



**GUIDELINES ON PHD TRACK IN THE *ERASMUS POSTGRADUATE SCHOOL
MOLECULAR MEDICINE***

1. GETTING A PHD IN THE *POSTGRADUATE SCHOOL MOLECULAR MEDICINE*

These 'guidelines' apply to all PhD students in the departments incorporated in the *Erasmus Postgraduate school Molecular Medicine (MolMed)*. A list of these departments can be found on website <http://www.molmed.nl>.

Postgraduate School MolMed

This *Postgraduate school* is one of the fourteen postgraduate schools in the area of biomedical science in the Netherlands. Its mission is to stimulate clinically oriented molecular biomedical research with the main focus on translational research. The school has established tight cooperation with other Research Schools and the Royal Netherlands Academy of Arts and Sciences (KNAW). The school is mainly occupied with the following four themes: (i) Endocrinology, Metabolism and Ageing, (ii) Haematopoiesis, Lymphopoiesis and Immune Regulation, (iii) Solid Tumors and (iv) Infections and Host response. *MolMed's* major activities are developing and organising education for postgraduate students, post-docs and senior scientists, and facilitating departmental collaborations in translational research.

Research trainee and physician-researcher

The second-phase training program to reach independent scientific researcher status commonly takes four years and is rounded off with a doctoral thesis. The PhD student (OIO, research trainee) is given a temporary appointment at Erasmus MC. This appointment may be financed by the university (1st flow of money), but also by external partners (e.g. NWO, dedicated foundations, or the industry). The training program largely consists of 'learning by doing', which entails supervision and discussion of the PhD student's research. This research is performed within the framework of a well-described research project. Attending research meetings in the department to which the PhD student is assigned is part of the training program as well. In addition the PhD student takes lecture courses, in *MolMed* and other postgraduate schools.

Alternatively, PhD students may be appointed as physician-researcher, usually for a term of less than four years. The PhD research is then often embedded in the specialist training program; alternatively a subsequent specialist trainee position may be offered. Apart from the '*learning by doing*' activities within the research project, the research meetings and the educational program a physician-researcher may have clinical tasks.

Physician-researchers on principle are subject to the same terms and conditions as an OIO (of course, next to the research project and teaching tasks, the clinical tasks will be defined as well). All physician-researchers and residents are invited to join the residents association (AAV) Rotterdam.

More information on PhD research and education is available on the websites of Erasmus University (<http://www.eur.nl/promoveren>), Erasmus MC (<http://www.erasmusmc.nl/research/carriere/phdprogram>) and the Postgraduate school MolMed (<http://www.molmed.nl>). Go to **<http://intranet.erasmusmc.nl/verenigingen/aav/>** for information on the residents association (AAV) Rotterdam.

2. PROJECT PROPOSAL

A PhD student is appointed on the basis of a project proposal, which is to be submitted by means of the OIO-project proposal form (Appendix 1). The project proposal describes the research to be performed by the PhD student and includes as well a training- and supervision plan (Appendix 2). Externally funded research usually comes already with a detailed project proposal. Otherwise a project proposal, preferably including the following components, must be prepared:

- (i) Review of the available literature on the research field;
- (ii) Results of the performed pilot study;
- (iii) Formulation of the research question/aim;
- (iv) Work plan with time schedule (including information on the presence of required research materials and permits).

In addition, concrete arrangements are made for:

- (v) Supervision, analytic support if needed, embedding of the project in the department and, if desirable, appointing an external advisor;
- (vi) Research meetings in the department (lab talks, seminars, journal club), congress visits/attendance, and the educational program;
- (vii) Other duties (educational tasks, if applicable clinical tasks, management tasks)

All arrangements are noted in the OIO training- and supervision plan (Appendix 2).



3. INDIVIDUAL EDUCATION PLAN

At the start of the PhD program an individual education plan is prepared including PhD training (courses, workshops, seminars, conferences etc.) and teaching activities. At set times the PhD student, promotor and supervisor jointly evaluate the plan and adjust it if needed Erasmus MC recommends an average of 30 ECTS PhD teaching and training during the PhD period (see: www.molmed.nl for additional information).



