satisfactory performance of our graduates at the national selection examination (5% above mean national scoring in 2008). As a note, the ECS is putting a great effort to establish a new model for the national selection exam, based on the previous experience acquired with this collaboration.

The expansion of the clinical skills laboratory, with the financial support of Fundação Calouste Gulbenkian, also deserves mention. This laboratory, that involves the collaboration of a significant number of clinicians and standardized patients, represents a significant evolution in the learning/training of clinical skills at the ECS. It is open on a daily basis after the end of the scheduled curricular activities. Several hundreds of students have attended the voluntary training sessions, leaving overwhelmingly positive appreciations.

The Life and Health Sciences Research Institute (ICVS) is a research Unit fully integrated in the ECS, formally recognized by the Portuguese Foundation for the Science and Technology (FCT) in 2003. The ICVS was created to develop biomedical, translational and clinical research with relevant impact at regional, national and international levels. Since 2008, the ICVS is installed in a 6000 m2 area and its research activities focus on the following themes: (i) Microbiology and Infection, (ii) Neurosciences and (iii) Surgical Sciences, assuming a relevant impact at national and international level as highlighted by the maximum grade of "Excellent" granted by the FCT's International Evaluation Panels (in 2003 and in 2008). The quality and impact of the ICVS scientific production has been

increasing progressively. In the present year, 76 papers were published in international journals (with an average impact factor of 4.64), including two papers in the highly recognized journal “Science”, as well as three book chapters. In 2009, the work developed at ICVS resulted in the conclusion of seven PhD theses. As an important achievement of 2009, the ICVS was able to capture a significant amount of external/competitive funding, not only from FCT but also from European FP7 as well as from International Foundations.

Importantly, in 2009 a formal PhD and Master programme was for the first time offered by the ECS. This experience represented a new educational challenge for the ECS/ICVS that was viewed as an opportunity to establish innovative training programs. Obviously, this new effort did not interfered with the continuation of the MD-PhD program, with new students starting their post-graduation activities at Columbia Medical School - New York. Of notice, at this interface between medical education and research, we kept a high percentage (for national standards) of Minho’s students enrolled in research activities.

The detailed data on the scientific and pedagogical activities in 2009 is presented as usual in the autonomous reports. The present report is intended as a summary of those activities, giving an overall view of the School’s organisation and its main strategies and progresses.

Nurturing the Faculty has been one key aspect of the ECS academic project and the School persists in the ongoing policy for faculty development. A permanent attention has been devoted to the renewal and improvement of the scientific and pedagogic qualities of the staff. The ECS has continuously monitored the performance of every staff member in several academic domains (scientific, pedagogic and managerial). A similar monitoring policy has been put forward in what regards the non-academic staff.

It is of relevance to mention here the positive impact resulting from the construction of the new Hospital of Braga in close vicinity of the Gualtar University Campus (whose conclusion is scheduled for May 2011). This 700 bed facility will create new educational and scientific opportunities. As an illustration, we have created in 2009 a Clinical Academic Centre (joint collaboration between the ECS/ICVS, Hospital de Braga and Alumni Medicina) – this initiative will hopefully represent a great stimulus to promote clinical research activities with international impact.

A note to mention that the interplay with the new Hospital (the first public-private partnership in Portugal with a Medical Course affiliated) demanded new forms of linkages between these two

partners. So far, the interactions have been extremely positive and innovative strategies are expected to be generated by the partnership. This had no detrimental impact on the affiliations with other healthcare institutions as the School kept its investment in the reinforcement of the interactions with the other main Hospital partner (Centro Hospitalar do Alto Ave-Guimarães) and even expanded the interaction with the Unidade Local de Saúde do Alto Minho (Viana) in the scope of the undergraduate clinical training and research activities.

From the financial perspective, 2009 has been a very difficult period for the University as a whole, and as a consequence for the Medical School. An extremely rigorous financial management mitigated the detrimental impact of reduced budgets; in fact, the careful management of the financial resources by the ECS and institutional support of the University of Minho, not only offset some of the external inconveniences but also assured the conditions for the development, and subsequent consolidation, of the ECS project.

As a final note in this introduction, it is important to mention that we are very proud of the significant and meaningful achievements of the ECS project in 2009. We believe that these achievements make the founders' dreams a reality!

2. PLANS AND STRATEGIES FOR 2009

2.1 Objectives and Policies

The main objectives established for 2009 were to consolidate the undergraduate medical programme and the ECS/ICVS infrastructures, and to sustain and nurture the School's dynamics, reinforcing research projects and admitting new undergraduate entering classes.

The principal aims and strategies for that effect were:

- to pursue the continuous improvement of the pedagogic and scientific quality of the ECS project;
- to review the undergraduate curriculum, based on the experience of previous editions;
- to actively pursue an increase in the number of the students (recruited regionally and nationally) that, based on the specificities of the curriculum/project, apply to the undergraduate medical program of the ECS-UM;
- to expand the post-graduation activities, with the creation of formal Master and PhD programmes;
- to attract new researchers and to maintain the ongoing focus on promoting a steady participation of the academic staff in research projects and;
- to recruit and train new staff members and to increase and diversify faculty development initiatives;
- to continue our commitment to promote the development of the non-academic staff of the ECS;
- to equip the facilities in order to maintain, or even to improve, the quality of the facilities for pedagogic and research activities;
- to continue and, if possible, strengthen, the dialogue with the national health system (Ministry, Regional and Sub-Regional Administration, Hospitals, Health Centres) and to formalize the necessary links and cooperation within the legal framework applying to the health services with undergraduate medical teaching;
- to elaborate the new Statutes of the School adjusting them to the new legal framework, and towards increased functionally-oriented organisation;
- to support the operation of the external governing bodies, paying special attention to the monitoring and improvement of quality.

2.2 The new ECS's Statutes

In 2009, a Statutory Assembly devoted exclusively to the drafting of the ECS statutes was established. This committee, presided by the ECS President, was integrated by representatives of the different ECS members, elected by their peers and approved by the Rector of the University.

The members of this Statutory Assembly were:

Maria Cecília de Lemos Pinto Estrela Leão – President

Representatives of the faculty and researchers

Jorge Manuel Rolo Pedrosa

António Gil Pereira de Castro

Fernando José dos Santos Rodrigues

Joana Almeida Santos Pacheco Palha

Nuno Jorge Carvalho Sousa

Paula Cristina Costa Alves Monteiro Ludovico

Manuel João Tavares Mendes da Costa

Maria Margarida Teles Vasconcelos Correia Neves

Representatives of the students

Luísa Eça Guimarães Gonçalves de Azevedo

Sónia Macedo Martins Duarte

Representative of the non-academic staff

Maria Paulina Dias Martins dos Santos

2.3 Organization and Management

At present (March, 2010) the governing bodies of the ECS are:

Directive Board

The present composition is the following:

- *Maria Cecília Lemos Pinto Estrela Leão*, **President**;
- *Nuno Jorge Carvalho de Sousa,* **Vice-President** (Director of the Medical Degree);
- *Jorge Manuel Rolo Pedrosa,* **Vice-President** (Executive Director of ICVS);
- *Joana Palha,* **Vice-President** (Director of Post-graduation).

The Directive Board meets on a weekly basis. The Directive Board manages and plans the School in all its dimensions and monitors the on-going activities.

The Scientific Council

The scope of the Scientific Council includes the scientific policy for the ECS, namely in what concerns the general guidelines for the planning and development of research, teaching and extension activities and matters related to the recruitment and promotion of the academic staff.

The Scientific Council integrates all the School academic staff with a doctoral degree. Its present composition is the following:

Maria Cecília Lemos Pinto Estrela Leão, President *

Adhemar Longatto Filho

*António Gil Pereira de Castro **

Armando Alberto Nova Pinto Almeida

Estêvão Augusto Rodrigues de Lima

*Fernando José Santos Rodrigues **

*Joana Almeida Santos Pacheco Palha **

João Carlos Cruz Sousa

João Duarte Coelho do Sameiro Espregueira Mendes

João José Fernandes Cardoso de Araújo Cerqueira *******

João Miguel Seiça Bessa Peixoto

Jorge Manuel Nunes Correia Pinto *******

Jorge Manuel Rolo Pedrosa *******

José Miguel Gomes Moreira Pêgo

Manuel João Tavares Mendes da Costa

Manuel José Lima da Costa Rodrigues

Maria de Fátima Monginho Baltazar *******

Maria João Ribeiro Leite Baptista

Maria Margarida Teles de Vasconcelos Correia Neves

Nuno Jorge Carvalho Sousa *******

Patrícia Espinheira Sá Maciel *******

Paula Cristina da Costa Monteiro Ludovico

Rui Manuel do Rosário Sarmento e Castro

Rui Manuel Vieira Reis

Rute Carina Silva Moura

The Council is honored with the participation *Joaquim Germano Pinto Machado Correia da Silva (Honorary President of the Scientific Council)*, as invited member.

The members marked with * composed a coordinating body of the Scientific Board that meets regularly every two month, while the plenary of the Scientific Board meets regularly every six months.

The Medical Course Committee (Curriculum Committee)

The main competences of the Curriculum Committee are the overview of the normal operation of the undergraduate medical degree programme and the continuous review of the curriculum. The committee also scrutinizes the actions taken as a result of the recommendations from the External Advisory Committee.

The Committee abides to the University of Minho's regulations concerning Curriculum Committees, with the specific adaptations required by the integrated curricular organisation and also by the structural organization into phases. The Committee integrates the Course Director (President), the Coordinators of Scientific Areas, a representative of the Option Projects, the Scientific Director of the Medical Education Unit (Secretary) and six students elected by and among the students of each of the six curricular years.

The members of Medical Course Committee in 2008/2009 were:

2008/2009
Nuno Sousa (President)
Manuel João Costa (Secretary)
Armando Almeida
Fernando Rodrigues
Jorge Pedrosa
Jaime Correia de Sousa
Joana Palha
Students
Pedro Azevedo (6^{th}y)
Fábio Amaral (5^{th}y)
Teresa Pinto(4^{th}y)
Ana Luísa Sousa (3^{rd}y)
João Firmino Machado (2^{nd}y)
Maria Luísa Prada (1^{st}y)

The Scientific Area, Curricular Area and Module Coordinators

The ECS has implemented innovative organizational policies within the University of Minho. In contrast with the characteristic departmentalization of other Schools, the "Scientific Area" was the organizational Unit elected by the ECS. It was considered that the benefits arising from a shared administrative management with no losses in scientific autonomy suited the School objectives better; in such terms, the Department concept of territorial ownership in the curriculum is dismissed, like what had been the case on the design of the curriculum and the organization of ICVS.

The duties of the Scientific Areas are to coordinate the curricular development and delivery in the corresponding areas, and assure an implementation of the adequate educational strategies and methods. The Scientific areas agglutinate and articulate the curricular areas in each phase of the Medical Curriculum promote the articulation between the phases, thus guaranteeing the overall coherence of the curriculum, paying attention to and eliminating omissions or repetitions. With the intention of strengthening the role of Scientific Areas Coordinators, they are elected by peers in the Scientific Area. The present Areas and respective Coordinators are as follows:

Scientific Area	**Coordinator**
Biomedical Sciences	Joana Almeida Palha
Pathology	Maria Fátima Baltazar
Community Health	António Jaime Correia de Sousa (as delegate of the President of the School)
Clinics	Nuno Jorge Carvalho de Sousa

The present coordinators are listed in Table 1 and Appendix II.

Table 1.a — Area and Module Coordinators of Phase I (2009)

Curricular Area Module	**Coordinator**
Introduction to the Degree Programme	MANUEL JOÃO COSTA
Molecules and Cells	FERNANDO RODRIGUES
From Anatomy to Cellular Physiology	Paula Ludovico
Molecular Genetics Foundations	Fernando Rodrigues
Proliferation Differentiation Cellular and Death	Susana Pascoal
Organic and Functional Systems	JOANA PALHA
Gen. Introd. and Musculoskeletal System and Skin	Armando Almeida Joana Palha
Digestive System	Jorge Correia Pinto
Circulatory and Respiratory Systems	Jorge Correia Pinto Maria João Baptista
Urinary System	Armando Almeida
Reproductive System and Development, Growth and Ageing	Patrícia Maciel
Nervous System	Joana Palha João Cerqueira
Endocrine System	João Sousa
Optional Project - I	PAULA LUDOVICO
Optional Project - II	RUI REIS ANTÓNIO GIL CASTRO
Training in a Health Centre	ANTÓNIO JAIME SOUSA
Follow-up of a Family I	ANTÓNIO JAIME SOUSA
Vertical Themes ("To Feel the Pulse to Life")	CECÍLIA LEÃO

Table 1.b — Area and Module Coordinators - Phase II (2009)

Curricular Area	Coordinator
Biopathology and Introduction to Therapeutics	JORGE PEDROSA
General Pathology and Introduction to Pharmacology	José Miguel Pêgo
Genetics and Environment	Rui Reis
Immunopathology	António Gil Castro
Infectious Diseases	Margarida Correia Neves
Introduction to Clinical Medicine	NUNO SOUSA
Introduction to Community Health	ANTÓNIO JAIME SOUSA
Optional Project IV	RUI REIS
Follow -up of a Family II	ANTÓNIO JAIME SOUSA
Vertical Themes	CECÍLIA LEÃO

Table 1.c — Area and Module Coordinators - Phase III (2009)

Curricular Area	Coordinator	Status
Hospital Residencies (a)	NUNO SOUSA	MD, Full Professor (ECS, UM)
Health Centre Residencies I and II (a)	ANTÓNIO JAIME SOUSA	MD, MSc, Assistant Professor (ECS, UM)
Medicine Residence I and II	Nuno Sousa	MD,Full Professor (ECS, UM)
Maternal and Child Health Residence	Jorge Correia-Pinto	MD,Associate Professor (ECS, UM)
Mental Health Residence	Nuno Sousa	MD,Full Professor (ECS, UM)
From Clinic to Molecular Biology I and II	FÁTIMA BALTAZAR	Assistant Professor (ECS, UM)
	FERNANDO RODRIGUES	Assistant Professor (ECS, UM)
Optional Project IV	RUI REIS	Assistant Professor (ECS, UM)
Optional Residences	Nuno Sousa	MD,Full Professor (ECS, UM)
Vertical Themes	CECÍLIA LEÃO	Full Professor (ECS, UM)

(a) The Clinical Coordination Group has the responsibility for the overall coordination of the clinical training programme. Each residence Coordination Group has the responsibility to the responsibility of defining learning objectives and clinical duties (skills and tasks) for the students during that Residence; they also delineate the assessment process.

