School of Health Sciences

BI-ANNUAL REPORT

2007 & 2008

University of Minho

1. INTRODUCTION

The School of Health Sciences (ECS) has graduated the first cohort of medical students in October 2007. This crucial moment in any educational community, should be viewed as a milestone: the implementation period was over and the consolidation period had now started. Importantly, at the same time, the transfer of ECS to the definitive facilities has added a new dimension to the project.

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, a collaborative effort with the National Board of Medical Examiners (USA) was set up that allowed Minho' medical students to participate in an international experience of assessment of clinical knowledge (along with Medical Schools from Italy and Belgium). The performances of students and the first graduates were 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 (4% and 5% above mean national scoring in 2007 and 2008, respectively).

The creation of the clinical skill laboratory in January 2008, with the financial support of Fundação Calouste Gulbenkian, should also be highlighted. 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 strategy designed in 2003 for the development of a high profile research unit within the ECS, the Life and Health Sciences Research Institute (ICVS), has reached a new stage. In fact, in 2008 the ICVS was installed in a 6000 m^2 area in the new building, leading to the set up of important advances in the scientific infrastructures. The key achievements of the Institute's initial years of existence have been the differentiation of staff and the building up of research lines. These advancements were accompanied with an explicit encouragement to increase the integrative scope of the research projects within the three Research Domains of ICVS: Development & Neoplasia, Microbiology & Infection and Neurosciences. As a result, the scientific production has increased progressively, both quantitatively and quantitatively. Indeed, 347 articles were published in

international journals between 2003 and 2008 (191 in 2007-08) and the average impact factor reached 3.5 in 2007-08. In the same 6-year period, 29 PhD theses were concluded at the ICVS (19 in 2007-08).

Importantly, in 2007 the first MD-PhD students started their post-graduation activities at Jefferson Medical College - Philadelphia - and Columbia Medical School - New York. Their integration in the research teams at these two prestigious USA Universities has been very positive. New medical students have started their research activities in the USA, and several are already engaged in their preparatory laboratory rotations at the ECS. Of notice, at this interface between medical education and research, is the high percentage (for national standards) of Minho's graduates that have enrolled in PhD programmes (10%). Within the new Bologna structure, the MD programme was formally approved in 2006 as an "integrated first and second cycle degree" (*Mestrado Integrado em Medicina*). The successful conclusion of the first three curricular years confers a first cycle degree on Basic Medicine Sciences (*Licenciatura em Ciências Básicas de Medicina*). In 2009, a formal PhD and Master programme will be offered by the ECS. This experience will also represent a new educational challenge for the ECS/ICVS that will be addressed, as always, making use of one of the most evident traits of this institution: innovation.

The detailed data on the scientific and pedagogical activities in 2007-2008 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.

It is now also the right time to reappraise the process of the installation of the ECS (and, if possible, learn from this "case-study"). This institutional project was developed in the terms of a contract between the Government and the University of Minho, signed in February 2000. The University and the ECS have so far complied with all the clauses of the contract. Unfortunately, the same is not the case for the Government, which resulted in significant infrastructural delays. Despite all the delays in this process, the ECS moved into its new facilities in September 2007. However, the Animal Facility (awaiting the Ministry/FCT formal approval since July 2004) is yet to be built.

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.

Finally, it is of the utmost relevance to mention the start of the construction of the new hospital of Braga in close vicinity of the University Campus, scheduled for conclusion in May 2011. This 700 bed facility will create new educational and scientific opportunities. The same is true from the management perspective, as the interplay with the new Hospital will require new forms of linkages between these two partners. In fact, the new Hospital is a public-private partnership which calls for a novel model for the interplay between a Medical School and a Hospital in Portugal; so far, the interactions have been extremely positive and innovative strategies are expected to be generated by the partnership. This will not deviate the School from investing in the reinforcement of the interactions with the other main Hospital partner (Centro Hospitalar do Alto Ave-Guimarães) and the greater involvement of the Unidade Local de Saúde do Alto Minho (Viana) in the scope of the undergraduate clinical training.

From the financial perspective, 2007 and 2008 has been a very difficult period for the University as a whole, and as a consequence for the Medical School. In fact, there have been significant reductions in the budget of the University and of the ECS that have been mitigated through extremely rigorous financial management policies; however, the resulting impossibility of hiring new staff represented an increased burden for all members in the educational community. Notwithstanding all the difficulties in the development of the contract, the zeal of the ECS members, 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 highlight the significant and meaningful achievements of the ECS project in 2007 and 2008. They were feasible due to the previous outstanding achievements of the ECS Steering Committee. It is our belief that we are paving the way to achieve the goals dreamed by the founders of the project... and what a fascinating journey this is!

2. PLANS AND STRATEGIES FOR 2007 and 2008

2.1 Objectives and Policies

The main objectives established for 2007 and 2008 were to consolidate the undergraduate medical programme, to continue the preparation of the infrastructures, proper facilities and equipments, 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 (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 new building 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; for this effect, contacts with the new partner (public/private partnership) at the Hospital de Braga were initiated;

- to revise the School's internal regulations 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 Organisation and Management

After the end of the installation period (October 2007) and the consequent dissolution of the Steering Committee, 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,* (Director of Post-graduation).