ECTS (European Credit Transfer and Accumulation System) are training credits ('*studiepunten*'). One unit is awarded for around 28 working hours (including preparation, self study, examinations, etc.). Many PhD courses and workshops award ECTS for successful completion. This is not the case for other activities, such as attending congresses, seminar presentations, and supervision. You are expected to record numbers of hours spent on these activities. The PhD committee Erasmus MC defined the following general guideline for awarding credits (taken from <http://www.erasmusmc.nl/research/carriere/phdprogram/phdportfolio>):

Attending a conference (with or without poster presentation):	1 ECTS
Oral presentation (conference, seminar etc.):	1 ECTS (max. of 5)
Attending seminar series, journal clubs (30 meetings of 1h):	1 ECTS (max. of 2)
Otherwise, calculate the number of ECTS according to the basic rules given above.	

A general guideline for allocating the activities (with a total of 30 ECTS):

PhD Courses:	10 ECTS
Congresses, seminars, presentations:	10 ECTS
Teaching:	10 ECTS

Please note that the number of courses, congresses or amount of teaching may differ from one PhD student to the next. Some do not teach at all, others a lot.

Erasmus MC has introduced the so-called 'PhD portfolio'. All Erasmus MC PhD students are required to include a report of their PhD training (e.g. courses, workshops, seminars, international conferences) and teaching as a portfolio on the final page of the doctoral thesis. This requirement is aimed at promoting a broad personal development of scientists. Since its introduction in January 2009, many PhD students have already published their portfolio in the thesis (see: www.molmed.nl for additional information and examples).

The educational plan is composed of various components offered by, for example, the department at which the student is employed, the Postgraduate school *MolMed*, other Erasmus MC research schools or Erasmus University:

A. General obligatory and "highly recommended" part

In the first place, general core part is in principle obligatory for all PhD students of the Postgraduate school *MolMed*. It consists of:

1. Introductory course 'Molecular Medicine', offered each year by the Postgraduate school *MolMed*. This course aims to provide a broad overview of the 'who, what and where' in *MolMed*.
2. SPSS course (*MolMed*)/ R course (*MolMed*) and/or the Biostatistics course (Nihes).
3. Biomedical English Writing and Communication. This English course has two main objectives: (a) to provide practical guidelines for writing well-structured and fully readable biomedical articles; and (b) to provide a framework for effective oral presentations. There are sixteen 150-minute sessions over consecutive weeks. All participants should have completed at least twelve months of their PhD period, and should have enough data to complete an article by the time the course ends.
4. Research Integrity. This course aims to share experiences, analyze cases, discuss ethical dilemmas and steps to possible solutions, and reflect on the ethical and institutional topics researchers are faced with. For example: dependency of juniors on seniors researchers, cooperation in research teams, authorship, dealing with data, presenting outcomes of research, publication strategies, financial constraints or pressures, ethics in clinical studies, animal use, etc.

These 4 courses are on principle obligatory, but students can get an exemption, e.g. when they have taken a similar course or are very experienced; or for the English course when they are English native speakers.

B. Obligatory part in the department

This part consists of courses which the research departments can make obligatory for their PhD students.

C. Courses targeted at practical work or quality requirements

Selected examples:

1. Laboratory animal science (Article 9 of the Experimental Animals Act). Course duration is three weeks.
2. Working with radionuclides (Level 5B). A three-day course, concluded with an examination.
3. Working with genetically modified organisms (GMO).

D. Other courses

In addition a number of courses are offered which, although they are intended for PhD students, are not compulsory. Most of these courses are organized by *MolMed* (some 25-30 yearly) and can be taken once a year or even more frequently.

This is just a selection: Biomedical Research Techniques, Short courses and workshops on bioinformatics, Basic and Translational Oncology, Basic and Translational Endocrinology, SNP course: The role of DNA polymorphisms in complex traits and diseases, In Vivo Imaging, Animal Imaging, Molecular Diagnostics, Specialized symposia, e.g. on Guillain Barré syndrome, Mucosal immunology, Molecular microbiology with world leading scientists giving master classes for PhD students and post-docs, Monthly Bridge meetings on Bioinformatics and periodical sessions on Comparative pathology. PhD students are also invited to special retreats, the so-called 'Get out of your lab-days' with presentations by top researchers and interesting workshops.