Table 1.d — Area and Module Coordinators - Phase IV (2009)

Curricular Area	Coordinator	Status
Hospital Residencies (a)	NUNO SOUSA	MD, Full Professor (ECS, UM)
Health Centre Residency III (a)	ANTÓNIO JAIME SOUSA	MD, MSc, Assistant Professor (ECS, UM)
From Clinic to Molecular Biology III	ANTÓNIO GIL CASTRO	Associate Professor (ECS, UM)
Optional Project VI	PATRÍCIA MACIEL	Assistant Professor (ECS, UM)
	NUNO SOUSA	Full Professor (ECS, UM)

(a) The Clinical Coordination Group has the responsibility for the overall coordination of the clinical training programme.

Coordination of Postgraduate Programmes and Research

The Coordinator of the postgraduate programmes on health sciences oversees the whole postgraduate activities within the ECS. In 2009 these activities included:

a) A program of 20 post-graduation courses and workshops (see Appendix III), that involved 424 participants (36% medical doctors, 5% other professionals in health sciences and the remainder with a background mostly in biological sciences). Over 86% of the participants rated the courses as Excellent of Very Good.

b) The admission of 20 PhD students (8 of which MDs) and of 12 Master students (for the first time in the recently launched Master Program in Health Sciences) and the completion of 6 PhD thesis (2 of which from MDs).

c) The formal admission of 1 MD student with the 5th year completed in the MD/PhD program. The selection committee included the following external members: Professors Maria de Sousa (University of Porto), Catarina Oliveira (University of Coimbra), Michael Shelanski (Columbia University, New York) and James Keen (Thomas Jefferson University, Philadelphia) or Gerard Grunwald (Thomas Jefferson University, Philadelphia). In addition, a total of 22 students participated in 23 laboratory rotations, a pre-requisite for a future formal application to the MD/PhD program.

Life and Health Sciences Research Institute (ICVS)

The ICVS has its own governing bodies, according to the rules applying to the research units integrated in the national system of Science and Technology. The Director of the Institute liaises with the Scientific Council.

The Director of the ICVS is Prof. *Cecília Leão*, the Vice-president of ECS with responsibilities in research at ICVS is Prof. *Jorge Pedrosa,* the Coordinator of Post-graduation and of the MD/PhD program is Prof. *Joana Palha* and the Coordinator of the International Postgraduate Programme 2007/2008 is Prof. *Paula Ludovico*. The coordinators of the different post-graduation courses are listed in Appendix III.

The External Advisory Committee

The External Advisory Committee (EAC), in 2009, included the following external members:

- *Alcindo Maciel Barbosa* (Administração Regional de Saúde Norte (ARS-N), Portugal)
- *Alistair Warren* (University of Sheffield, United Kingdom)
- *Arsélio Pato de Carvalho* (University of Coimbra, Portugal)
- *David Macfadyen* (University of Edinburgh, formerly World Health Organisation)
- *Eduardo Marçal Grilo* (Fundação Calouste Gulbenkian, Portugal)
- *Fernando Lopes da Silva* (University of Amsterdam, Holand)
- Allan Cumming (University of Edinburgh, United Kingdom)
- *Joseph S. Gonnella* (Thomas Jefferson University, United States of America)
- José *Pedro Moreira da Silva* (Conselho Regional do Norte da Ordem dos Médicos, Portugal)
- *Walter Friedrich Osswald* (University of Porto, Portugal)

The Rector of the University of Minho and the Dean are also formal members of the Committee.

The external members have designated Prof. *Fernando Lopes da Silva* as the EAC Coordinator.

The EAC visited the School on 17-18 July 2009. The report from the visit is fully transcribed in Appendix Ia.

3 ARTICULATION WITH THE NATIONAL HEALTH SYSTEM

As stated in previous reports, the ECS has set up an innovative articulating strategy with the National Health System. Specifically, the following lines were developed in order to pursue the multicentric approach defined by the School:

Within the legal framework concerning the articulation between the Medical Schools and the Health Services, a legal document (*Portaria* 36/2002) establishes that the ECS is institutionally articulated, under the terms established by law, with *Hospital de Braga*, *Centro Hospitalar do Alto Ave* – Unidade de Guimarães, Unidade Local de Saúde do Alto Minho – *Viana do Castelo/Ponte de Lima*, *Hospital Pedro Hispano* (Matosinhos), *Hospital Joaquim Urbano* (Porto), *Casa de Saúde do Bom Jesus* (Nogueiró-Braga) and with Health Centres in the Northern Regions of Portugal.

The results of this policy have been very positive. The first protocol established between the ECS and the Regional Health Administration – North (ARS-N), has been considered the model to be followed by all medical schools in the North of Portugal. The cooperation with the Hospital de Braga, the *Centro Hospitalar do Alto Ave* – Unidade de Guimarães and Unidade Local de Saúde do Alto Minho developed to new dimensions, namely through a stronger involvement of health professionals in ECS. Indeed, the number of attending physicians engaged in academic and research activities has grown significantly (with some finishing their PhDs). Importantly, the level of commitment with academic activities has persisted, despite the increasing number of editions of the medical degree; the renovation of the clinical staff involved in academic activities has also progressed at a steady level. The quality of the clinical teaching continued to be recognized by students and physicians, and the presence of the students in the affiliated hospitals is very well appreciated.

The cooperation with ARS-N, namely with *Sub-Região de Saúde de Braga* and the Health Centres under its supervision, is progressing very well in all relevant dimensions, including: (i) the practical training (*estágio*) of students in the health units; (ii) the preparation and implementation of the curricular area *Follow-up of a Family*; and (iii) the clinical area *Residence in Health Centres*.

University-Health Services Articulation

Under the scope of the protocols with the affiliated Hospitals, a School-Hospital Articulation Committee (*Comissão Mista Permanente*) was established with each of the Hospitals, including members from the ECS and from the Hospital, with the aim to coordinate and facilitate the cooperation between both institutions. A similar Committee was established with ARS-N for the articulation with Health Centres.

In accordance with the multi-centre approach adopted for the clinical training of the students, the Hospital de Braga, the Centro Hospitalar do Alto Ave – Unidade de Guimarães and the Unidade Local de Saúde do Alto Minho – Viana do Castelo/Ponte de Lima, as well as a network of Health Centres under ARS-N, legally (Decreto-Lei 206/2004 de 19 Agosto) qualify all as *Health Services with University Teaching*. The corresponding Articulation Committees have been operating on a regular basis, with the following composition:

Table 2

Articulation Committee	Members From ECS	Members from the Health Service
ECS – Hospital de Braga	*Nuno Sousa* MD, PhD, Course Director *Maria Cecília Leão* PhD, Dean	*Abel Rua* MD, by delegation of the Clinical Director Carlos Valério MD, by delegation of the President of the Administration Council
ECS – Centro Hospitalar do Alto Ave	*Nuno Sousa* MD, PhD, Course Director *Maria Cecília Leão* PhD, Dean	*Jorge de Almeida Berkeley Cotter* MD, PhD, by delegation of the Clinical Director *Joaquim Manuel Araújo Barbosa* by delegation of the President of the Administration Council
ECS – Unidade Local de Saíde do Alto Minho	*Nuno Sousa* MD, PhD, Course Director *Maria Cecília Leão* PhD, Dean	*Franklim Ramos* MD, Clinical Director *Domingos Araújo* MD, by delegation of the President of the Administration Council
ECS – ARS-N	*Maria Cecília Leão* PhD, Dean *Jaime Correia de Sousa* MD, Clinical Area Coordinator	*António J. S. Pimenta Marinho* MD, by delegation of the President of the ARS-N

The Articulation Committees are appointed to decide on matters of relevance for the articulation between the School and the Health Services. The established Committees have adopted an Articulation Regime which proved to be very efficient and became a central piece for the

development of an efficient inter-institutional collaboration. In accordance, the Articulation Regime which, so far, has suffered only minor adjustments, served as the basis for the discussions with the new partner at Hospital de Braga. This Regime defines the model of cooperation (namely the Clerkship coordinating groups) in what concerns the clinical training of the medical students. These regulations cover the basic guidelines for the participation of the Health Services in the undergraduate clinical training, the competences and responsibilities of each of the participating institutions, and the term of office of the clinical supervisors and of the clinical tutors.

4. ACTIVITIES IN 2009

4.1 Undergraduate Medical Degree Programme

A separate report was prepared covering the undergraduate programme, detailing the pedagogical activities undertaken in the academic year 2008/2009 and corresponding results. A brief mention to important highlights follows.

Student academic performance

It is important to highlight, in a synoptic way, that there were changes in the success rate of the students at their first curricular year. In fact, after the remediation actions specifically implemented for the first year medical students, there was a reduction in the failing rate (8-13% in 2008/09 vs 14-18% in 2007/08). It is also important to note that these failing rates contrast with much higher rates in the first year students in the University of Minho as a whole (approx. 35%).

A very high rate of success was registered for all the students in the remaining curricular years.

Admissions and the Student population

For the year 2008/09, 121 new students were admitted via the national competition system (107 under the general regime, 8 under the special regime for students from the Azores and Madeira Autonomous Regions and 6 under the special regimes for handicapped students, military and descendents of emigrants). Additionally, 7 new students were admitted through a special process for degree holders, 5 new students through the special regimen for athletes and 5 transferred from other Medical Schools. The total number of new students was therefore 138. For the National Admissions Process, the average entrance marks for the new students was 182.6 out of 200 (if only the students under the general admission regime are considered, this value raises to 185.5). There were a total of 1727 applicants for the 120 places. Under the general admission regime, in 2008/09, 64% of the students admitted choose Minho as their first option.

For the year 2009/10, 123 new students were admitted via the National Admission Process (111 under the general regime, 8 under the special regime for students from the Azores and Madeira Autonomous Regions and 4 under the special regimes for handicapped students, military and descendents of emigrants). Additionally, 7 new students were admitted through a special process for graduated students from other degrees, 5 new students through the special regime for athletes and

5 students through transfer from another university. The total number of new students was consequently 135. Of notice, in 2009/10, 81% of the students admitted at the ECS under the general admission regime entered on their first option.

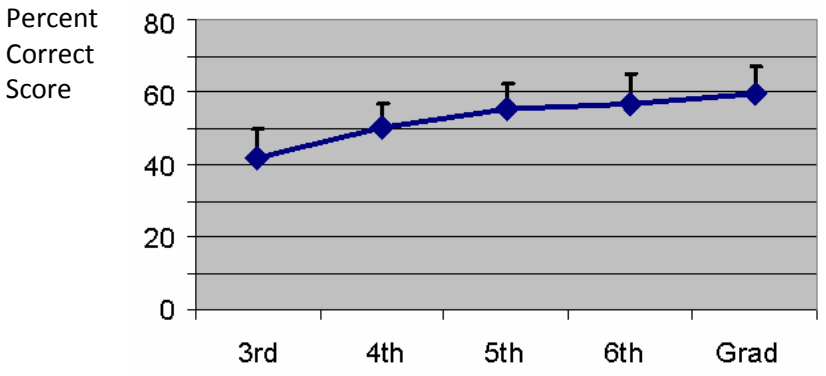
The gender balance of the new entrants in 2009/10 was 66% female and 34% male students. Regarding the provenance of students, 66% come from the District of Braga, 13% from the District of Porto and 21% from other Districts of the Country.

The global number of undergraduate students registered in the medical program in the current academic year is of 138 in the first year, 138 in the second year, 92 in the third year, 57 in the fourth year, 62 (plus one Eramus student) in the fifth year and 60 in the sixth year, amounting to a total of 547 (which represents and increment of 73 in comparison to the last report). As in the past, one foreign student - Brazilian – had a successful stay in the ECS.