The Directive Board met on a weekly basis. The Directive Board manages and plans the School's 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 *
Isabel Maria Mestre Palmeirim Alfarra
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 Medical Course Committee for the bienium 2006/07/08 was the following:

2006/2007	2007/2008
Joaquim Pinto Machado (President)	Nuno Sousa (President)
Manuel João Costa (Secretary)	Manuel João Costa (Secretary)
Cecília Leão	Armando Almeida
Jorge Pedrosa	Fernando Rodrigues
Nuno Sousa	Jorge Pedrosa
Jaime Sousa	Jaime Correia de Sousa
Joana Palha	Joana Palha
Pedro Morgado (6thyear student)	Vítor Hugo Pereira (6thyear student)
Vítor Hugo (5thy)	Pedro Azevedo (5thy)
Pedro Azevedo (4thy)	Fábio Amaral (4thy)
Fábio Amaral (3rdy)	Teresa Pinto(3rdy)
Diogo Malheiro (2ndy)	Ana Luísa Sousa (2ndy)
Ana Luísa Sousa (1sty)	João Firmino Machado (1sty)

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 2.

Table 1.a — Area and Module Coordinators of Phase I (2006-07 and 2007-08)

Curricular Area Module	**Coordinator**
Introduction to the Degree Programme	MANUEL JOÃO COSTA
Molecules and Cells	FERNANDO RODRIGUES
From Anatomy to Cellular Phisiology	Paula Ludovico
Molecular Genetics Foundations	Fernando Rodrigues
Cells and Cellular Proliferation	Isabel Palmeirim
Organic and Functional Systems	JOANA PALHA
Gen. Introd. and Musculoskeletal System	Armando Almeida
Digestive System	Jorge Correia Pinto
Circulatory and Respiratory Systems	Jorge Correia Pinto
Urinary System	Patrícia Maciel
Reproductive System and Development, Growth and Ageing	Armando Almeida
Nervous System	João Cerqueira
Endocrine System	Joana Palha
Synopsis of SOFs	João Sousa
First Aid	ISABEL PALMEIRIM
Optional Project - I	PAULA LUDOVICO
Optional Project - II	ARMANDO ALMEIDA
Training in a Health Centre	ANTÓNIO ALEGRE SARMENTO
Family, Society and Health	MARGARIDA LIMA
Follow-up of a Family I	MARGARIDA LIMA
Vertical Themes ("To Feel the Pulse to Life")	JOAQUIM PINTO MACHADO Clara Costa Oliveira

Table 1.b — Area and Module Coordinators - Phase II (2006-07 and 2007-08)

Curricular Area	Coordinator
Biopathology and Introduction to Therapeutics	JORGE PEDROSA
General Pathology and Introd. to Pharmacology	Fátima Baltazar
Genetics and Environment	Rui Reis
Immunopathology	Adhemar Longatto
Infectious Pathology	António Gil Castro
Neoplasia	Fernanda Milanezi
Introduction to Clinical Medicine	NUNO SOUSA
Introduction to Community Health	ANTÓNIO ALEGRE SARMENTO Carlos Valério
Optional Project III	ANTÓNIO GIL CASTRO
Follow-up of a Family II	MARGARIDA LIMA
Vertical Themes	JOAQUIM PINTO MACHADO Clara Costa Oliveira

Table 1.c — Area and Module Coordinators - Phase III (2007 and 2008)

Curricular Area	Coordinator	Status
Hospital Residencies (a)	NUNO SOUSA	MD, Associate Professor (ECS, UM)
Health Centre Residencies I and II (a)	ANTÓNIO JAIME SOUSA	MD/MPh, Assistant (ECS, UM)
General Familiar Medicine	António Jaime Sousa	MD/MPh, Assistant (ECS, UM)
Public Health	Mário Freitas	MD, Assistant (ECS, UM)
From Clinic to Molecular Biology I and II	CECÍLIA LEÃO	Full Professor (ECS, UM)
Optional Project IV	RUI REIS	Assistant Professor (ECS, UM)
Optional Project V	CECÌLIA LEÃO/NUNO BORGES	MD (ECS, UM)
Vertical Themes	JOAQUIM PINTO MACHADO Clara Costa Oliveira	Full Professor (ECS, UM) Assistant Professor (IEP, 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 (2007 and 2008)

Curricular Area	Coordinator	Status
Hospital Residencies (a)	NUNO SOUSA	MD, Associate Professor (ECS, UM)
Health Centre Residency III (a)	ANTÓNIO JAIME SOUSA	MD/MPh, Assistant (ECS, UM)
From Clinic to Molecular Biology III	CECÍLIA LEÃO	Full Professor (ECS, UM)
Optional Project VI	PATRÍCIA MACIEL	Assistant 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 2007 and 2008 the post-graduation activities included:

a) A program of 25 post-graduation courses and workshops (see Appendix 3), that involved 703 participants (42% medical doctors, 11% other professionals in health sciences and the remainder with a background mostly in biological sciences). Over 83% of the participants rated the courses as Excellent of Very Good.

b) The admission of 24 graduate students (8 of which MDs), and the completion of 19 PhD thesis (6 of which from MDs).

c) The formal admission of 3 MD students with the 5^{th} 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.

d) The preparation for institutional and ministerial approval of the Master program in Health Sciences, the Doctoral program in Medicine and the Doctoral program in Health Sciences, in

accordance with the new national regulation to be implemented in the academic year 2009/10.

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 3.