The complete list of courses on offer is available at <http://www.molmed.nl>. This website also lists courses, symposiums and lectures organized by other research schools, including those in Erasmus MC.

E. Departmental scientific meetings

These meetings are intended to transfer scientific knowledge.

1. Progress meetings: the PhD students, too, regularly report on progress of their research projects.
2. Seminars given by national and international speakers. Overviews of seminars, lectures and mini-symposia organized by the Postgraduate school *MolMed* or by the various departments are available on <http://www.molmed.nl>.
3. Journal club. Most departments have instituted journal club meetings in which recent articles in the field are discussed in detail. The PhD students as well are expected to select and present articles.

4. RESEARCH PROGRESS

The students' research progress and participation in the PhD educational program are essential components of the periodical performance interviews and annual appraisals.



First year

Performance interviews will be scheduled notably in the first year, preferably every 3 months. The main topic is the functioning of the PhD student - supervisor tandem and issues to be discussed include the following:

- capacities and commitment of the PhD student;
- degree of independence, challenges and support of the PhD student;
- steering and supervision of the PhD student;
- matching of visions of the student and the supervisor on direction and content of the research project.

Either the PhD student or the supervisor will prepare a report on the performance interview, to be approved by both. If there appear to be serious problems, a plan of action should be drawn up aiming at improving the situation satisfactorily within six months, if necessary with the help of an external advisor (see article 2 under (v.) and/or the PhD students' confidential counselor (see below, section 5).

Project progress/external advisor.

An external advisor is appointed preferably within 3 months after start of the project (see article 2 under (v.)). Usually a university (senior) lecturer or a professor in Erasmus MC, who eventually will sit on the thesis committee, will serve as the external advisor. If the PhD research concerns a joint project with another Erasmus MC department, the most obvious choice is someone from that department, but this is not imperative. The external advisor's specific task is to monitor project progress in yearly meetings with the supervisor and the PhD student, taking into account the project proposal and the educational plan. A planning for the coming year will be prepared as well. A global outline of the content of the PhD-thesis and the foreseen publications is usually drawn up after the first year. The global outline will also include a realistic time schedule.

5. CONFIDENTIAL COUNSELOR



Problems of a scientific or personal nature may arise in the interaction between PhD student and supervisor. In such situations a confidential counselor may be called in, who will give personal advice or act as a mediator. The confidential counselor is called in only when requested by PhD student or supervisor, and may be asked, for example, to be present at the performance interviews and/or annual appraisals.

There are two confidential counselors in *MolMed*: Prof.dr. Marion de Jong (email-address: m.hendriks-dejong@erasmusmc.nl; tel. 7035781) and Dr. Rudi Hendriks (email-address: r.hendriks@erasmusmc.nl; tel. 7043700).

For that matter, the constituent departments are free to appoint confidential counselors themselves. However, if a PhD student should have a working relation with a departmental confidential counselor, it is commendable in this situation to appoint another person in the department.

If needed, students can also appeal to the independent confidential counselor for all PhD students of Erasmus MC, Dr. Rita Struhkamp, who can help to reformulate the problem and to mediate if necessary.

Task definition confidential counselors in MolMed.

The confidential counselors will assist in resolving problems and conflicts between PhD students and their supervisor(s). In addition they can advise the board on their own initiative or by request on taking (preventive) measures to avoid problems in the relationship between PhD students and their supervisor(s), after having heard the Educational and OIO-committees. Lastly, they can advise the board on steps to be taken in concrete (problem) cases. Initiatives will not be taken, however, until the matter has been discussed with the departmental head.

The confidential counselors' task is to reformulate problems by means of contacting and mediation and thus to contribute to resolving these problems. The confidential counselors do not replace available procedures to resolve problems, if these are in place. The confidential counselors will hear the person who brings up the problem. They will do so in strict confidentiality. If possible they will have the persons involved resolve their problems themselves; where appropriate under the guidance of the confidential counselor, as in mediation. Both sides are heard if the one who brought up the problem consents to this. If attempts to resolve the problem should fail, the confidential counselor advises the persons involved and if desired the head of the department involved; the latter in the discretion of the confidential counselors, first and foremost considering aspects of confidentiality. Prudence and confidentiality are key terms in the confidential counselors' approach. They will exercise great caution in dealing with the problems presented to them. The claimant's explicit consent is required when the confidential counselors wish to turn to other persons or bureaus.