Specific highlights

Three points deserve a special reference in this report. One relates to the performance of the students in the Foundations of Medicine exam (a collaboration with the National Board of Medical Examiners and Universities of Milano, Catholic Rome, Florence, Parma, Ferrara and Bologna in Italy and Leuven in Belgium). Briefly, this exam, that combines 75 items of Step1 (Basic Sciences) and 125 items from Step2 (Clinical Sciences), was administered in English to all students from the 3rd to the 6th year (and also the first graduates) at the ECS on the same day and with no recommendations for prior preparation. Registrations for the exam were voluntary; 55% of the eligible students participated. Their performance can be appreciated in the following figure.

F.O.M. Examination: Scores of ECS students (3rd, 4th, 5th, 6th year students and graduates)



A standard setting exercise with the modified Angoff procedure was conducted on the exam with delegates from the medical Schools involved in the Project. The delegates reviewed the test items and provided judgements about how borderline candidates were expected to perform on each item in the examination, i.e. the proportion of borderline examinees who would answer an item correctly. Estimates were averaged over judges and summed over to create a standard (cut off score), which was taken as the standard level of performance.

Importantly, only 4.7% of the ECS participating students were below standard level of competence (and this includes students from the 3rd year; in fact, from the students above the 4th only 2.2% scored below expectancy level). It should be again highlighted that the exam was taken in English and without prior preparation. Besides the absolute level of performance, it is also noticeable the fact that when compared to the other participating institutions, the students from the ECS scored approximately 7% above mean. A final word to highlight that the value of this experience does not confine to the individual performance and feedback that each participating student receives. It also is of great value for the institution since it provides not only a remarkable source of information but also brings international creditability to the ECS project. This experience has been reported as a publication in an international medical education journal and at conferences.

Also relevant is that this experience constituted the driving force to a preliminary experience at the national level, that intends to create a reliable exam to assess medical competencies and ultimately to be used as the national exam for residency selection (in substitution of the outdated version of the present exam, which is based exclusively on the ability to memorize 5 chapters of Harrison Internal Medicine textbook).

The second point relates with the creation of the Clinical Skills Laboratory. This laboratory has been instrumental to allow training and learning of clinical skills in the best possible simulated environment. For this, several standardized patients have been trained and a large number of clinicians have been involved (some of which are not contractually linked with the ECS). Students in the 2nd and 3rd years train communication skills in the lab, as well as history taking and physical examination skills. These sessions have been integrated in the undergraduate curriculum and have proved to be highly effective for student learning and confidence (as certified by the students and the clinical tutors that later receive these students in the clinical clerkships). Moreover, on a daily basis, the ECS offers, on a voluntary basis, clinical skill sessions after the end of classes. Several hundreds of participants have enrolled in these sessions, including physicians that want to retrain

some specific skills. It should be highlighted that besides the effort of the ECS, this laboratory has been financially supported by Fundação Calouste Gulbenkian.

The third point concerns the participation of the undergraduate students in research and the definition of alternative learning paths for students who are particularly research-oriented. The preparatory phase of the MD/PhD optional programme was started in the Summer of 2005, and involved, since then, 27 students in 36 one-month laboratory rotations which are compulsory pre-requisites for admission in the programme. Three students are developing their PhDs in laboratories at Columbia (New York) and Jefferson (Philadelphia). Their performance has been considered by supervisors and the Deans very positive and both institutions have expressed the intention to enlarge the number of places available for students coming from Minho and also to send students from these US institutions to our Research Institute.

4.2 Post-graduation

The School continues to envision postgraduation in two perspectives: that of formal training for a degree and that of voluntary professional improvement. In the past two years, the formal postgraduation programs were adapted to the novel regulation of the Bolonha process, specifically in which respects formal programs for the second and third cycles. One Master program in Health Sciences and two Doctoral programs, one in Medicine and another in Health Sciences, were approved by the Ministry.

Still with respect to doctoral programs, it has been the ECS's believe that synergies with other institutions are valuable for promoting national collaborations and to endorse excellence in science. In accordance, the School collaborated in a successful multi-institutional application to the Fundação Calouste Gulbenkian, for an inter-institutional PhD program in Aging and Degeneration of Complex Biological Systems, with the partnership of Faculty of Medicine (Universidade de Coimbra) and Faculty of Medical Sciences (Universidade Nova de Lisboa) that promotes interaction among the involved institutions , including the presence of the enrolled students in each institution for a period of two months, in the first year.

At the same time, the ECS continues to promote courses in cutting-edge subjects in medicine and in biological sciences, some of which are within networks of excellence, COST actions and/or with the support of international societies.

The School's intention to promote clinical research is continuing, not only by enrolling MDs in translational research projects and clinical projects, but also by continuing to involve the participation of undergraduate students in laboratory rotations within the "Option projects" and within the MD/PhD program. An additional student was formally selected for the thesis part of the MD/PhD program last May; the program now totalizes four students in the program.

4.3 Research

As referred above, the research activities associated to the ECS are developed within its sub-Unit, the ICVS, which acts as a fully incorporated research structure within the School. The essential points of the ICVS activities are summarised hereafter.

In order to complement the contract signed with the Government in 2000, the ECS proposed in 2003 a special contract to the Ministry of Science and Higher Education for the infrastructural funding of the ICVS, involving a total amount of 4.2 million € over a period of three years, with 20% co-partnership from the ECS. The proposal was approved and the contract was signed in March 2004, but with a funding of only about 20% of the proposed value (795.380,00 €), with an indication that the remaining would be considered for further funding.

In March 2005, a proposal from the FCT to the Minister was approved, allocating 1.5 million € for the most urgent laboratory equipments, of which 1.237.421,83 € were transferred to the School. In 2009, as a complement to the contract signed in 2004, the ECS was granted two lump sums: 770.000,00 €, in September; and 350.000,00 € in December- these amounts were totally transferred in 2009.

Following the guiding principles of the previous years, the ECS maintained the effort of allocating as many resources as possible to the ICVS research projects, through the reinforcement of scientific equipments and laboratories and through the support of the Research Domain activities. Specifically, resources were allocated to support all members of the academic staff actively involved in research, including part-time staff, as well as to attract postgraduate researchers. Presently, 163 researchers are involved in the ICVS activities [40 PhD researchers and 123 post-graduation students (72 PhD students, 34 Master students and 17 associate researchers)], supported by 18 members of the non-academic staff (5 in administration and 13 in the laboratories, with their salaries supported by the School).

The strategy of the ICVS from its launching has been to implement a sustained increase within multidisciplinary Research Domains, with a dimension and level of expertise that would be highly competitive in the international arena. As a result, the following scientific production was attained in 2009: 76 papers in international journals with an average impact factor (IF) of 4.64 (including two papers Science), corresponding to an average of 1.9 papers/PhD. In addition, 3 book chapters have been published at the international level. Seven PhD theses with supervision from affiliated ICVS researchers were concluded and 24 research prizes were awarded to researchers of the institute.

In 2009, according to the principles of the "Bologna Process", it was possible to launch in ECS/ICVS formal PhD and Master's Programmes in Medicine and in Health Sciences. Importantly, the combined teaching and research expertise of the ECS/ICVS PhD staff also contributed to the successful training of medical students, promoting the interaction between different fields of biomedical research and medical education, as, for example, in the context of: (i) the Curricular Area "Option Projects" and; (ii) the MD/PhD programme (in collaboration with the Thomas Jefferson and Columbia Medical Schools).

The reinforcement of the clinical scope of the ICVS research activities, through the creation of a Clinical Academic Centre, with the partnership of the Hospital de Braga-Grupo Escala and the Minho MD Alumni Association was also an important achievement in 2009.

Altogether, these results, comparatively with those from the previous years, represent a sustained increase in the quality and impact of the scientific productivity of ICVS, placing the institute among the Portuguese leading research units in Health Sciences. The increasing interaction of ICVS with international high profile research institutions is reflected in the number of international funded projects, both in the context of the European FP7 and of International Foundations and Companies.

Presently, the major remaining difficulties of ICVS are related with funding for the construction of the originally planned Animal Facility wing, as well as to support the salaries of specialized technicians.

4.4 Human Resources

Academic staff

As repeatedly stated in former reports, the School is paying careful attention to the recruitment and promotion of academic staff. For that purpose, the ECS has established its own benchmarks/recommendations for academic progression, which are known by all the members of

the faculty (and by those that express their interest in joining the faculty). The number of potential candidates with relevant scientific qualifications is high, which certainly is a consequence of the external perception of the quality of the ECS project.

It is important to be sure that the selected candidates have an adequate understanding on the institutional project and commit to contribute to the development of its specificities, namely in what concerns seven essential aspects: (i) the perspective of the programme, as a project to be constructed and developed in a participated way within the School; (ii) the student- centred learning process, in which the traditional formal lecturing looses most of its significance; (iii) the horizontal integration of the curricular contents and the modular organisation of the curriculum with the consequent transfer of management competences from individual subjects to the coordinators of the curricular areas or modules; (iv) the relevance of student's and peer assessment, permanent monitoring and quality assurance; (v) the role of the Medical Education Unit, in terms of support, coordination and monitoring in connection with the pursuit of the educational objectives; (vi) the role of research, as a crucial element for a research-based learning process, and (vii) the engagement to research activities (including submission of the research projects to the strategic guidelines and priority areas defined for the ICVS).

The Medical Education Unit has advanced with a faculty development program to target newly admitted staff members. The programme is based on workshops, supplemented with small team activities and informal discussions that create opportunities for addressing individual issues.

In quantitative terms, there are severe administrative limitations imposed by the Government on the maximum number of full time equivalent (FTE) teaching staff that can be hired, as a function of the number of students enrolled (ratio 1:6). Thus, the standard number of FTE for the current academic year is of 86.18.

At present (December 2009), the School has a faculty of 65 members (34.11 FTE) and counts in addition with 2 visiting professors and many other collaborators, particularly related to the Clinical Residences. The full composition of the regular teaching staff is listed in Table 3, together with their qualifications, rank and scientific area (for a matter of precision, the rank is indicated in Portuguese). The Clinical Supervisors and Tutors (considered members of the Faculty during that academic year), who supported the clinical training of the students in the Hospitals and Health Centres, in a total of around 300 clinicians, are indicated in Appendix II.

In terms of the faculty profile, it is important to highlight that 63.07% (41 out of 65) of the regular staff members are MDs. Regarding academic qualifications, 32 (49.23%) have a doctoral (PhD) degree.

Table 3 — Academic Staff (with contract, 31.12.2009)

Name	**Qualifications**	***Categoria* (Status)**
Maria Cecília L.P. Estrela Leão	PhD, *Agregação*	*Prof. Catedrática*
Joana Almeida S. Pacheco Palha	PhD, *Agregação*	*Prof. Catedrática*
Jorge Manuel Rolo Pedrosa	PhD, *Agregação*	*Prof. Catedrático*
Nuno Jorge Carvalho de Sousa	MD, PhD, *Agregação*	*Prof. Catedrático (s/exc)*
António Gil Pereira de Castro	PhD	*Prof. Associado*
Armando A.N. Pinto de Almeida	PhD	*Prof. Associado*
Jorge Manuel Nunes Correia Pinto	MD, PhD	*Prof. Associado Conv. 50%*
Rui Manuel Rosário Sarmento e Castro	MD, PhD	*Prof. Associado Conv. 30%*
João D. C. S. Espregueira Mendes	MD, PhD	*Prof. Associado Conv. 20%*
João Carlos Cruz Sousa	PhD	*Prof. Auxiliar*
Fernando José dos Santos Rodrigues	PhD	*Prof. Auxiliar*
Maria de Fátima M. Baltazar	PhD	*Prof. Auxiliar*
Maria Margarida Teles de Vasconcelos C. Neves	PhD	*Prof. Auxiliar*
Manuel João Tavares Mendes da Costa	PhD	*Prof. Auxiliar*
Patrícia Espinheira Sá Maciel	PhD	*Prof. Auxiliar*
Paula Cristina C. A. Monteiro Ludovico	PhD	*Prof. Auxiliar*
Rui Manuel Vieira Reis	PhD	*Prof. Auxiliar, Exc.*
José Miguel G. Moreira Pêgo	MD, PhD	*Prof. Auxiliar Conv. 100%*
Adhemar Longatto	PhD	*Prof. Auxiliar Conv. 60%*
John Samuel Yaphe	MD	*Prof. Auxiliar Conv. 60%*
António Jaime Botelho Correia de Sousa	MD, MSc	*Prof. Auxiliar Conv. 50%*
João José Fernandes C. de Araújo Cerqueira	MD, PhD	*Prof. Auxiliar Conv. 50%*
Maria João R. Leite Baptista	MD, PhD	*Prof. Auxiliar Conv. 40%*
João Miguel S. Bessa Peixoto	MD, PhD	*Prof. Auxiliar Conv. 40%*
Bruno Miguel Barroso Rodrigues Almeida	PhD	*Prof. Auxiliar Conv. 30%*
Estevão Augusto Rodrigues de Lima	MD, PhD	*Prof. Auxiliar Conv. 30%*
Fernanda Cristina Gomes de Sousa Marques	PhD	*Prof. Auxiliar Conv. 30%*
Jorge de Almeida Berkeley Cotter	MD, PhD	*Prof. Auxiliar Conv. 30%*
Luísa Alexandra Meireles Pinto	PhD	*Prof. Auxiliar Conv. 30%*
Margarida da Conceição Reis Pedreira Lima	MD	*Prof. Auxiliar Conv. 30%*
Nuno Miguel Sampaio Osório	PhD	*Prof. Auxiliar Conv. 30%*
Rute Carina Silva Moura	PhD	*Prof. Auxiliar Conv. 30%*
Susana Alexandra Rodrigues Pascoal	PhD	*Prof. Auxiliar Conv. 30%*
Manuel José Lima da Costa Rodrigues	MD, PhD	*Prof. Auxiliar Conv. 20%*
Filipa Santos Costa Pinto Ribeiro Lacerda	Lic. Biology	*Assistente Conv. 100%*