The External Advisory Committee

The External Advisory Committee (EAC), in 2007 and 2008, 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* (World Health Organisation, United Kingdom/Switzerland)
- *Eduardo Marçal Grilo* (Fundação Calouste Gulbenkian, Portugal)
- *Fernando Lopes da Silva* (University of Amsterdam, Holand)
- *Henry Walton* (University of Edinburgh, United Kingdom) (*ex-officio*)
- *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 the period of 8-9 October 2007. The report from the visit is fully transcribed in Appendix 1a.

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 São Marcos* - Braga, *Centro Hospitalar do Alto Ave* – Guimarães, other Hospitals in the Northern Region subject to the establishment of a protocol (including the Unidade Local de Saúde do Alto Minho – *Viana*), and with Health Centres in the Northern and Central Regions under the scope of protocols to be signed with the Regional Health Administration authorities.

- The ECS kept frequent contacts with Hospitals in the Region and all these institutions were receptive and provided the necessary cooperation for the establishment of protocols. As a result, cooperation protocols were signed with *Hospital Pedro Hispano* (Matosinhos) and *Hospital Joaquim Urbano* (Porto), as well as with *Casa de Saúde do Bom Jesus* (Nogueiró-Braga).

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 by the latter the prototype to be adopted by all medical schools in the North of Portugal. The cooperation with the Hospital of *São Marcos* – Braga and the *Centro Hospitalar do Alto Ave* – Guimarães 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 of São Marcos, the Centro Hospitalar do Alto Ave - Guimarães and the Unidade Local de Saúde do Alto Minho - Viana, 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 São Marcos	*Nuno Sousa* MD, PhD, Course Director *Maria Cecília Leão* PhD, Dean	*Anabela Rodrigues Correia* MD, Clinical Director Lino Mesquita Machado 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, 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	*Amélia Marques* MD, Clinical Director *Domingos Araújo* MD, by delegation of the President of the Administration Council
ECS – ARS-N	*Maria Cecília Leão* PhD, Vice-Dean	*António J. S. Pimenta Marinho* MD, by delegation of the President of the ARS-N

Carlos Valério MD, Clinical Area Coordinator
José Carlos Garcia MD, Clinical Director at SRS-Braga

The Articulation Committees are appointed is 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 a transparent 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 2007 and 2008

4.1 Undergraduate Medical Degree Programme

A separate report was prepared covering the undergraduate programme, detailing the pedagogical activities undertaken in the years 2007 and 2008 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, the significant increment in the number of medical students was paralleled by an increase in the failing rate (14-18% in the areas with the highest ECTS) when compared to previous editions. Several reasons might concur to explain the increase in the failing rate in the first year (e.g. higher number of students entering from “special regimens”, fewer opportunities for faculty support resulting from financial restrictions, a decrease in the percentage of students choosing Minho as their first option). Importantly, several remediation actions were immediately implemented to address this issue with the even larger cohort of students that entered in 2008-09.

A high rate of success was registered for all the remaining students. However, it should be mentioned that in 2007/08, and for the first time, 2 students of the 6th year did not conclude their graduation due to repeated failure in their Optional Project VI (this last curricular area is highly demanding as it is regarded as their Master exam). This fact, which must be viewed as a failure, has however some beneficial impacts for the future; indeed, it clearly illustrates how demanding is the ECS program from the first to the last day of curricular activities.

Admissions and the Student population

For the year 2007/08, 98 new students were admitted via the national competition system (83 under the general regime, 7 under the special regime for students from the Azores and Madeira Autonomous Regions and 7 under the special regimes for handicapped students, military and descendents of emigrants). Additionally, 5 new students were admitted through a special process for degree holders and 4 new students through the special regimen for athletes. The total number of new students was therefore 107. For the National Admissions Process, the average entrance marks for the new students was 180.97 out of 200 (if only the students under the general admission regime are considered, this value raises to 184.5). There were a total of 1203 applicants for the 95 places, 19% as first option. In contrast with the enrolment of 2006/07, where all the students admitted at the ECS under the general admission regime entered on their preferential option, in 2007/08 only 65% choose Minho as their first option.

For the year 2008/09, 121 new students were admitted via the National Admission Process (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 graduated students from other degrees, 3 new students through the special regime for athletes and 5 students through transfer from another university. The total number of new students was consequently 136. 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, 22% of them as their first option. In 2008/09 64% 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 2007/08 and 2008/09 was 69% female and 31% male students. Regarding the provenance of students, 54% come from the District of Braga, 24% from the District of Porto district and 22% from other Districts of the country.

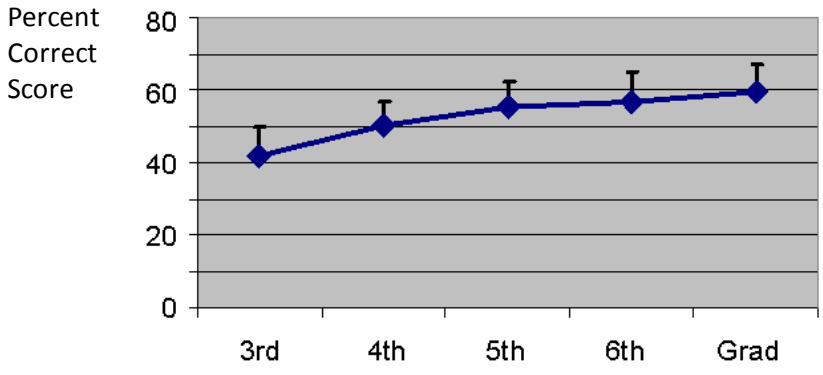
The global number of undergraduate students registered in the medical program in the current academic year is of 139 in the first year, 99 in the second year, 61 in the third year, 61 in the fourth

year, 62 in the fifth year and 52 in the sixth year, amounting to a total of 474 (which represents and increment of 139 in comparison to the last report). As in the past, one foreign student - Spanish – 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 NBME 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 [(1)] and at conferences [(2)].