6. ORGANISATIONS FOR PHD STUDENTS

Liaisons



Several departments have appointed liaisons who are responsible for co-ordination of the PhD students program. Furthermore, they organize PhD student meetings aimed at identifying and discussing specific problems.

Each *clusterbureau* in Erasmus MC has a P&O officer who PhD students when they have questions or problems bearing upon legal position or other issues related to their appointment.

The Postgraduate school *MolMed* has installed a "Post Graduate Student Committee" (check its members on: www.molmed.nl). This committee, in which anyhow the larger departments in the school are represented, meets periodically to discuss educational matters. The committee serves as a channel to present suggestions for adaptations to current courses or ideas for new courses to the *MolMed* Educational Committee (check its members on: www.molmed.nl).

Internationalization

Increasing numbers of international PhD students come to Rotterdam for a PhD degree at Erasmus MC. Information on a range of topics, from residence permits through health insurance to information about Rotterdam and the Netherlands, is available at:

www.eur.nl/english/prospective/phd/howtoprepare/

PhD students with a foreign degree who are working towards their doctorate need a validation of their diploma. Because this procedure takes some time, we recommend to start this validation process as early as possible. Find more information on the validation of foreign degrees from the admissions office of Erasmus University Rotterdam (admissions.office@oos.eur.nl).

Whenever relevant, PhD students may wish to go abroad for a congress, working visit or research period. Information on scholarships, formalities in host countries, and various practical matters is available at: www.eur.nl/studyabroad, a webpage that is intended for graduate students, but may also be useful for PhD students. For advice on financial support for a research traineeship or visit abroad, please contact Rikard Juttmann, PhD, Department of Research Policy, r.juttmann@erasmusmc.nl.

Associations

Several associations aim to promote the interests of PhD students, both locally and nationally.

Promeras is the PhD association for all PhD students at Erasmus MC. Its main objective is to safeguard students' rights, such as the rights to attend courses and to receive good supervision during the research period. Promeras keeps in close touch with the Dean, human resources counselors and staff from the department of Research Policy, and acts as advisor to the PhD committee. The Promeras board will do all they can to

seek solutions for questions or problems. Special attention goes out to the many international PhD students at Erasmus MC. The social activities organized include luncheon and drinks parties. Promeras regularly publishes an e-mail newsletter. For more information, see: www.promeras.nl.

More generally, the Erasmus PhD Association Rotterdam (EPAR) represents all PhD students at Erasmus University Rotterdam, including those at Erasmus MC. Working closely together with the PhD associations at the various faculties (including Promeras), EPAR is dedicated to protect the interests of PhD students throughout the university. For more information: www.eur.nl/epar.

A PhD representation is active at Erasmus MC-Sophia as well, the Sophia Researchers Vertegenwoordiging (SOV), for all PhD students of or working at the Sophia Children's Hospital. For more information: sophia.researchers@erasmusmc.nl.

In 1985 a group of medical residents founded the *arts-assistentenvereniging* (AAV) Rotterdam. The rationale was to deal with several important issues, such as the increasing workload, excessive on-call periods, triage services, reduction of working hours and cuts in start salaries. A number of these problems have been solved meanwhile but new points of attention keep cropping up. Issues at stake on the short term are, for example, revitalization of the specialist training program, further development of the national training fund and discipline-independent education. The AAV is a source of information for *aio's*, *anios* and physician-researchers when it comes to the collective labor agreement (CAO), training & education, employee rights and duties, and so on. In addition the AAV can act as a mediator in conflicts. The AAV improves the quality of *a(n)ios*/researchers' life in Erasmus MC. To this aim the AAV sets up workshops and lectures, including training courses offered by the VVAA. In addition, get-togethers for *a(n)ios* and researchers are organized to stimulate social contacts between colleagues.