Name	**Qualifications**	***Categoria* (Status)**
Carla Rolanda Rocha Gonçalves	MD, PhD	*Assistente Conv. 40%*
Carlos Alberto Pereira Capela	MD	*Assistente Conv. 40%*
Cláudia Alexandra Parreira Bulhões	MD	*Assistente Conv. 40%*
Cristina Isabel Nogueira da Silva	MD	*Assistente Conv. 40%*
Cristina Raquel Costa Freitas	MD	*Assistente Conv. 40%*
Gustavo Filipe M. Alves Rocha	MD	*Assistente Conv. 40%*
Isabel Margarida Moura Mesquita	MD	*Assistente Conv. 40%*
José António Briote Mariz	MD	*Assistente Conv. 40%*
Luís Manuel Cunha P. Figueiredo	MD	*Assistente Conv. 40%*
Mário Jorge Alves Oliveira	MD	*Assistente Conv. 40%*
Pedro Alexandre L.A.G. Teixeira	MD	*Assistente Conv. 40%*
Pedro de Paula S. Alves Monteiro	MD	*Assistente Conv. 40%*
Pedro Ricardo Luís Morgado	MD	*Assistente Conv. 40%*
Ricardo Jorge Ferreira Taipa	MD	*Assistente Conv. 40%*
Rui Manuel F.C.A. Cerqueira	MD	*Assistente Conv. 40%*
Sandra de Fátima F. Martins	MD	*Assistente Conv. 40%*
Sérgio Nabais de Araújo	MD	*Assistente Conv. 40%*
Susana Maria Fialho Nunes	MD	*Assistente Conv. 40%*
Tiago da Silva Pinto Teixeira	MD	*Assistente Conv. 40%*
Tiago Folhadela Salgado de Faria	MD	*Assistente Conv. 40%*
Hugo Miguel V.L. S. de Almeida	Lic. Biochemistry	*Assistente Conv. 30%*
Ana Maria Lacerda A. Horta	MD	*Assistente Conv. 20%*
Alexandra Sofia Lopes Miranda	Student 6th year	*Monitor*
Artur Jorge Gomes Vieira	MD	*Monitor*
Carla Marina Mendonça Gonçalves	MD	*Monitor*
Emanuel Carvalho Dias	MD	*Monitor*
Hélder Novais e Bastos	MD	*Monitor*
Paulo Ricardo Oliveira da Mota	Student 6th year	*Monitor*
Vítor Hugo da Eira Pereira	MD	*Monitor*

Constantino Theodor Sakellarides, MD, *Prof. Catedrático /ENSP-UNL (*10%,in collaboration */CRUP)*
Nuno Pedro G. F. Bento Borges, *Prof. Associado /FCNA-UP* (15%,in collaboration/*CRUP*)
Gustavo Henrique Goldman, PhD, Prof.Titular (Universidade de São Paulo), Visiting Professor
Osborne Almeida, PhD, Researcher (Max Planck Inst. of Psychiatry), Visiting Professor
Sérgio Machado dos Santos, *Prof. Catedrático*, Honorary Member
Joaquim Germano Pinto Machado Correia da Silva, *Prof. Catedrático*, Honorary Member

Non-academic staff

In the non-academic staff there has also been a renewal (with 1 member leaving and 1 that was recruited). Table 4 indicates the staff members, in a total of 34, and their qualifications, rank and allocation. The academic profile of the staff is above the average situation in the Portuguese higher education system (61.76% of the staff have a higher education degree). It also deserves to be mentioned that part of the staff is allocated to the research institute, given that the ICVS cannot hire personnel; this represents a significant effort from the ECS to guarantee the best possible conditions for the research activities in the ICVS.

The ECS is proud to say that a great care has always been given to assure that every member of the non-academic staff can also undergo educational activities that improve their qualifications. This policy has proved to be efficient and, as a consequence, a high percentage (20.6%) of non-academic members is/has enrolled in educational programmes to increase their qualifications since they join the ECS.

Table 4 — Non-academic Staff (with contract, 31.12.2009)

Name	Qualifications	*Categoria* (Rank)	Service
José Carlos F. Henriques	*Licenciatura/Pós-Graduação*	*Técnico Superior*	Head Office
Ana Paula Salgueira Rodrigues	*Licenciatura*	*Técnico Superior*	UEM
Amandine Marques Azevedo	*Licenciatura*	*Técnico Superior*	Secretariat
Fernanda Isabel T. M. Santos	*PhD*	*Técnico Superior*	Laboratories
Lucília G. Ribeiro Pinto	*Licenciatura*	*Técnico Superior*	Laboratories
Magda João Castelhano Carlos	*Mestrado*	*Técnico Superior*	Laboratories
Mª Madalena Abreu Castelo Branco	*Licenciatura*	*Técnico Superior*	Secretariat
Maria Paulina D.M. Santos	*Licenciatura*	*Técnico Superior*	Project Support Office
Paula C. F. Gomes Pereira	*Licenciatura*	*Técnico Superior*	Human Resources
Sandra Mª T. Coutinho P. V. Santos	*Mestrado*	*Técnico Superior*	Laboratories
Luís Filipe F. Oliveira Martins	*Licenciatura*	*Técnico de Diagnóstico e Terapêutica*	Laboratories
Domingos Ferreira Dias	*Secondary Education*	*Técnico de Informática Adjunto*	Informatics Office
Olga Maria S. Miranda Abreu	*Secondary Education*	*Coordenadora Técnica*	Secretariat
Denise Maria F. Silva	*Secondary Education*	*Assistente Técnico*	Laboratories
Helena Maria A. Nascimento	*Licenciatura*	*Assistente Técnico*	Secretariat

Name	**Qualifications**	***Categoria* (Rank)**	**Service**
Isabel Cristina S. Rocha	*Secondary Education*	*Assistente Técnico*	Planning Office
Isabel Maria V. Barbosa	*Licenciatura*	*Assistente Técnico*	UEM
Maria Manuela M. Mendes	*Secondary Education*	*Assistente Técnico*	Financial Office
Mª José T. F. Tarroso Gomes	*Licenciatura*	*Assistente Técnico*	Academic Office
Mónica Custódia C. Gonçalves	*Secondary Education*	*Assistente Técnico*	UEM
António Miguel Oliveira da Mota	*Basic Education*	*Assistente Operacional*	Laboratories
João Filipe A. Malheiro	*Secondary Education*	*Assistente Operacional*	Laboratories
José Carlos Teixeira da Rocha	*Secondary Education*	*Assistente Operacional*	Laboratories
Maria Celina F. Barros	*Secondary Education*	*Assistente Operacional*	Laboratories
Maria Manuela S. Carneiro	*Secondary Education*	*Assistente Operacional*	Laboratories
Maria Fernanda C. Fernandes	*Basic Education*	*Assistente Operacional*	Laboratories
Susana Isabel Vaz Santos	*Secondary Education*	*Assistente Operacional*	Laboratories
Ana Paula Barreto de Oliveira	*Licenciatura*	*Assistente Técnico (Regime de aquisição de serviços)*	UEM
Deolinda Maria de Oliveira	*Licenciatura*	*Técnico de Diagnóstico e Terapêutica (Regime de aquisição de serviços)*	Laboratories
Jorge Manuel S.G. Freitas	*Licenciatura*	*Técnico de Informática (Regime de aquisição de serviços)*	UEM
Paulo Sérgio Simões dos Santos Cabral	*Licenciatura*	*Especialista de Informática, Grau 3, Nível 2 (Regime de aquisição de serviços)*	Informatics Office
Ricardo Filipe Silva Mota	*Licenciatura*	*Técnico Superior (Regime de aquisição de serviços)*	Post-Graduation Office
Fernando Paulo Duarte Silva	*Licenciatura*	*Assistente Técnico (Regime de aquisição de serviços)*	Financial Office
Sara Feio de A. R. Alves Malheiro	*Licenciatura*	*Assistente Técnico (Regime de aquisição de serviços)*	UEM

Academic development

Regarding staff development, the School was allocated a total of 13 places for tenure positions, 4 full professors and 9 associate professors. At present the places for full professors are already filled but there are 7 places available for Associate Professors.

4.5 Infrastructures

The transfer of ECS and ICVS to the new building

As referred in the previous ECS report, a major expansion was achieved in the ECS/ICVS infrastructures in 2007/2008, corresponding to the transference from the provisional facilities (occupied in 2001-07) to the new ECS building.

The new ECS building

The actual facilities, with an overall area of approximately 17000 m^2, are structurally divided in two wings, an Academic wing with two floors (approximately 5000 m^2) and a Research wing with three floors (approximately 6000 m^2) where the ICVS is allocated, in addition to areas designed for offices and technical infrastructures (approximately 6000 m^2).

The strategic Academic/Research interaction model of the ECS is reflected in the architecture of the building. In fact, the two wings are linked by hallways with offices, stimulating a close interaction between the Academic and Research areas, as well as with the offices for teaching and research staff.

The administrative headquarters, including the general secretariat, the post-graduation secretariat, the facilities/planning secretariat, the clinical secretariat and the direction board offices are located on the 1st floor of the Research wing. The library, with two levels containing several individual workspaces, is located at the beginning of the Research wing, also promoting the interaction between the academic and research communities. There is also a cafeteria, an important space where the School's staff and students may meet on a more informal basis.

The equipping of the new research facilities was continued in 2009, with specific FCT funding, corresponding to the complement to a contract signed in 2004, mainly used for the purchase and installation of state-of-the-art scientific equipments for animal models of infectious diseases,

behavioral studies and surgical studies. Among the scientific equipment acquired in 2009 are included: autoclaves, chemical safety hoods, centrifuges, incubators, biosafety flow chambers, freezers for storage at -20 and -80ºC, DNA, RNA and protein apparatus such as real-time PCR and gradient thermocyclers, among others.

4.6 Financial Resources

Since 2000, an annual lump sum has been allocated to the ECS to cover current expenses, including salaries and small equipments. As mentioned before, all the possible saves were made in order to shift as many resources as possible to pedagogical and research equipments.

The income and expenses in 2009 related to the lump sum are indicated in Table 5. Due to the difficulties in the financing of the University, the annual allocation increased only 15.1% in 2009, although the number of students had increased nearly 25.4%. The expenses are categorized as "salaries", "other current expenses" and "capital investments" (equipment), to show their relative weight. The category "salaries" includes the payments made to the Health Services relating to the cooperation of the Supervisors and Tutors.

Table 5 – Financial resources (2009)

Income	**Expenses**				**Balance**
Annual allocation	Salaries	Other current expenses	Capital Investment	Total	
3 695.5	2 488.6	925.5 (a)	220.9	3 635.1	60.4

Unit: 10^3 Euro

(a) Includes 170.0 kept at central administration, for general expenses and maintenance.

In regard to the infrastructural funding approved by the FCT in 2005, in the amount of 1.5 million €, 890 452 € were transferred in 2009 to the ECS/ICVS.

With the funding approved for ECS and ICVS, in the scope of the different contracts signed with the Ministry and FCT, several calls for tenders have been successfully conducted by the ECS staff regarding installation of scientific/pedagogical infrastructures and equipment, as well as informatics equipment, which supported the installation of the school and institute in the new building.

Regarding the basal funding for the ICVS, the FCT has transferred in 2009 an amount of 159.729,17 €. In 2009, the ongoing research projects, with an average duration of three years, attracted external funding corresponding to around 2.3 million €, of which 650 363 € correspond to the activities developed in 2009.

5. PLANS FOR 2010

The project of the School is now well established and progressing as planned. An educational undergraduate medical program within a stimulating research environment for all the members of this pedagogic community (students, faculty, researchers and non-academic staff) had been combined. So, the first goal for the near future is to assure the best possible conditions to strengthen the ECS dynamism.