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 (these numbers are detailed in Appendix 4). It should be highlighted that besides the effort of the ECS, this laboratory has been 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 already 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.

(1) ML Winward, AF. De Champlain, PV. Scoles, DB. Swanson, K Holtzman, L. Pannizzo, MJ. Costa, N. Sousa (2009), Gathering Evidence of External Validity for the International Foundations of Medicine (IFOM) Examination: A Collaboration between the National Board of Medical Examiners and the University of Minho, Academic Medicine (accepted)

(2) Nuno Sousa et al. (2009), Experiences in Administering and Using the IFOM Exam in Minho, Portugal, AMEE Annual Meeting 2009 (Invited communication)

4.2 Association of Medical Students (NEMUM) (report from the NEMUM President)

"Our association is a work in progress, as is our school. We are still very young but with very ambitious goals. We are determined to involve all our members in community oriented projects so that not only we stick together but also so we have a chance to help those who surround our school.

Having these purposes in mind we have participated and organized activities such as several reunions, exhibits and community oriented information teams in local commercial centers. Kids health oriented activities such as the internationally called "Teddy Bear Hospital" which we have locally baptized as "Hospital dos Pequeninos" (Hospital for the little ones) have been carried out.

In 2007, our main focus was in organizing our own Scientific Congress, more knowledge in a health student's oriented congress.

Our main concerns, so far, have been related to the continuous increase in the amount of students we have been receiving; it has been challenging to keep up to their expectations and ideas. We have so far succeeded in our goals but as always there is a lot more that can be done.

The broader our horizons get the better it is for our students and so we will make sure that we continue nationally and internationally linked to other medical and youth associations and more importantly to the role our students want to play as medical students in their community."

Luísa Pinto

4.3 Alumni Association (Report from the Alumni Medicina President)

"Alumni Medicina (Núcleo de Antigos Estudantes de Medicina da Universidade do Minho) is a non-profitable association that includes all alumni of ECS, providing a collective voice for its members. Dedicated to serve the best interests of alumni, students and faculty, our association is raising the basis to support, in a brief future, the ECS project. A foundation for educational/scientific and special charitable projects in Braga is under construction; this foundation will also encourage the

participation of all alumni in activities of University of Minho and foster the network between alumni and graduation students.

In the last year, we organized the 1st Alumni Annual Meeting that took place on 28 June 2008 at the ECS and also some post-graduate courses that included the International Pain Course "P.A.I.N. Management" which was supported by Grünenthal Foundation.

We are now preparing the 2nd Alumni Annual Meeting for the first weekend of October 2009, a briefly course on Ambulatory Therapeutics, recreative initiatives such as walks on National Park of Geres or visits to the most important museums of our region, and also the second edition of the International Pain Course "P.A.I.N. Management". To improve the communication with alumni, we hired a journalist of a national newspaper and also a designer who are working in the conceptual design of a new magazine that we hope to present in the September 2009.

For the future, we will also concentrate our efforts in fund raising, to further support educational as well as scientific programs at the ECS."

Pedro Morgado

4.4 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 formally selected for the thesis part of the MD/PhD program last May; the program now totalizes 3 students in the program.

4.5 Research

The research activities are organised and carried out at the ICVS, which acts as a fully incorporated research structure within the ECS. The essential points of ICVS activities are summarised hereafter.

The ECS, in order to complement the contract signed with the Government in 2000, as was then foreseen, 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, although with an indication that the remaining would be considered for further funding from the FCT. Finally, in March 2005, a proposal from the FCT to the Minister was approved, allocating 1.5 million € for the most urgent laboratory equipments. Up to now, only 346 969 € were transferred to the School.

The ECS maintained an ongoing effort to allocate as many resources as possible to the reinforcement of laboratories and to the support of research projects. Continuing the policy

implemented from the start, 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, 131 researchers are involved in the ICVS activities [38 PhD researchers – 7 of which joined in the second semester of 2008 - and 93 post-graduation students (52 PhD students, 18 Master students and 23 associate researchers)], supported by 18 members of the non-academic staff (4 in administration and 14 in the laboratories, with their salaries supported by the School). Importantly, responding to the national policy to attract high profile full time researchers, the ICVS was able to recruit in 2008 four PhD researchers in the context of the FCT programme "Ciência 2007". 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.

The results from the developed scientific work in 2007-08 are as follows: 191 papers in international journals with an average impact factor of 3.5, corresponding to an average of 2.8 papers/PhD/year. In addition, 8 book chapters have been published at the international level. Nineteen PhD theses with supervision from affiliated ICVS researchers were concluded. Eleven research prizes were awarded to researchers of the ICVS. These results represent a sustained increase in the scientific productivity of ICVS, both quantitatively and qualitatively, placing ICVS among the Portuguese leading research units. An increasing interaction with international high profile research institutions is reflected in the participation in calls to European consortiums in the context of the FP7.

4.6 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 six 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 the 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 78,8.

At present (December 2008), the School has a faculty of 58 members (32,9 FTE) and counts in addition with 9 regular collaborators 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 1.