The PhD students network PNN (*Promovendi Netwerk Nederland*; www.hetpnn.nl) was founded in 1987 under the name *Landelijk AIO Overleg* (LAIOO). The PNN primarily advocates PhD students' interests on a national level, coordinating and facilitating the local PhD students meetings, information provision from and to PhD students, and improving the quality of PhD research.

7. PHD THESIS DEFENCE

Information on the procedure around the thesis defence as well as the comprehensive regulations of Erasmus University Rotterdam can be found on 
http://www.eur.nl/english/information_for/doctorate_students

The process comprises ten steps: (taken from http://www.eur.nl/english/information_for/doctorate_students/obtaining/):

1. Notification of intention to pursue a doctorate
2. Alternative proposal of supervisors
3. Approval of thesis by the thesis supervisor(s) (promoters) + the proposal for the composition of the inner and the plenary committees + any experts
4. If alternative proposal composition of inner/plenary committee
5. Discussion of intended date of conferral of doctorate
6. Propositions
7. Report of the opinion of the inner doctoral committee on the admission of the candidate
8. Possible request for cum laude designation
9. Dispatch of theses intended for the University
10. Defence of the thesis before the plenary committee

This webpage also offers the standard forms that must be completed and gives detailed information on setting the date of thesis defence, approval of title page, introductory discussion of the research, the thesis defence ceremony, et cetera.

Several departments in the graduate school offer secretarial support in preparing the lay-out of the thesis publication. In addition, *MolMed* organizes Photoshop courses that may be of help. Department-specific guidelines are in force with regard to the contents of the dissertation (both the published articles and the general introduction/discussion), the lay-out, the distribution, and requesting and using financial support from sponsors. An overview of potential sponsors is available at www.fondsenboek.nl (in Dutch only).

PhD students have different possibilities for refunding of PhD thesis-printing expenses. The information is available in Dutch only. If you need further advice or help, please contact Dr. Rita Struhkamp, PhD, Department of Research Policy, r.struhkamp@erasmusmc.nl; See also: www.erasmusmc.nl/research/carriere/phd_program/practical

Indication for the end terms

The various departments in MolMed have different views on the end terms; therefore the guidelines below are no more than an indication:

- the doctoral thesis must contain a minimum of 4 articles of which the PhD student is first author, or a minimum of 3 articles of which he/she is first author plus 2 articles of which he/she is co-author; the articles having been published would be desirable but is not required;

- the (co-)promotor/supervisor, the departmental head and the doctoral committee must vouch for the quality of the research.
- the duration of a PhD research project strongly varies. Physician-researchers may have limited time to spend on the project, often less than 4 years. Only a small proportion of the research trainees manage to round it off within the 4-year-term. However, the appointment may be prolonged with some months up to a maximum of 1 year, so that in the end the doctoral thesis may be of higher quality. Prolongation for a much longer period, or continuing the PhD research after the appointment was terminated, is advised against.

8. ADDITIONAL INFORMATION

1. Erasmus MC guideline on scientific misconduct, Intranet Erasmus MC
<http://www.erasmusmc.nl/research/kwaliteit/integriteit/>
2. Contact person and confidential counselor for PhD-students in Erasmus MC: dr. Rita Struhkamp
3. Code of conduct for scientific practice: Rules for scientific research and teaching at Dutch research universities; VSNU (2004)
4. Intranet Erasmus MC
5. Website MolMed: www.molmed.nl
6. Website Erasmus University Rotterdam: www.erasmusmc.nl
7. Department of Research Policy Erasmus MC, Secretariat: Fd-215 / mrs. C.M. Penders tel. 010-70 32581
8. promovendi Netwerk Nederland (PNN), website <http://www.hetpnn.nl/>
9. Erasmus PhD Association Rotterdam (EPAR), website <http://www.epar.nl/>.
10. Promeras (www.promeras.nl)
11. Obtaining a doctorate procedure Erasmus University Rotterdam,
http://www.eur.nl/english/information_for/doctorate_students/
12. University Ceremonies Office, website
http://www.eur.nl/english/information_for/doctorate_students/contactpersons/
13. Afdeling Financiële, Economische and Begrotingszaken EUR, Woudestein tel.: 010-40 81730