However, it is our belief that “accommodation” typically drives projects to failure. Therefore, a great care will be kept on the continuous development of the project. The experience from the previous academic years provides the unique opportunity to reappraisal (largely with small, but important, adjustments) of the medical curriculum. In parallel, a challenge for the near future (and also a great opportunity) is the development of innovative collaborations with the new health-care partners, namely at Hospital de Braga (the negotiations established so far are extremely promising, and envisage the possibility to create an Academic Medical Centre and several partnerships at the level of clinical research). Other objectives for 2009 include an effort to increase the national and the international visibility of the ECS/ICVS project that will hopefully impact on the recruitment of good students/researchers/academics, but also on more sustainable and diversified funding sources.

6. CONCLUSIONS

6.1 Analytical Summary

A brief critical analysis of the ECS's operation and development shows that in 2009, as in the previous years, the core strategies and goals were met in all their essential aspects. Again, the unfailing enthusiasm, commitment, permanent availability, competence and team spirit of all ECS members were determinant for the progresses achieved and constitute the greatest asset for the ECS.

The most prominent strengths, on which the School has been building up, are the:

- graduation of the third cohort of medical students;
- performance on international assessments of clinical knowledge/skills;
- quality of the training of medical students and the reported high standards of their performance in health-care institutions as physicians;
- strengthening of the ECS and of the ICVS on initiatives for keeping the level of quality at the highest international standards, reassuring the quality of the educational and research programmes;
- consolidation, at national and international level, of the post graduation programme, both by implementing formal training for a degree and by continuous medical education, associated to the reinforcement of the School for promoting clinical research;
- consolidation of the MD/PhD program in collaboration with Jefferson Medical School, Philadelphia and Columbia Medical School, New York;
- strengthening of the faculty stability, associated with the qualification and youth of the staff and the easy recruitment of new qualified members;
- continuous enthusiasm of all staff to adhere to the innovative initiatives of the School operation;
- recognition and funding of the ICVS by FCT, as well as the significant number of projects financed by the Gulbenkian Foundation and other national and international agencies, having a strong impact on the working conditions and in improving critical mass for research and the commitment to research;

- standards of the working spaces and equipment and the function oriented organisation of the facilities;
- innovative and flexible coordination and management procedures;
- cooperation and enthusiastic support from the Health Services;
- multi-centre approach in the clinical training of the students, bringing a wider spectrum of Services and professionals into the clinical teaching;
- continuous support from the Rector and from the University of Minho.

In summary, all of the referred above is translated in the very favourable teaching and research environments lived at the ECS. At the School's level, the systematic monitoring kept on the project by a strong and informed leadership at all levels within the ECS, the commitment of staff and students to the project identity and the support and counselling from the External Advisory Committee are strong factors to keep the medical programme on the right track it has been pursuing.

6.2 A final comment

In July 2009, given the new law governing the Universities in Portugal introducing changes in the constitution of Advisory Councils, the School of Health Sciences received the last visit of the External Advisory Committee (EAC). We would like, at this moment, to pay a tribute to all the members of the EAC that accompanied the School from its creation, for the counselling, support and commitment always given to the educational and scientific project of ECS. It was very rewarding to the ECS community to realize that the EAC, in its last report, states that "It is with great satisfaction that the EAC acknowledges that having reached this milestone the School is successfully entering a most fruitful consolidated phase of its existence".

The School has been using its resources to the limits of its potential and the progresses accomplished so far have been achieved through effective teamwork, with an enormous commitment, enthusiasm and professionalism of all staff members and students, including the clinicians who cooperate with the School. A strong and sincere word of praise and thanks is due to all of them.

It is also rewarding to acknowledge the institutional support from the University and the interest from several university sectors that have been crucial for the ECS project.

Thus, at this point, it is very gratifying and impelling to verify that the ambitions ideas and goals formulated in the School's mission statement continue to be validated by good practices and to reach a high degree of accomplishment. Counting on the institutional support from the University, the enthusiasm of the School members and the goodwill of the many cooperating persons and entities, we will pursue with determination the efforts to maintain the dynamics of the ECS project.

Cecília Leão, Joana Palha, Jorge Pedrosa, Nuno Sousa

Directive Board of the School of Health Sciences

March, 2010

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APPENDIXES

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II - Clinical Coordinating Groups, Supervisors and Tutors at the Affiliated Hospitals and Health Centres

III - Report of Post-Graduation

APPENDIX Ia

REPORT BY THE EXTERNAL ADVISORY COMMITTEE

OF THE

ESCOLA DE CIÊNCIAS DA SAÚDE

REPORT BY THE EXTERNAL ADVISORY COMMITTEE (EAC)

July, 17 – 18, 2009

The following members were present at the site visit:

Alistair Warren (University of Sheffield)
Arsélio Pato de Carvalho (Universidade de Coimbra)
David McFadyen (University of Edinburgh, formerly World Health Organization)
Fernando Lopes da Silva (University of Amsterdam)
Joseph S. Gonnella (Thomas Jefferson University)
Walter Friedrich Osswald (Universidade do Porto)

Were not present but sent a message:
Eduardo Marçal Grilo (Fundação Calouste Gulbekian)

1. Introduction

The EAC visited the School of Health Sciences of the University of Minho on July 17 – 18, 2009. This meeting was the last one of the EAC, because the new by-law governing the Universities in Portugal led to changes in the constitution of Advisory Councils. Most EAC members have been involved with the School from the very beginning. It is with great satisfaction that the EAC acknowledges that having reached this milestone the School is successfully entering a most fruitful consolidated phase of its existence. As on previous occasions the EAC compliments the Faculty regarding the quality of the information received, notably the Bi-Annual Report of the School of Health Sciences and the Assessment of the Academic Year 2007-8 – A Snapshot.

2. Finances and other general questions

As in previous years the EAC has to emphasize its concern with the precarious financial condition of the School since the Ministry of Science and Higher Education has not yet fulfilled its promise of transferring the allocated funds to the School. Also the funds previously agreed upon by the Foundation for Science and Technology (FCT) are lagging behind schedule. The lack of funds for the Animal House continues to be a matter of great concern; the solution to this question should receive the highest priority.

3. The undergraduate curriculum

The presentation of the current Curriculum demonstrated that the School is continuing to make thoughtful adaptations of the latter, guided by the feedback received from the students and the assessment of the Faculty. The criticisms made by the EAC concerning "Pharmacology" appear to have been addressed, although the graduates noted that the training in "Therapeutics" is still below the desired level.
A considerable challenge is that the School was forced to increase the number of students enrolled in the first year. This increase in student numbers presents a major problem to the Faculty. The Annual Report and the discussions at the site-visit have

convinced the EAC that the Faculty is reacting adequately to this challenge. A special problem is that the School is forced to allocate students for clinical training at Hospitals and Health Centers that are at considerable distance from Braga, for instance at Viana do Castelo Consequently the Faculty is faced with logistic problems that have to be solved in an acceptable way for the students. During discussions with the students, they appeared to be willing to work with the Faculty to help solve this problem; this very positive attitude should be cherished by the Faculty.
A positive development in this regard is that the new Braga Hospital (Public/Private partnership) is being built very near to the campus (it should be ready in 2011), and that there are already protocols established between the University, the Faculty and the Hospital administration in order to integrate clinical teaching in the Hospital, forming a "Clinical Academic Center". The EAC advises the Faculty to monitor these developments very closely and to make further progress in building-up a comprehensive system of double appointments with clinicians involved in teaching, avoiding the creation of "Turbo-professors ". The EAC applauds the efforts of the Faculty to motivate clinicians to carry out research leading to a PhD degree, which appears already to have yielded successful results.
The EAC recognizes that the "centrifugal model" that the School has developed, where 9 Hospitals and Health Centers participate, is the most appropriate taking the local conditions into consideration. There is no uniform method of clinical teaching although the "case-based learning" model is mainly used. The strategy of combining teaching in a clinical environment outside the School building, with Cognitive learning localized centrally within the School is highly appropriate. Nonetheless the EAC understood, from the discussions with students, that this combination may be too demanding for the students in practice, due to the many visits required and the time needed to travel from peripheral Hospitals to the School. The Faculty should consider these criticisms and make adequate plans to solve these practical problems.
The EAC calls again attention for the considerable workload of the staff and advises that it is important to recruit more young staff members who should be given responsible positions with respect to the Curriculum.

4. The transition at the graduation stage

Although the requirements of the examination to obtain a position in the Portuguese Health System appear to be inconsistent with the basic philosophy of Minho's Medical Course the graduates performed very well in this test at the National level. The EAC recommends that the Faculty and student's organization continue to exercise their influence in the sense of modernizing this outmoded system of evaluating the capacities of young doctors at the threshold of their professional careers.
The students and graduates were offered the possibility of taking the American "Fundamental Board" examination on a voluntary basis. An appreciable number of students of the 3rd and higher cohorts accepted this challenge. The results obtained were clearly above average, which reinforces the conclusion that the School is preparing students according to high international standards. The fact that so many students accepted to sit the test is also a positive indication of their strong motivation to go beyond the traditional boundaries of the Faculty examinations.

5. Research at the ICVS and Postgraduate teaching

The EAC did not evaluate the research carried out at the ICVS since this is the task of the ICVS External Advisory committee, although it was noted that there are clear and strong links between research and teaching at the School. For the future the EAC

recommends that a new External Advisory Committee should advise regarding both aspects "research & teaching" since these are closely interrelated. The EAC was again impressed by the quality of the research being carried out at the Institute, as indicated by the increasing number of publications and their impact factor, in spite of the disappointment of the Faculty faced with the classification "Very Good" at the last FCT evaluation round of the research Unit.
As previously, the EAC considers that that the post-graduate program is an important asset of the School that merits continuing support. The achievements of this program in the last couple of years are remarkable.

6. MD/PhD programme

The possibility of carrying out research during the basic curriculum is another important asset of the School. This is reflected in the fact that several of the graduates with whom EAC talked, intend to carry out research combined with their post-graduate clinical training. A few follow the MD/PhD programme at Thomas Jefferson and Columbia Universities, what is an excellent asset for the School.

7. Medical Education Unit (MEU)

The EAC was very impressed by the activities of the Medical Education Unit and by the way the Unit's Head presented the statistical analysis of the student's performances with great rigor and detail. This analysis identified signals in first year students indicative of possible failure later during the course. This information should be used to help advise the students about their learning. This appears to be particularly relevant for the students belonging to "special contingents", that enter the Faculty outside the normal route.

8. Public Relations and fund raising

The EAC stresses that the School is, by now, well recognized in Portugal. At the previous visit the EAC suggested that the School should set up a special Committee with the aims of promoting public relations and fund raising. Although this was not yet done in a formal way, the EAC was pleased to hear that the School has obtained an important donation and is pursuing further activities in this area. Nonetheless the EAC continues to advise setting up such a Committee to give more body and visibility to these activities within the University and the Portuguese scientific community in general.

9. Role of the EAC and its renewal

A consequence of the new law governing Portuguese Universities is that the EAC in the present form should end.
The EAC recommended that the School should consider the formation of a new Advisory Council that preferably would be dedicated to consideration of both the Medical Curriculum and the Research Institute.

10. Concluding remarks

Since the last visit a new phase in the life of the Medical School started with the appointment of Professor Cecília Leão as the new Dean of the School, and Professors Nuno de Sousa and Jorge Pedrosa as vice-Deans. The EAC is happy to acknowledge that this new governing team has been very successful in guiding the School during this new phase of its existence and shows great potential for the continuing success of the Medical School. The EAC acknowledges also the very fruitful and intense interaction

between the Faculty and the Research Institute (ICVS), and is confident that the ICVS has excellent capabilities to provide a high level scientific environment for students and post-graduates. Therefore the EAC supports wholeheartedly its plan to apply for being accredited as "Laboratorio Associado" by FCT, what would help stabilizing the basic financing of the whole Institution.

APPENDIX Ib

REPORT BY THE EXTERNAL ADVISORY COMMITTEE

OF THE

INSTITUTO DE INVESTIGAÇÃO EM CIÊNCIAS DA VIDA E SAÚDE

Institut Pasteur

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U Développement des Lymphocytes

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Paris, 31 March, 2010

Report by the External Advisory Committee of the Instituto de Investigação em Ciências da Vida e Saúde

The External Advisory Committee of the Life and Health Sciences Research Institute (ICVS) visited the Institute on December 11th 2009. On that occasion the Committee attended presentations by the Research Domain Coordinators, visited the newly opened facilities of the ICVS, and met with the Direction, research staff, post-docs and students. In this report we summarize our opinion about the accomplishments in the past two years and offer some suggestions for the future.

We note the achievements of the ICVS for scientific creativity and productivity, across a spectrum of studies covering the 3 Domains of Research. We are happy to record the high quality of the research being conducted at the Institute. It is also gratifying to register the determined and intelligent way in which all the scientist at the Institute have been able to overcome the limitations imposed on their activities by a somewhat erratic schedule in the Calls for Grant Applications by the Ministry of Research. In spite of this limitation the scientists at the ICVS have published over 170 international articles in peer-reviewed publications, some of them in very high impact journals. It is of particular notice that those very high impact publications represent for the most part research carried out, primarily or exclusively, at the Institute.