In terms of the faculty profile, it is important to highlight that 65,5% (38 out of 58) of the regular staff members are MDs. Regarding academic qualifications, 25 (43,1%) have a doctoral degree.

Table 3 — Academic Staff (with contract, 31.12.2008)

Name	**Qualifications**	***Categoria* (Status)**
Maria Cecília L.P. Estrela Leão	PhD, *Agregação*	*Prof. Catedrático, Exc.*
Joana Almeida S. Pacheco Palha	PhD, *Agregação*	*Prof. Associado, Exc.*
Jorge Manuel Rolo Pedrosa	PhD	*Prof. Associado, Exc.*
Nuno Jorge Carvalho de Sousa	MD, PhD	*Prof. Associado, 100%*
Armando A.N. Pinto de Almeida	PhD	*Prof. Associado, Exc.*
António Gil Pereira de Castro	PhD	*Prof. Associado, Exc.*
Jorge Manuel Nunes Correia Pinto	MD, PhD	*Prof. Associado Conv. 50%*
Rui Manuel R. Sarmento e Castro	MD, PhD	*Prof. Associado Conv. 30%*
João D. C. S. Espregueira Mendes	MD, PhD	*Prof. Associado Conv. 20%*
Fernando J. dos Santos Rodrigues	PhD	*Prof. Auxiliar, Exc.*
Isabel M.M.M. Palmeirim A. Esteves	MD, PhD	*Prof. Auxiliar, Exc.*
Maria de Fátima M. Baltazar	PhD	*Prof. Auxiliar, Exc.*
Maria Margarida T. V. C. Neves	PhD	*Prof. Auxiliar, Exc.*
Manuel João T. Mendes Costa	PhD	*Prof. Auxiliar, Exc*
Patrícia Espinheira Sá Maciel	PhD	*Prof. Auxiliar, Exc.*
Paula Cristina C.A.M. Ludovico	PhD	*Prof. Auxiliar, Exc.*
Rui Manuel Vieira Reis	PhD	*Prof. Auxiliar, Exc.*
Adhemar Longatto	PhD	*Prof. Auxiliar Conv., Exc.*
Elsa Clara Carvalho Logarinho Santos	PhD	*Prof. Auxiliar Conv., Exc.*
João Carlos Cruz Sousa	PhD	*Prof. Auxiliar Conv., Exc.*
José Miguel G. Moreira Pêgo	MD, PhD	*Prof. Auxiliar Conv. 100%*
António Jaime B. Correia de Sousa	MD	*Prof. Auxiliar Conv. 50%*
João José F.C. Araújo Cerqueira	MD, PhD	*Prof. Auxiliar Conv. 50%*
Maria João R. Leite Baptista	MD, PhD	*Prof. Auxiliar Conv. 40%*
Margarida Conceição Lima	MD	*Prof. Auxiliar Conv. 30%*
Rute Carina Silva Moura	PhD	*Prof. Auxiliar Conv. 30%*
Manuel José L. Costa Rodrigues	MD, PhD	*Prof. Auxiliar Conv. 20%*
Filipa Santos Costa Pinto Ribeiro	Lic. Biology	*Assistente Conv. 100%*
Mário Nelson Morais Freitas	MD	*Assistente Conv. 50%*
Carla Rolanda Rocha Gonçalves	MD	*Assistente Conv. 40%*
Carlos Alberto Pereira Capela	MD	*Assistente Conv. 40%*
Gustavo Filipe M. Alves Rocha	MD	*Assistente Conv. 40%*
Hugo Miguel Braga Almeida Tavares	MD	*Assistente Conv. 40%*
Isabel Margarida Moura Mesquita	MD	*Assistente Conv. 40%*
João Miguel S. Bessa Peixoto	MD, PhD	*Assistente Conv. 40%*
José António Briote Mariz	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%*
Ricardo Jorge Ferreira Taipa	MD	*Assistente Conv. 40%*
Rui Manuel F.C.A. Cerqueira	MD	*Assistente Conv. 40%*

Name	**Qualifications**	***Categoria* (Status)**
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 Jorge de Brito Martins Pereira	MD	*Assistente Conv. 40%*
Tiago da Silva Pinto Teixeira	MD	*Assistente Conv. 40%*
Ana Raquel Marcelino Mesquita	Lic. Biology,PhD	*Assistente Conv. 30%*
Estêvão Augusto Rodrigues de Lima	MD,PhD	*Assistente Conv. 30%*
Hugo Miguel V.L. S. de Almeida	Lic. Biochemistry	*Assistente Conv. 30%*
Maria Leonor Barbosa Gonçalves	Lic.Biology	*Assistente Conv. 30%*
Elisabete Guimarães de Sousa	MD	*Assistente Conv. 20%*
Ana Maria Lacerda A. Horta	MD	*Assistente Conv. 20%*
Cláudia Alexandra Parreira Bulhões	MD	*Monitora*
Cristina Isabel Nogueira da Silva	MD	*Monitora*
Cristina Raquel Costa Freitas	MD	*Monitora*
Emanuel Carvalho Dias	MD	*Monitor*
Luís Manuel Cunha P. Figueiredo	MD	*Monitor*
Pedro Ricardo Luís Morgado	MD	*Monitor*
Constantino Theodor Sakellarides	MD, PhD	*Prof. Cat. /ENSP-UNL (*10%, in collaboration */CRUP)*
Nuno Pedro G. F. Bento Borges	PhD	*Prof. Assoc. /FCNA-UP* (15%, in collaboration/*CRUP*)
Joaquim Germano Pinto Machado Correia da Silva	MD, PhD	Honorary Member
Sérgio Machado dos Santos	PhD	Honorary Member