The new resources, the containment level 3 laboratory and the animal model facilities for behavioral and surgical studies, are truly impressive accomplishments. These modern laboratories, excellently equipped and fully functional, will have a very significant impact in the research at the ICVS. We encourage the Health School and the relevant authorities to maintain constant support for the operation of these outstanding facilities, including funds for their expansion, should future developments justify it.

The goal of the External Advisory Committee is to help the ICVS to realize its full potential in a highly competitive research environment. ICVS will need to develop appropriate strategies regarding the scientific areas where their efforts should be concentrated. Judging from the output, be it measured in the number of scientific publications or the number of Masters' and PhD Thesis successfully defended, the Institute has clearly followed a winning strategy. We encourage the staff to continue in this

way, always taking care to avoid dispersing their (necessarily limited) resources on too many research programs.

Another crucial issue to determine the success of any research institute is the recruitment of scientific personnel. It is of course the aim of any recruiter to hire top quality researchers and the ICVS has clearly been very successful in that endeavor. But it is also very important that the scientific staff (including PIs, Post-Docs and Students) interact easily and can devote their best efforts to fruitful collaborations. This is precisely the impression we got from our visit and the leadership of the ICVS should be commended for fostering such a pleasant and productive working environment. Praise is also due to all the PIs at the ICVS for the attitude displayed by their collaborators: the conversations with the post docs and students revealed a strong "*Esprit de Corps*", built on a firm conviction that this is an excellent centre for them to be educated and to develop as researchers.

Finally, we should like to encourage all the scientists at the ICVS to pay constant attention to three issues that can negatively influence their research activities. The solutions to these problems are not entirely on their hands, but they should permanently be aware of their existence and grab all opportunities to resolve them, or at least mitigate, their impact:

A) *The Animal Facilities*

Unfortunately it has not yet been possible to obtain sufficient funds to build animal facilities of adequate dimensions to support the research activities of all the groups at the ICVS. Although the scientists have been able to cover their present needs by keeping the old facility open and adapting some rooms in the new building, this is far from satisfactory. It is imperative that a permanent long-term solution is found to this problem, so as not to impair the continuation of research at the ICVS.

B) *Online subscriptions*

A properly functioning Institute requires a well organized Library, with online access to all major scientific journals in all areas of research at the Institute. Although the situation at the ICVS has significantly improved over the past two years it is still far from ideal. We encourage the ICVS to develop strategies, for example by negotiating matching funds from research agencies,to fund a good set of subscriptions to major scientific journals. This is very important to allow adequate training and education of students and post-docs.

C) *Teaching responsibilities*

As in all academic research institutes, there is a trade-off between the time allocated to research and the time that has to be devoted to teaching duties. A proper balance is often difficult to obtain, but the ICVS has so far managed to do so and obtained substantial benefits from the interactions with colleagues in the medical school and in the area hospitals. We recommend that the scientists at the ICVS continue to pay careful attention to this point and avoid taking on excessive duties outside of their research activities.

Paulo Vieira (for the E.A.C. of the Life and Health Sciences Research Institute)

APPENDIX II

COMPOSITION OF THE CLINICAL COORDINATION GROUPS, SUPERVISORS AND TUTORS IN THE ACADEMIC YEAR 2008/09

The Clinical Coordination Group includes the following elements:

- *Nuno Jorge Carvalho de Sousa*, MD, PhD, Associate Professor/ ECS
- *António Jaime Botelho Correia de Sousa*, MD, MPh/ ECS,
- *Óscar Ferreira Rolão Candeias*, MD, Invited Full Professor/ ECS
- *Damião José Lourenço da Cunha*, MD, PhD, Invited Full Professor / ECS

a) ***The Medicine Coordination Group***

- *Nuno Sousa* (MD, PhD/ ECS)
- *Óscar Rolão Candeias* (MD/ ECS)
- *Damião Cunha* (MD, PhD/ ECS)
- *Abel Rua* (MD/ Hospital de Braga)
- *Jorge Cotter* (MD, PhD/ Centro Hospitalar do Alto Ave – Unidade de Guimarães)
- *Maria do Sameiro Ferreira* (MD/ Hospital de Braga)

b) ***The Woman, Mother and Child Health Coordination Group***

- *Nuno Sousa* (MD, PhD/ ECS)
- *Jorge Correia-Pinto* (MD, PhD/ ECS)
- *Domingos Jardim da Pena* (MD/ Hospital de Braga)
- *Pedro Cabrita* (MD/ Hospital de Braga)
- *Lucinda Antunes* (MD/ Hospital de Braga)
- *Almerinda Pereira* (MD/ Hospital de Braga)
- *Fernanda Tavares* (MD/ Centro Hospitalar do Alto Ave – Unidade de Guimarães)
- *Sofia Dantas* (MD/ Centro Hospitalar do Alto Ave – Unidade de Guimarães)
- *Pedro Freitas* (MD/ Centro Hospitalar do Alto Ave – Unidade de Guimarães)

c) ***The Mental Health Coordination Group***

- *Nuno Sousa* (MD, PhD/ ECS)
- *João Bessa* (MD, PhD/ ECS)
- *Alberto Bessa-Peixoto* (MD/ Hospital de Braga)

d) **The Surgery Coordination Group**

- *Nuno Sousa* (MD, PhD/ ECS)
- *João Espregueira Mendes* (MD, PhD/ ECS)
- *António Mesquita Rodrigues* (MD/ Hospital de Braga)
- *Carlos Alegria* (MD/ Hospital de Braga)
- *Carlos Santos* (MD/ Centro Hospitalar do Alto Ave – Unidade de Guimarães)

- *Fausto Fernandes* (MD/ Centro Hospitalar do Alto Ave – Unidade de Guimarães)

e) ***The Community Health and Family Medicine Coordination Group***

- *Jaime Correia Sousa* (MD, MSc, Family Medicine/ ECS)
- *Luís Laranjeiro* (MD, Family Medicine/ ECS)
- *Margarida Lima* (MD, Family Medicine/ ECS)
- *Mário Freitas* (MD, Public Health/ ECS)

f) ***The 6th year Hospital's Residences Coordination Group***

- *Nuno Sousa* (MD, PhD/ ECS)
- *Óscar Rolão Candeias* (MD/ ECS)
- *Damião Cunha* (MD, PhD/ ECS)
- *Abel Rua* (MD/ Hospital de Braga)
- *Jorge Cotter* (MD, PhD/ Centro Hospitalar do Alto Ave – Unidade de Guimarães)
- *Maria do Sameiro Ferreira* (MD/ Hospital de Braga)

In the current academic year, the following **Hospital Supervisors** are appointed for the on-going Residences and Sub-Specialities:

		HB	CHAA-Guimarães	ULSAM
Introduction to Clinical Medicine		**Maria do Sameiro Ferreira Abel Rua**	**Jorge Cotter**	----------
Medicine I		**Maria do Sameiro Ferreira Abel Rua**	**Jorge Cotter**	----------
	Internal Medicine	Abel RuaJorge Cotter Maria do Sameiro Ferreira	----------	
	Pneumology	João Cunha	Maria Manuel Figueiredo	----------
	Cardiology	Adelino Correia Adília Rebelo	João Almeida	----------
	Gastroenterology	Guilherme Macedo	José Cotter	----------
	Endocrinology	Altino Frias	----------	----------
Maternal-Child Health				
	Gynaecology	Domingos Jardim da Pena	Fernanda Tavares	----------
	Obstetrics	Lucinda Antunes	Sofia Dantas	----------
	Paediatrics	Almerinda Pereira	Pedro Freitas	----------
Mental Health				
	Psychiatry	Alberto Bessa-Peixoto	----------	Aníbal Ribeiro da Fonte
Surgery		**A. Mesquita Rodrigues**	**Carlos Santos**	----------
	General Surgery	A. Mesquita Rodrigues	Carlos Santos	----------
	Urology	Américo Ribeiro Santos	Carlos Guimarães	----------
	Ophthalmology	Vítor Soares	Luís Gonçalves	----------
	ORL	Tiago Godinho	Fausto Fernandes	----------
	Orthotraumatology	Agostinho Veloso	Joaquim Ribeiro	----------
	Neurosurgery	Carlos Alegria	----------	----------
Medicine II		**Maria do Sameiro Ferreira Abel Rua**	**Jorge Cotter**	----------
	Internal Medicine	Maria do Sameiro Ferreira Abel Rua	Jorge Cotter	----------
	Infectious Diseases	Maria do Sameiro Ferreira	Jorge Cotter	----------
	Nephrology	Abel RuaJorge Cotter	----------	
	Neurology	João Ramalho Fontes	Maria Lurdes Rodrigues	----------
	Hemato-oncology	Rui Nabiço António Marques	Camila Coutinho	----------
	Dermatology	Celeste Brito	António Ferrete	----------

Hospital Residences – 6th year

Internal Medicine	Maria do Sameiro Ferreira Abel Rua	Jorge Cotter	Fernando Gomes
Gynaecology	Domingos Jardim da Pena	Fernanda Tavares	José António Maia
Obstetrics	Lucinda Antunes	Sofia Dantas	José António Maia
Paediatrics	Almerinda Pereira	Pedro Freitas	José António Amorim
Mental Health	Alberto Bessa-Peixoto	----------	Aníbal Ribeiro da Fonte
Surgery	A. Mesquita Rodrigues	Carlos Santos	Alberto Midões

Community Health and Family Medicine

Helder Lanhas/Cristiana Sousa	Centro de Saúde: Braga
Alexandre Gouveia	Centro de Saúde: Ponte de Lima; Arcos de Valvedez; Ponte da Barca; Viana do Castelo
Luís Laranjeiro	Centro de Saúde: Guimarães; Caldas das Taipas; Cabeceiras de Basto; Fafe; Vizela; Vila Verde
Jaime Correia de Sousa	Centro de Saúde: Matosinhos; Senhora da Hora; Vila do Conde; Aldoar
Margarida Lima	Centro de Saúde de Braga; Esposende; Ponte de Lima; Póvoa de Lanhoso

In the curricular areas of *Training in a Health Centre*, *Follow up of a Family* and *Introduction to Community Health* the students are also accompanied by clinical tutors, coordinated by Supervisors in each Health Centre. The MDs involved as Supervisors are:

Training in a Health Centre	Margarida Lima	Centro de Saúde de Barcelos Centro de Saúde de Póvoa de Lanhoso Centro de Saúde de Amares Centro de Saúde de Vieira do Minho Centro de Saúde de V. N. Famalicão Centro de Saúde de Vila Verde Centro de Saúde de Braga
	Luís Laranjeiro	Centro de Saúde de Cabeceiras de Basto Centro de Saúde de Fafe Centro de Saúde das Taipas Centro de Saúde de Guimarães Centro de Saúde de Vizela
Follow-up of a Family		
Follow-up of a Family I	Margarida Lima	Centro de Saúde de Braga Centro de Saúde de Vila Verde
	Luís Laranjeiro	Centro de Saúde de Cabeceiras de Basto Centro de Saúde de Fafe Centro de Saúde de Vizela Centro de Saúde de Guimarães
	Jaime Correia de Sousa	Centro de Saúde de Matosinhos
Follow-up of a Family II	Margarida Lima	Centro de Saúde de Braga Centro de Saúde de Amares Centro de Saúde de Vila Verde

In the current academic year, the following **Hospital Supervisors and Tutors** are appointed for the on-going Residences and Sub-Specialities:

Introduction to Clinical Medicine

Hospital	Specialty	Supervisor	Tutor
HB	Internal Medicine	Abel Rua	Francisco Nunes Gonçalves
			Maria João Regadas
			Paulo Gouveia
			Sofia Esperança
		Maria do Sameiro Ferreira	Adolfo Silva
			Cristina Ângela
			Marco Diogo
			Narciso Oliveira
CHAA-Guimarães	Internal Medicine	Jorge Cotter	Carlos Fernandes
			Clarisse Neves
			Olinda Caetano
			Helena Sarmento
			Emília Lopes
			Natália Oliveira
			Pedro Cunha
			Elisa Torres

Medicine I

Hospital	Specialty	Supervisor	Tutor
HB	Internal Medicine	Abel Rua	Sofia Esperança
			Francisco Nunes Gonçalves
			Guilherme Gomes
			Maria João Regadas
			Maria do Céu Rodrigues
		Maria do Sameiro Ferreira	Cristina Ângela
			Narciso Oliveira
			Manuela Rocha
			Carla Melo
			Teresa Pimentel
			Marco Diogo
	Pneumology	João Cunha	Lourdes Iglésias
			Lurdes Ferreira
			João Cunha
			Manuel Macedo
	Cardiology	Adelino Correia Adília Rebelo	Alberto Salgado
			António Gaspar
			Pedro Azevedo
			Márcia Torres
			Sílvia Ribeiro
	Gastroenterology	Guilherme Macedo	Carla Rolanda
			Raquel Gonçalves
			João Bruno Soares
			Pedro Pereira
	Endocrinology	Altino Frias	Catarina Matos
			Maria Lopes Pereira
			Filipe Mota
			Olinda Marques
CHAA-Guimarães	Internal Medicine	Jorge Cotter	Clarisse Neves
			Sara Freitas
			Margarida Rocha
			Helena Sarmento
			Emília Lopes
			Natália Oliveira
			Pedro Cunha
			Elisa Torres
	Pneumology	Maria Manuel Figueiredo	António Duarte Araújo
			Maria Manuel Figueiredo
	Cardiology	João Almeida	Francisco Sousa
			Filipa Almeida
			António Lourenço