Non-academic staff

In the non-academic staff there has also been a renewal (with 7 members leaving and 10 that were recruited). Table 4 indicates the staff members, in a total of 32, and their qualifications, rank and allocation. The academic profile of the staff is above the average situation in the Portuguese higher education system (50% 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 (43,8%) 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, 31.12.2008)

Name	**Qualifications**	***Categoria* (Rank)**	**Service**
José Carlos F. Henriques	*Licenciatura*	*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
Jorge Manuel S.G. Freitas	*Licenciatura*	*Técnico de Informática*	UEM
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	Secondary Education	*Assistente Técnico*	Secretariat
Isabel Cristina S. Rocha	Secondary Education	*Assistente Técnico*	Planning Office
Isabel Maria V. Barbosa	Secondary Education	*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	Basic Education	*Assistente Operacional*	Laboratories
José Carlos Teixeira da Rocha	Secondary Education	*Assistente Operacional*	Laboratories

Maria Celina F. Barros	Basic Education	*Assistente Operacional*	Laboratories
Maria Manuela S. Carneiro	Basic Education	*Assistente Operacional*	Laboratories
Maria Fernanda C. Fernandes	Basic Education	*Assistente Operacional*	Laboratories
Susana Isabel Vaz Santos	Secondary Education	*Assistente Operacional*	Laboratories

Name	**Qualifications**	***Categoria* (Rank)**	**Service**
Ricardo Filipe Silva Mota	*Licenciatura*	*Técnico Superior (Regime de aquisição de serviços)*	Post-Graduation Office
Ana Paula Barreto de Oliveira	*Licenciatura*	*Assistente Técnico (Regime de aquisição de serviços)*	UEM
Fernando Paulo Duarte Silva	*Licenciatura*	*Assistente Técnico (Regime de aquisição de serviços)*	Financial Office
Sandra Mª Pizarro M. Salgado da Costa	*Licenciatura*	*Assistente Técnico (Regime de aquisição de serviços)*	UEM

Academic development

Regarding staff development, the School has a total of 13 places for tenure positions available (4 places for Full Professors and 9 places for Associate Professors - the rank of Assistant Professor is not a tenure position). The process to open competition on 3 Full Professors and 2 Associate Professors positions was initiated in 2009.

4.7 Infrastructures

4.7.1 The transfer of ECS and ICVS to the new building

In September 2007 and January 2008 a major expansion was achieved as the ECS and the ICVS, transferred from the provisional facilities (occupied in 2001-07) to the new building. Therefore, equipping the new facilities, both for academic and research activities, was an imperative task undertaken with commendable efforts, and efficacy, by all the staff.

Two wings are noticeable in the new facilities. In what concerns the Academic wing, acquisitions were made to accommodate the increased number of students and the associated support facilities. The classrooms, laboratories and administrative offices were furnished as required for optimal functionality. Both office and informatics equipments where purchased to ensure day-by-day efficiency of the academic requirements (e.g., copying machines, printers, computers and multimedia systems). Moreover, the laboratorial academic spaces and central support areas were equipped with small and heavy scientific/pedagogical equipments, essential for the practical sessions included in the Medical course: autoclaves, chemical safety hoods, analytical laboratory scales, and freezers for the preparation and accommodation of solutions; centrifuges, microbiology incubators and molecular biology apparatus, optical and stereomicroscopes, among others.

Office and laboratory furniture were also acquired for the diversified rooms of the ICVS in the Research wing. Informatics equipments (e.g., copying machines, printers and computers) were also allocated as necessary. The scientific equipment comprised different groups of small and heavy equipment with transversal application in the diversified rooms of the general research laboratories and functional units (e.g., microscopy and cellular imaging, cell and tissue culture, microbiology, molecular biology, animal experimentation, biological resources): autoclaves, chemical safety hoods, centrifuges, incubators, biosafety flow chambers, freezers for storage at -20 and -80ºC, water purification systems, DNA, RNA and protein apparatus such as real-time PCR and gradient thermocyclers, among others.

4.7.2 The new ECS building

The new 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, in which the interaction between the teaching and research activities is essential, has been reinforced in the new 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. Another important acquisition, resulting from the transfer to the new facilities, is a library with two levels containing several individual workspaces. Its location,

at the beginning of the Research wing, also promotes interaction between the academic and research community. There is also a cafeteria, an important space where the School's staff and students may meet on a more informal basis. All rooms and corridors of the new building are provided with access to the Intranet and Internet using cable/wireless network.

Academic area

With the move to the new building, an increase to the size of the student body could be contemplated, as well as an optimization of diversified pedagogical infrastructures and associated management procedures. The new Academic area now includes a total of 42 rooms, specifically subdivided among administrative (Medical Education Unit), academic and laboratorial facilities. The Medical Education Unit is located in four different rooms easily accessible to the students and teaching staff, occupying a total area of 300 m^2.

Additionally, spaces for extra-curricular activities were designed to the students, namely the office of the University of Minho Medical Students Association (NEMUM) and a room for social activities, both located on the ground floor, as well as a locker room on the 1st floor.

Class and seminar rooms (1st and 2nd floor)

On both floors of the Academic wing a total of 12 tutorial classrooms were installed and equipped with computers connected to the Intranet and Internet, a multimedia projection system, several desks to accommodate student group work and one bookcase where the pedagogical materials are stored. Nine small classrooms are also available both on the 1st and 2nd floors for student work group or self-study. Furthermore, an informatics room is equipped with 60 computers.