			Isabel Quelhas
	Gastroenterology	José Cotter	José Cotter Ana Rebelo José Ribeiro Maria João Basto Pedro Moutinho Sílvia Leite

Mental Health

Hospital	Specialty	Supervisor	Tutor
HB	Psychiatry	Alberto Bessa-Peixoto	Maria Luísa Silva António Sousa Cepa Jorge Gonçalves Natália Fernandes Ana Garcia Aníbal Abrantes David Jurjo Sónia Simões Patrício Ferreira Luís Fonseca Sónia Azenha
ULSAM	Psychiatry	Aníbal Ribeiro da Fonte	Paula Pina Fernando Dourado Aníbal Ribeiro da Fonte Inês Barradas Maria Mercedes Marino

Maternal-Child Health

Hospital	Specialty	Supervisor	Tutor
HB	Gynaecology	Domingos Jardim da Pena	Pedro Cabrita
			Paula Serrano
			Etelvina Cruz
			Afonso Rocha
	Obstetrics	Lucinda Antunes	Luís Carvalho
			Luísa Cardoso
			Cardoso Ricardo
			Blandina Gil
	Paediatrics	Almerinda Pereira	Henedina Antunes
			Sofia Martins
			Susana Nunes
			Isabel Cunha
			Carla Sá
			Albina Silva
			Augusta Gonçalves
			Helena Silva
			Íris Maia
			Carla Moreira
CHAA-Guimarães	Gynaecology	Fernanda Tavares	Vivas de Freitas
			Isabel Reis
			Rui Miguelote
			Pedro Oliveira
			Conceição Príncipe
			Vera Costa
			Manuela Mesquita
	Obstetrics	Sofia Dantas	Diana Coelho
			Ricardo Santos
			Alice Vilas Boas
			Ana Maria Andrade
			Elsa Pereira
			Adosinda Rosmaninho
			Rosa Maria Fernandes
	Paediatrics	Pedro Freitas	Joana Neves
			Armandina Costa
			Carla Meireles
			Ana Luísa Lobo
			Cristina Ferreira
			Cláudia Neto
			Agostinha Costa
			Clara Paz Dias
			Maria José Costeira

			Maria José Vale

Surgery

Hospital	Specialty	Supervisor	Tutor
HB	General Surgery	A. Mesquita Rodrigues	Joaquim Falcão
			Sónia Vilaça
			Mário Reis
			Conceição Antunes
			Fernando Manso
			Javier Lamelas
			Pedro Leão
			Helena Marques
		António Gomes	Virginia Soares
			Pedro Koch
			Ana Martins
			Maia da Costa
			Dina Luis
			Carlos Gomes
			Rosa Capelo
	Urology	Américo Ribeiro Santos	Miguel Mendes
			André Quinta
			António Pedro Carvalho
			Jorge Cabral Ribeiro
			Mário Oliveira
	Ophthalmology	Vítor Soares	Sandra Guimarães
			Carla Ferreira
			Fernando Silva
			Natacha Perdomo
			Teresa Pacheco
	ORL	Tiago Godinho	Francisco Oliveira
			Gabriel Pereira
			Berta Rodrigues
			Sérgio Vilarinho
			Eduardo Astraca
			Nuno Marçal
	Orthotraumatology	Agostinho Veloso	Helena Vaz Ferreira
			Ramiro Fidalgo
			António Pedro Silva
			Martins Pereira
	Neurosurgery	Carlos Alegria	Rui Almeida
			Afonso Almeida Pinto

			José António Costa
			Miguel Afonso
			Nuno Morais
CHAA-Guimarães	General Surgery	Carlos Santos	Manuel Ferreira
			Carlos Santos Costa
			Jorge Magalhães
			João Reis
			Lima Terroso
	Urology	Carlos Guimarães	Carlos Guimarães
			Jaime Faria
	Ophthalmology	Luís Gonçalves	Luís Gonçalves
			António Fernandes
	ORL	Fausto Fernandes	Francisco Moreira da Silva
			Fausto Fernandes
			Carlos Matos
			Nuno Lousan
			Rui Fonseca
	Orthotraumatology	Joaquim Ribeiro	Carlos Vilela
			António Gomes Cruz
			Vítor Caetano
			Manuel Loureiro
			Joel Reis

Medicine II

Hospital	Specialty	Supervisor	Tutor
HB	Internal Medicine	Abel Rua	Sofia Esperança
			Francisco Nunes Gonçalves
			Maria do Céu Rodrigues
			Maria João Regadas
		Maria do Sameiro Ferreira	Adelina Ferreira
			Narciso Oliveira
			Manuela Rocha
			Ilídio Brandão
	Infectious Diseases	Maria do Sameiro Ferreira	Alexandre Carvalho
			Cristina da Angela
			Teresa Pimentel
	Nephrology	Abel Rua	Isabel Tavares
			Carlos Soares
	Neurology	João Ramalho Fontes	Esmeralda Lourenço
			Carla Ferreira
			Ricardo Maré
			João Pereira
			Pedro Beleza
	Hemato-oncology	Rui Nabiço	Júlia Amorim
			Teresa Macedo
			Herlander Marques
		António Marques	Madalena Calheiros
			Ana Paula Barbosa
	Dermatology	Celeste Brito	Maria da Luz Duarte
			José Carlos Fernandes
			Ana Paula Vieira
			Teresa Pereira
			Cristiana Macedo
CHAA-Guimarães	Internal Medicine, Infectious Diseases and Nephrology	Jorge Cotter	Clarisse Neves
			Filipe Gonçalves
			Sandra Barbosa
			Helena Sarmento
			Emília Lopes
			Natália Oliveira
			Pedro Cunha
			Elisa Torres
	Neurology	Maria Lurdes Rodrigues	Ângela Sousa Silva
	Hemato-oncology	Camila Coutinho	Camila Coutinho
	Dermatology	António Ferrete	António Ferrete
			Olga Pereira

Hospital Residences – 6th year

Hospital	Specialty	Supervisor	Tutor
HB	Internal Medicine	Abel Rua	Rosário Araújo
			Juan Garcia
			Francisco Nunes Gonçalves
			Maria João Regadas
			Maria do Céu Rodrigues
			Sofia Esperança
		Maria do Sameiro Ferreira	Adelina Ferreira
			Ilídio Brandão
			Alexandre Carvalho
			Adolfo Silva
			Narciso Oliveira
			Cristina da Ângela
			Teresa Pimentel
			Manuela Rocha
	General Surgery	A. Mesquita Rodrigues	Teresa Carneiro
			Pedro Koch
			Carlos Gomes
			Sandra Martins
			Javier Lamelas
			Dina Luís
			Fernando Manso
			Joaquim Falcão
			Maia da Costa
			Conceição Antunes
			Sónia Vilaça
			Virgínia Soares
	Psychiatry	Alberto Bessa-Peixoto	Ana Garcia
			Natália Fernandes
			David Jurjo
			Maria Luísa Silva
			Sónia Azenha
			Luís Fonseca
	Gynaecology	Domingos Jardim da Pena	Afonso Rocha
			Isabel Jardim
			Pedro Cabrita
			Paula Serrano
			Gabriel Borges
			Teresa Coutinho
	Obstetrics	Lucinda Antunes	Cardoso Ricardo
			Luísa Cardoso
			Lucília Araújo

			Blandina Gil
			Manuel Saleiro
			Luís Carvalho
			Judite Barros
	Paediatrics	Almerinda Pereira	Eduarda Abreu
			Bernardete Fernandes
			Licínio Félix
			Teresa Pontes
CHAA-Guimarães	Internal Medicine	Jorge Cotter	Carlos Fernandes
			Sara Freitas
			Helena Sarmento
			Natália Oliveira
			Pedro Cunha
			Elisa Torres
			Glória Alves
			Margarida Rocha
			Filipe Gonçalves
			José Miguel Sá
			Emília Lopes
			Clarisse Neves
			Sandra Barbosa
	General Surgery	Carlos Santos	Manuel Ferreira
			Carlos Santos Costa
			Carlos Alpoim
			Jorge Magalhães
			João Reis
			Lima Terroso
	Gynaecology/ Obstetrics	Fernanda Tavares/ Sofia Dantas	Sofia Dantas
			Moisés Moreira
	Paediatrics	Pedro Freitas	Pedro Freitas
			Marta Santalha
			Liliana Macedo
			Andreia Lopes
			Sandra Costa
			Filipa Correia
			Rute Moura
			Lara Lourenço
			Filipe Oliveira
			Luís Ribeiro
			Silvaña Ray
			Susana Soares
			Tiago Prazeres
ULSAM	Internal Medicine	Fernando Gomes	Nuno Morais

		Manuel Ferreira
General Surgery	Alberto Midões	Francisco Fanzeres Fernando Barbosa
Psychiatry	Aníbal Ribeiro da Fonte	Paula Pina Mercedes Marino
Gynaecology/ Obstetrics	José António Maia	José António Maia João Pedro Patrão
Paediatrics	José António Amorim	Ana Rita Araújo Beatriz Manuela Sousa

As for the Residences in *Community Health and Family Medicine*, the **Supervisors and Tutors in the Health Centres** are:

Health Centres I

Supervisor	Health Centre	Unit	Tutor
Helder Lanhas /Cristiana Sousa	Centro de Saúde Braga	Unidade Saúde de Maximinos – Sede	Ana Filipa Pimentel Paula Marques Carlos Falcão
		Unidade Saúde de Maximinos – Tebosa	Margarida Marques
		Unidade Saúde de Maximinos – Cabreiros	Madalena Cerqueira Maria José Menezes
		Unidade Saúde de Infias – Ruães	Maria Raindo
		Unidade Saúde de Infias – Sede	Rosário Portugal Graça Vasconcelos
		Unidade Saúde do Carandá	Teresa Figueiredo Elizabete Rocha Adelaide Alves José Pelaez Carones
		USF +Carandá	Maria Antónia Miguel Maria Palmira Carneiro Milena Rouytcheva Tahydi Valle
Alexandre Gouveia	Centro de Saúde Ponte de Lima	Sede	Isabel Venâncio
		USF Lethes	Eloy Boo Raquel Mendez
Luís Laranjeiro	Centro de Saúde Vila Verde	Escariz	José Manuel Rego
		Prado	Ana Maria Lemos Cândida Carlos Isabel Soares
		Sede	Teresa Andrade Rita Pinheiro
	Centro de Saúde Fafe	USF Fafe Sentinela	Mário Castro Isabel Pinto Albertina Sousa Conceição Almeida
	Centro de Saúde Guimarães	USF S. Nicolau – Amorosa	Maria José Teixeira Mário Antunes Rui Caetano Maria José Dinis

		USF Vimaranenses – Urgeses	Marco Pina
	Centro de Saúde Caldas das Taipas	USF Ara de Trajano	Nuno Dias Eduarda Meneses Célia Nunes Mário Dias
		USF Duovida – Briteiros	Luísa Ferraz Fernanda Rodrigues
		USF Duovida – Taipas	Alice Pérez Alberto Pérez Abília Fernandes
		USF Ponte	Maria João Varandas Alcina Pires Celina Peliz
		USF Ronfe	António Miguelote
	Centro de Saúde Vizela	USF Novos Rumos	Conceição Costa
		USF Physis	Armando Guimarães Henrique Machado José Baleiras Fernandes Margarida Barbosa Maria de Lurdes Miguelote Maria Resgate Salsa
Jaime Correia de Sousa	Centro de Saúde Senhora da Hora	Senhora da Hora	Cristiana Silva
	Centro de Saúde Aldoar	USF Serpa Pinto	Bernardo Vilas Boas
	Centro de Saúde Matosinhos	USF Horizonte	Raquel Castro
		USF Oceanos	Susana Ribeira
	Centro de Saúde Vila do Conde	USF Santa Clara	Patrícia Coelho

Health Centres II

Supervisor	Health Centre	Unit	Tutor
Helder Lanhas / Cristiana Sousa	Centro de Saúde Braga	Unidade Saúde de Maximinos	Paula Marques
		Unidade Saúde de Maximinos – Cabreiros	Madalena Cerqueira Maria José Menezes
		USF Manuel Rocha Peixoto – Maximinos	Helder Lanhas Ana Filipa Pimentel Manuela Macedo Maria Augusta Pereira
		Unidade Saúde de Infias – Ruães	Margarida Marques
		Unidade Saúde de Infias	Luísa Carvalho Patrícia Tavares
		Unidade Saúde do Carandá	Elisabete Rocha
		USF +Carandá	Maria Antónia Miguel Maria Palmira Carneiro Milena Rouytcheva Tahydi Valle
Luís Laranjeiro	Centro de Saúde Vila Verde	Escariz	José Manuel Rêgo
		Prado	Ana Maria Lemos Cândida Carlos Isabel Soares
		Vila Verde	Teresa Andrade Rita Pinheiro
	Centro de Saúde Cabeceiras de Basto	Cabeceiras de Basto	Manuel Sá Nogueira Serafim China Pereira
	Centro de Saúde Fafe	USF Fafe Sentinela	Isabel Pinto
	Centro de Saúde Guimarães	Amorosa	José Vieira da Silva
		Serzedelo	Susana Moreira
		USF S. Nicolau – Amorosa	Maria José Teixeira Mário Antunes Rui Caetano Maria José Dinis
		USF Vimaranenses - Urgeses	Marco Pina Teresa Nunes
	Centro de Saúde Caldas das Taipas	USF Ara de Trajano	Nuno Dias Eduarda Meneses Célia Nunes Mário Dias
		USF Duovida – Briteiros	Luísa Ferraz
		USF Duovida – Taipas	Alberto Pérez Alice Pérez