Additionally, three seminar rooms are allocated at the 2nd floor of the academic area with a capacity for 60 students each. An extra seminar room for 80 students is being equipped for computer-delivered assessments. In addition, on the ground floor there are one larger (264 seats) and two smaller (140 seats) amphitheatres available for seminar classes.

Laboratory and clinical training facilities (1st and 2nd floor)

The laboratorial and clinical training facilities are located on the 1st and 2nd floors of the Academic wing and their organization is based on the concept of the integrated learning system adopted for the Medical course. Distinct laboratorial sets are subdivided among 7 laboratories on the 1st floor for activities associated with Biochemistry, Genetics/Molecular Biology, Immunology/Microbiology, Pharmacology (4 laboratories), Histology, Cytology and Pathology (2 laboratories), Anatomy (1 laboratory). A central support area was also designed for the academic laboratories, including 11 specialized rooms for decontamination and material cleaning, sterilization, anatomy cadaver

preparation, and for stock of reagents and preparation of solutions necessary for practical sessions.

The Physiology and Clinical Skills area is allocated on the 2nd floor and comprises a very well equipped Clinical Skills Laboratory. As mentioned previously innovative simulation technologies are now available at ECS for the acquisition, training and evaluation of clinical skills.

Research area

The three Research Domains of the ICVS, Development, Neurosciences and Microbiology and Infection are located on the 1st, 2nd and 3rd floor, respectively. The general organization of the laboratorial spaces is based on three different sections: general research facilities, functional support units, and services unit.

The research laboratories are shared not only by the research staff and postgraduate students, but also by medical students that actively participate in research projects, namely during Optional projects and MD/PhD summer rotations.

General research facilities (1st, 2nd and 3rd floors)

These facilities, allocated throughout the three floors of the Research wing, possess, on each floor, two collective laboratories with an "open-space" concept that comprise benches for laboratory work, as well as tables for deskwork accommodation of the researchers and postgraduate students.

Three additional open-space laboratories on the 1st and 2nd floors are available for clinical research and postgraduate courses (e.g. microsurgery and minimally invasive surgery).

Several function-oriented laboratories exist on each floor, presenting general equipment shared in a multidisciplinary way among the entire research network of the ECS, namely research staff, postgraduate and graduate students. Therefore, each floor contains a technician's office, a centrifuge and ultra freezer room, a 4º C temperature controlled room, a PCR and electrophoresis room, a decontamination, material cleaning, and sterilization room, and room for reagents stock and preparation of solutions. Other specialized laboratories which are distributed throughout the three floors are also shared among the ECS staff: a dark laboratory, a radioisotopes laboratory, a gamma-counter laboratory, a temperature controlled room, an electrophysiology laboratory, a profusion laboratory, a flow cytometry laboratory, and a HPLC and proteomic laboratory.

Functional support units (1st, 2nd and 3rd floors)

The increase in space and specific scientific equipments has led to the implementation of functional support units, each handled by a head, a manager, both designated among the research staff, and a specialized technician. The following units are currently in activity:

- Molecular biology.
- Histology and tissue processing.
- Imaging and microscopy (including four rooms for Stereo, Stereoscopy, Epifluorescence and Confocal microscopes, respectively).
- Cell and tissue culture.
- Biological resources area.
- Facilities for terminal experiments with animal models. Biosafety level 2 and 3 facilities.
- Core storage area (reagents, plastic ware and glassware).

Services unit (1st floor)

In addition to the general research facilities and functional units, a space for services has also been planned for the new building, namely for Histology and Molecular Biology.

4.8 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 2007 and 2008 related to the lump sum are indicated in Table 5. Due to the difficulties in the financing of the University, the annual allocation increased by 3,8% in 2007 and grew 4,8% in 2008, although the number of students had increased nearly 15% in 2007 and

22% in 2008. 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 (2007)

Income	**Expenses**				**Balance**
Annual allocation	Salaries	Other current expenses	Capital Investment	Total	
3 010.0	2 230.9	929.4 (a)	59.4	3 219.7	- 209.7

Unit: 10^3 Euro

(a) Includes 160.0 kept at central administration, for general expenses and maintenance.

Financial resources (2008)

Income	**Expenses**				**Balance**
Annual allocation	Salaries	Other current expenses	Capital Investment	Total	
3 138	2 363.5	852.1 (a)	17.6	3 233.2	- 95.2

Unit: 10^3 Euro

(a) Includes 150.0 kept at central administration, for general expenses and maintenance.

As for the infrastructural funding approved in 2005 for equipment and furniture, in the context of the construction of the new building, through the “POCI 2010-Medida IV.4.1 Infra-estruturas do Ensino Superior” (POCI), 2 061 390 € were transferred in 2007-08 to the ECS.

Additionally, in the scope of the special contract signed in 2004 with the Ministry for the partial infrastructural funding of the ICVS, the amount of 306 543 € was transferred in 2007. In regard to the infrastructural funding approved by the FCT in 2005, in the amount of 1.5 million €, only 46 969 € were transferred in 2008 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 2007 an amount of 90 000 € and in 2008 an amount of 137 250 €.

In 2007, the research projects at the ICVS, with an average duration of three years, attracted external funding in a total corresponding to about 1.84 million €, of which 484 727 € were executed in 2007. In 2008, the three years research projects attracted external funding corresponding to around 2 million €, of which 572 055 € correspond to the activities developed in 2008.

5. PLANS FOR 2009

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) have 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 numbness 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 partner at Hospital de Braga (the negotiations established so far are extremely promising, and envisage the possibility to create an Academic Medical Center 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 2007 and 2008, 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 conclusion and setting up of the new building, allowing that ECS moved to its new facilities in September 2007, introducing a new dimension to the project and starting the consolidation period of the school ;
- the graduation of the first cohorts of medical students (the first finished in 2007);
- the quality of the students and their capability for action;
- the 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
- the 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;
- the beginning of the first MD/PhD students activities in 2007, starting their post-graduation activities at Jefferson Medical College, Philadelphia and Columbia Medical School, New York;
- the strengthening of the faculty stability, associated with the qualification and youth of the staff and the easy recruitment of new qualified members;
- the continuous enthusiasm of all staff to adhere to the innovative ways of the School operation, at all levels, and their acceptance and participation in the training activities;

- the 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;
- the standards of the working spaces and equipment and the function-oriented organisation of the facilities;
- the innovative and flexible coordination and management procedures;
- the cooperation and enthusiastic support from the Health Services;
- the multi-centre approach in the clinical training of the students, bringing a wider spectrum of Services and professionals into the clinical teaching;
- the continuous support from the Rector and from the University of Minho.
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In summary, all of the referred above is translated in the very favourable teaching and research environments lived at the ECS.

Concerning the new Hospital, the contest for the public-private partnership progressed and the decision to select a candidate was taken at the end of 2008. The construction of the new building started in early 2009 and it is expectable that the Hospital will be operational by May 2011.

At the School's level, the watchful look and 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 The recommendations from the EAC

The School of Health Sciences, from its beginning, has taken very seriously into consideration the recommendations from the External Advisory Committee and has addressed them explicitly in every annual report, explaining the action and measures taken in regard to each of them.
Following this tradition, which the School praises as one of the essential tools for quality assurance, the recommendations made in the last report from the EAC are hereby addressed point by point. It must be noticed, however, that the fact that the last EAC visit was made in a very special phase of transition in the life of the School, has clearly influenced the Commission's report, which is predominantly of a stocktaking nature and does not dwell so much as usually on further recommendations.

"The EAC recommended that the School should consider whether it needs two separate Advisory Committees, one for the School and the other for the ICVS …"

The legal and regulating framework for both committees is different and they answer somewhat different objectives from an external point of view, although sharing a common and important internal aim in their supportive role for the continuous improvement of the ECS and the ICVS. According to the new ECS Statutes recently drafted, according the recently approved UM Statutes, a new Advisory Council (Conselho Consultivo) will be created to take the former EAC role, with a mixed composition (predominantly external members, but including the School leaders), aiming at supporting the School in the definition of its strategic goals. On the other hand, the External Advisory Committee for the ICVS, according with FCT rules, is of a different nature and includes exclusively external members.

"The EAC recommends that the School clearly defines its priorities in the Postgraduate field so that the visibility of the Postgraduate teaching at the School will be enhanced not only in Portugal but also internationally"

The School continues to consider the post-graduation in two perspectives: that of formal training for a degree and that of continuous medical education. In the past two years the formal post-graduation programs were adapted to the novel regulation by 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 other in Health Sciences, were in accordance approved by the Ministry.

Still with respect to doctoral programs, it has been the School's believe that synergies with other institutions are valuable for promoting national collaborations and to promote excellence in science. In accordance, the School participated in a successful application to the Gulbenkian Foundation, 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). This program emerges from the existing Doctoral programs in each institution, and, above all, promotes real interaction among them, 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 School 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 "Optional projects" and within the MD/PhD program. Recently, this policy resulted in the ability to attract specific funding for translational and clinical research, obtained in competitive calls from FCT.

"The EAC strongly repeats its recommendation that the Medical Education Unit should pursue a long term research programme into the later professional careers of their graduates"

The research on medical education and, particularly, the development of a "students' longitudinal project" has been a priority for some time now. The Medical Education Unit has met this challenge and has formally started the Longitudinal Project of the ECS in October 2007, close to the graduation of the first entering class. A research proposal focused on the Project's first three years has been submitted and approved by FCT (. The research team includes a statistician and an econometrician from the University of Minho. Two research scholarships at the Degree or Master level provide the additional necessary manpower to run the research with the Unit's staff. We have the privilege of having Dr Mohammadreza Hojat (Director of the Jefferson Medical School's Longitudinal Study) as a consultant. Interesting preliminary results have been reported in international conferences (six communications and three papers in the Proceedings of a Conference).

6.3 A final comment

It was very rewarding to notice that the External Advisory Committee, in its concluding remarks, states the opinion that “the School demonstrated a visionary strategy, a clear sense of mission, a strong leadership, the commitment of the staff to a common goal, and the motivation of the students”. We believe that not only this still applies in the new phase of the School life started two years ago, but indeed these are the essential ingredients that keep the ECS moving forward with the determination and the enthusiasm of all its elements.

The institutional support from the University, at all levels, has been very important to the development of the School. This is an incentive to continue to pursue with the same zeal the ideas and goals that have steered our project.

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APPENDIXES

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Ib - Report by the External Advisory Committee of the *Instituto de Ciências da Vida e da Saúde*

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III - Report of Post-Graduation

IV - Clinical Skills Laboratory