		USF Ponte	Maria João Varandas Celina Peliz Alcina Pires
		USF Ronfe	António Miguelote
	Centro de Saúde Vizela	USF Physis	Armando Guimarães Henrique Machado José Baleiras Fernandes Maria de Lurdes Miguelote Maria Resgate Salsa
Jaime Correia de Sousa	Centro de Saúde Senhora da Hora	Senhora da Hora	Cristiana Silva Maria Antónia Araújo
	Centro de Saúde Matosinhos	Matosinhos	Cláudia Bernardo
		USF Oceanos	Susana Ribeira
	Centro de Saúde Aldoar	USF Serpa Pinto	Susana Carvalho
	Centro de Saúde Vila do Conde	USF Santa Clara	Benedita Graça Moura
Alexandre Gouveia	Centro de Saúde Arcos de Valvedez	USF Uarcos	Belén Blanco Lurdes Lopes
		USF Vale do Vez	Laura Santos
	Centro de Saúde Ponte da Barca	Ponte da Barca	Elvira Alves
	Centro de Saúde Viana do Castelo	Viana do Castelo	Maria da Luz Monteiro Bernardete Lopes

Public Health

Supervisor:

Mário Freitas

Tutors:

Zulmira Afonso (Arcos de Valvedez)
Amaro Domingues (Braga)
João Manuel Cruz (Braga)
José Guilherme Ribeiro (Espinho)
Matos Oliveira (Fafe)
Mercedes Pardo (Fafe)
Jaime Baptista (Matosinhos)
Eduarda Ferreira (Porto)
Alice João Maia (Póvoa do Varzim)
Ana Maria Tato Aguiar (Trofa)

Rui Jorge (Vila do Conde)
José Manuel Araújo (Vila verde)
João Carlos Reis (Vizela)

Health Centres III

Supervisor	Health Centre	Unit	Tutor
Margarida Lima	Centro de Saúde da Póvoa de Lanhoso	Póvoa de Lanhoso	Samuel Currás Anabela Ferreira
	Centro de Saúde de Ponte de Lima	Ponte de Lima	Manuel Martins Parente Isabel Venâncio
		USF Lethes	Cecília Abreu Raquel Mendez
		Unidade de Saúde de Vila Verde	Rita Pinheiro Teresa Andrade
	Centro de Saúde de Braga	Adaúfe	Mário Mendonça
		Cabreiros	Maria José Menezes
		Maximinos – Veiga do Penso	Ana Filipa Pimentel
		Unidade Saúde do Carandá	Palaez Carones
	Centro de Saúde de Esposende	Esposende / Fão	Dulce Pereira Maria do Céu Pinto Nazaré Zélia
Luís Laranjeiro	Centro de Saúde das Caldas das Taipas	USF Ara de Trajano	Mário Dias Nuno Dias Célia Nunes Eduarda Menezes
		USF Duovida – Briteiros	Fernanda Rodrigues Luísa Ferraz
		USF Duovida – Taipas	Abília Fernandes Alice Pérez Alberto Pérez João Carvalho
		USF Ponte	Maria João Varandas Alcina Pires Celina Peliz
		USF Ronfe	Miguelote Castro Paula Silva
	Centro de Saúde de Guimarães	USF Vimaranenses – Urgeses	Marco Pina
		USF S. Nicolau – Amorosa	Mário Antunes Maria José Dinis Maria José Teixeira
	Centro de Saúde de Cabeceiras de Basto	Cabeceiras de Basto	Manuel Sá Nogueira
	Centro de Saúde de Fafe	USF Arões	José Rodrigues Magda Santos
		USF Sentinela	Albertina Sousa Conceição Almeida

			Isabel Pinto
	Centro de Saúde de Vizela	USF Novos Rumos	António Carvalho
			Conceição Costa
		USF Physis	Henrique Machado José Baleiras Fernandes
Jaime Correia de Sousa	Centro de Saúde de Matosinhos	USF Oceanos	Susana Ribeira
		USF Horizonte	Maria José Ribas
	Centro de Saúde da Senhora da Hora	Senhora da Hora	Cristiana Silva
	Centro de Saúde de Vila do Conde	USF Santa Clara	Benedita Graça Moura Susana Cadilhe

APPENDIX III

REPORT OF POST-GRADUATION 2009

Index

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, 12 and 9 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. 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.

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 2009 in addition to the 19 courses included in the international postgraduate program, 5 courses as part of formal programs of doctoral and master's degrees, also opened to external participation, were offered by ECS. Below are listed all the courses and workshops proposed for 2009. Detailed information on the courses and workshops is available at (http://www.ecsaude.uminho.pt/).

Leading the Path in Cataract Surgery: Sub-2mm Cataract Surgery
Vitor Soares, Fernando Silva, Nuno Sousa
10th January

Drug Treatment of Psychiatric and Neurological Disorders
An European Neuroscience Schools Course (EURON)
Joana Palha, Nuno Sousa
9th -13rd February

Animal Cell and Tissue Culture: From Basic Principles to Advanced Techniques
António Salgado, Margarida Saraiva, Sandra Costa

16th – 20th February

Fundamentals in Neurosciences: Morphological and Behavioral Approaches

José M. Pêgo, João C. Sousa

9th -13rd March

An Overview of Common Methods and Procedures Used to Set Exam Standards

Manuel João Costa

18th March

Hands-on Course on Gynecological Laparoscopy

Jorge Correia-Pinto, Estêvao Lima, António Alves, Tiago Henriques-Coelho

23rd – 25th March

International Hands-on Course in Fetal and Neonatal Endoscopic Surgery

Jorge Correia-Pinto, Estêvao Lima, António Alves, Tiago Henriques-Coelho

26th – 28th de March

Gene Silencing Using RNA Interference: Lectures and Hands-on

Elsa Logarinho, Paula Ludovico

2nd – 5th June

Applications of Flow Cytometry in Biomedical Research

Paula Ludovico, Margarida Correia-Neves

15th – 17th June

Neuroimmune Interactions

Within the COST action Neurinfnet

Joana Palha, Nuno Sousa

22nd – 27th June

Neurosurgical Workshop: Vascular and Tumor Surgery

Carlos Alegria, Manuel Cunha Sá, Rui Almeida

26th – 27th June

Fundamentals in Neuroscience

José M. Pêgo, João C. Sousa

21st September – 2nd October

Microsurgical Anastomosis

Pedro Leão, Nuno Sevivas, Mário Oliveira, Braga dos Anjos

24th – 26th September

Fundamentals in Immunology and Infection

Paula Ludovico, Gil Castro

6th – 16th October

3rd Minimally Invasive Surgical Week in Laparoscopy, Endoscopy and N.O.T.E.S.

Jorge Correia-Pinto, Estêvao Lima, José L Carvalho, Novo de Matos

12th – 16th October

Fundamentals of Genetics, Development and Neoplasia

Jorge Correia-Pinto, Raquel Andrade, Rui M. Reis

19th – 30th October

Laboratory Animal Science, 5th Edition

(according to FELASA category C recommendations)

Magda Carlos, Margarida Correia Neves

9th – 20th Movember

Hands-on Course: Sulci, Gyri, Ventricles and Fibers Dissecting 7th Edition

Nuno Sousa, Carlos Alegria, Evandro de Oliveira

16th – 20th November

Biostatistics in health sciences

Pedro Oliveira

23rd November – 4th December

Bioinformatics in health sciences

Raquel Andrade

7th – 18th December

Courses postponed

Hands-on Course: Treatment and Quantitative Analysis of Digital Images

Elsa Logarinho
26th - 31st January

Assessment Methodologies in Occupational Health
Amaro Domingues, Mário Freitas
4th – 8th May

An Introduction to the MicroRNA World
Raquel Andrade, Isabel Palmeirim
10th – 12th September

Leading the Pathway in Cataract Surgery: Last Generation of Accommodative Lens
Vítor Soares, Fernando Silva, Nuno Sousa
7th November

2.1 Sponsors

To run the international postgradute programme, we obtained financial support from several companies: Bonsai Technologies, VWR International, ENZIfarma, INOPAT, Olympus, Roche, Sarstedt, Industrial Laborum, Bioportugal, Bio-Rad and Tadinense. Due to several different constraints only ENZIfarma, INOPAT, Olympus, Bioportugal, Bio-Rad and Tadinense effectuated the financial support. 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 2009 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. In particular, for the fifth consecutive year we offered the training on "Laboratory Animal Science", which provides international certification for research using animal models. The course "Hands-on Course: Sulci, Gyri, Ventricles and Fibers Dissecting" also had its 7th edition reinforcing the relevance of the new laboratory of neurosurgery for advanced training. Among the multiplicity of courses and workshops offered we would like to also highlight the "3rd Minimally Invasive Surgical Week: Laparoscopy, Endoscopy and NOTES" that allowed the specialized training of medical doctors on the third generation surgery, a novel and emerging area on surgery. Similarly, but more devoted to researchers in biomedical sciences we had the third edition of the course "Animal Cell and Tissue Cultures: From Basic Principles to Advanced Techniques".

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 2009, we have a total of 424 participants in the courses and workshops. Figure 1 presents the participant's professional background distribution in 2009. During the year 2009 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.

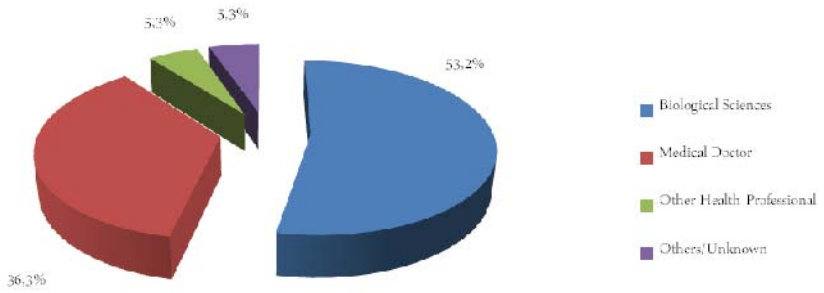

Figure 1 - Background distribution of the participants ("Other Health Professionals" include participants having as background pharmacy, psychology or clinical analysis and public health; "Others" include participants having as background polymer, biotechnological, biological, food technology or chemical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

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

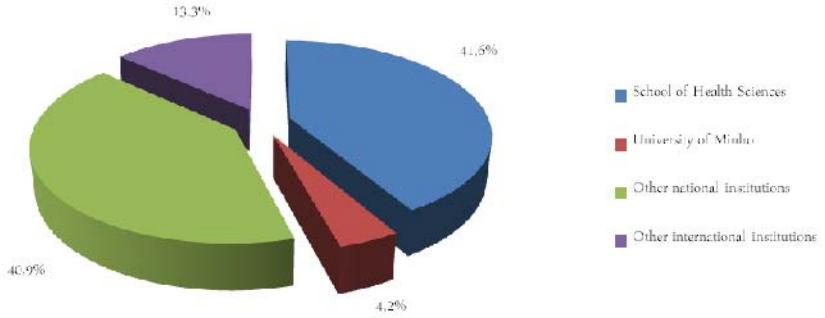

Figure 2 – Participants affiliation.

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 334 out of the 424 total participants to evaluate several aspects of each course. The overall evaluation provided the results presented in Figure 3: excellent (35%), Very good (51%), Good (12%), Sufficient (2%), Weak/Poor (0%).

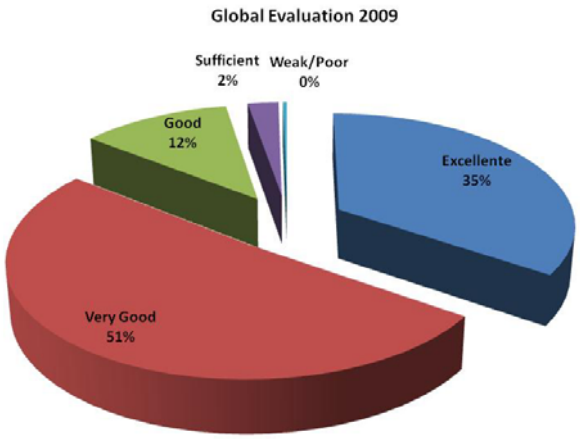

Figure 3 – Evaluation results.

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 Cln3Δex7/8 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 Alzeimer'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